Nyack Former Manufactured Gas Plant

ROCKLAND COUNTY, NEW YORK

Final Engineering Report

NYSDEC Site Number: 344046

Prepared for:

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MAY 2016

CERTIFICATIONS

I, John Finn, am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Remedial Design was implemented and that all construction activities were completed in substantial conformance with the Department-approved Remedial Design.

I certify that the data submitted to the Department with this Final Engineering Report demonstrates that the remediation requirements set forth in the Remedial Design and in all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any, established in for the remedy.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and/or any operation and maintenance requirements applicable to the Site are contained in an environmental easement created and recorded pursuant ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded.

I certify that a Site Management Plan has been submitted for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by Department.

I certify that all applicable documents generated in support of this report have been submitted in accordance with the DER's electronic submission protocols and have been accepted by the Department.

I certify that all data generated in support of this report have been submitted in accordance with the Department's electronic data deliverable and have been accepted by the Department.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law. I, John Finn, of GEI Consultants, Inc., P.C., am certifying as Orange and Rockland Utilities, Inc.’s Designated Site Representative:

073034	May 6, 2016	
NYS Professional Engineer #	Date	Signature

It is a violation of New York State Education Law for any person, unless acting under the direction of a licensed professional engineer, to alter in any way plans, specifications, plates, and reports to which the seal of a professional engineer has been applied. If an item bearing the seal of an engineer or land surveyor is altered, the altering engineer shall seal the item and add the notation "altered by", sign and date such alteration, and provide a specific description of the alteration.

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LIST OF ACRONYMS

Acronym	Definition
ACM	Asbestos-Containing Material
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CAMP	Community Air Monitoring Plan
CM	Construction Manager
CQAP	Construction Quality Assurance Plan
DAC	D.A. Collins Environmental Services
EPA	U.S. Environmental Protection Agency
FAM	Fixed Air Monitoring
FER	Final Engineering Report
GC	Gas Chromatograph
GEI	GEI Consultants, Inc., P.C.
HASP	Health and Safety Plan
IC/ECs	Institutional and Engineering Controls
ISCO	In-Situ Chemical Oxidation
ISS	In-Situ Solidification
MGP	Manufactured Gas Plant
NAPL	Non-Aqueous Phase Liquid
NRCS	Natural Resources Conservation Service
NTU	Nephelometric Turbidity Unit
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
O&R	Orange and Rockland Utilities, Inc.
OU1	Operable Unit No. 1
OU2	Operable Unit No. 2
PAH	Polycyclic Aromatic Hydrocarbons
PM10	Particulate Matter ten (10) microns or less
ppm	Parts per million
PPV	Peak Particle Velocity
QA/QC	Quality Assurance/Quality Control
RAO	Remedial Action Objective
RD	Remedial Design
RDR	Remedial Design Report
RDWP	Remedial Design Work Plan
ROD	Record of Decision
SCO	Soil Cleanup Objective
SMP	Site Management Plan
TEP	Technical Execution Plan

TFS	Temporary Fabric Structure
UCS	Unconfined Compressive Strength
TVOC	Total Volatile Organic Compound
VOC	Volatile Organic Compound

FINAL ENGINEERING REPORT

1.0 BACKGROUND AND SITE DESCRIPTION

Orange and Rockland Utilities, Inc. (O&R) entered into an Order on Consent with the New York State Department of Environmental Conservation (NYSDEC) in March 1999 to investigate and remediate a former manufactured gas plant (MGP) site located at Gedney Street, the Village of Nyack, Rockland County, New York. The property was remediated to restricted residential use.

The Nyack former MGP site (Site) is located in the Village of Nyack, County of Rockland, New York (Figure 1). The former MGP works property is owned by Athene Annuity & Life Assurance Company of New York (formerly known as the Presidential Life Insurance Company). The Site boundaries, as defined by the Record of Decision (ROD) for Operable Unit 1 (OU1) and Operable Unit 2 (OU2), consist of the former MGP works and the nearby properties with MGP impacts.

The Site was divided into two operable units (OUs):

OU1 - Consists of the portion of the site above the 100 year flood event line.

OU2 - Land below the 100 year flood event line and above the mean high water mark, and the Hudson River sediment which has been impacted by Site-related contamination.

A Site plan that shows the locations of OU1, OU2, and other nearby properties that were investigated prior to the issuing of the ROD is shown on Figure 2. The Eastern Parcel is the focus of this Final Engineering Report (FER) and occupies a parcel with Tax ID 66.39-01-01, and the Western Parcel occupies the area with Tax ID 65.38-02-14.

The main portion of the Site (Eastern Parcel) is further subdivided into the Upper Terrace and Lower Terrace areas, is approximately 4-acres in size, and includes 2.17 acres of land (OU1) and 1.8 acres of submerged sediment in the adjacent Hudson River (OU2). The Eastern Parcel is bounded by the Nyack Boat Club to the north, commercial property owned by the Hudson Vista Associates to the south, the Hudson River to the east, and Gedney Street to the west. The entire Site is landscaped, with the exception of a

riprap slope in the intertidal zone. The Site is surrounded by a perimeter fence on three sides (Hudson River side is not fenced) to prevent trespassing.

The Western Parcel of the Site is comprised of the parking area on the southwest corner of Lydecker and Gedney Street. It was evaluated for the potential presence of contamination based on the historical location of a gas holder associated with the operation of the MGP on the Eastern Parcel and found not to be contaminated.

The Hudson Vista parking lot immediately south of the Nyack site was remediated as a part of the OU1 remedial action (see Figure 3), and is now considered to be an off-Site area.

The boundaries of the Site are fully described in the survey provided in Appendix A.

An electronic copy of this FER with all supporting documentation is included as Appendix B.

2.0 SUMMARY OF SITE REMEDY

2.1 REMEDIAL ACTION OBJECTIVES

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the Site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the Site through the proper application of scientific and engineering principles.

The remedial objectives for this site are:

2.1.1 Groundwater RAOs

Public Health Protection

- Prevent contact with contaminated groundwater.

Environmental Protection

- Restore the groundwater aquifer to meet ambient groundwater quality criteria, to the extent feasible.
- Prevent discharge of contaminated groundwater to surface water.

2.1.2 Soil RAOs

Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

2.1.3 Sediment RAOs

Public Health Protection

- Prevent direct contact with contaminated sediments.

Environmental Protection

- Prevent releases of contaminants from sediment that would result in surface water levels in excess of ambient water quality criteria.
- Prevent impacts to biota from ingestion/direct contact with sediments causing toxicity.

2.2 DESCRIPTION OF SELECTED REMEDY PER RECORD OF DECISION

The Site was remediated in accordance with the remedy selected by the NYSDEC in the ROD for OU1 dated March 2004, and the ROD for OU2 dated March 2011.

The factors considered during the selection of the site remedy are those listed in 6NYCRR 375-1.8. The following are the components of the selected remedy per the OU1 ROD; however, the actual work performed for OU1 is described in section 3:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. This will include treatability studies to allow the design of in-situ chemical oxidation of the bedrock and Hudson Vista Associates property.

2. In the Upper Terrace, all MGP structures, including piping, and soils which contain total PAHs over 500 ppm or which are visibly impacted by coal tar will be excavated and transported to an off-site permitted treatment/disposal facility. The excavation will occur in a manner which will control emissions of odors, dust, and VOCs. Following excavation, slopes will be stabilized using on-site material meeting the cleanup criteria.

3. Wells and/or trenches will be used to recover flowable NAPL in the bedrock in both the Upper and Lower Terrace to the extent practicable. NAPL removal actions will continue until the volume of NAPL recovered is no longer significant

4. In the Lower Terrace, major obstructions such as rip rap, concrete debris, piping and remaining MGP structures will be removed by conventional excavation. This excavation will also remove gross contamination in and immediately adjacent to subsurface structures and piping which will be removed to the extent practicable. Where excavation is not practicable, flowable NAPL will be extracted by recovery wells. The excavation will be conducted in a manner which controls the emission of dust, odors, and VOCs.

5. Soils in the Lower Terrace which contain total PAHs over 500 ppm or which are visibly impacted by coal tar will be augered and mixed with pozzolanic agents (typically Portland cement). This process, in-situ solidification, will produce overlapping column of solidified soil, resulting in a low permeability, solidified mass.

6. In the steeply sloped area between the upper and lower terraces, all soils which contain total PAHs over 500 ppm or which are visibly impacted by coal tar which are above the groundwater table will be excavated and transported off-site. All soils which contain total PAHs over 500 ppm or which are visibly impacted by coal tar and which are below the groundwater will either be excavated or solidified using in-situ solidification.

7. Residual contamination in the bedrock will be treated using in-situ chemical oxidation.

8. MGP related contamination on the Hudson Vista Associates property will be treated using in-situ chemical oxidation. In-situ solidification (ISS) may be used if it is determined during the design program that ISS would be preferable to oxidation in this location.

9. Since the remedy results in MGP waste remaining at the site, a long term monitoring program will be instituted. A monitoring plan will be developed which will include installing monitoring wells and sampling them on an annual basis. Analysis will include BTEX and PAHs. This monitoring program and the effectiveness of the remedy will periodically be re-evaluated. If site groundwater conditions improve and the site remedy remains physically secure, the monitoring interval could be extended.

10. Since the remedy will result in soil remaining on site with PAHs above individual TAGM 4046 soil cleanup objectives, the entire site will be covered with two feet of clean fill, pavement, or buildings.

11. A site management plan will be developed to: (a) address residual contaminated soils that may be excavated from the site during future redevelopment. The plan will require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations, (b) ensure that appropriate barriers (soil, paving or buildings) remain in place between the ground surface and residual contaminated soils, (c) evaluate the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified, and (d) identify use restrictions for groundwater.

12. The property owner will provide an annual certification, prepared and submitted by a professional engineer or environmental professional acceptable to the

Department, which will certify that the institutional controls and engineering controls put in place, are unchanged from the previous certification and nothing has occurred that would impair the ability of the control to protect public health or the environment or constitute a violation or failure to comply with any operation and maintenance or soil management plan.

13. An institutional control will be imposed in the form of an environmental easement that will: (a) require compliance with the approved site management plan, (b) restrict use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Rockland County Department of Health, and (c) require the property owner to complete and submit to the NYSDEC an annual certification as indicated above.

14. Since no significant contamination has been observed on the western (holder) parcel, no active remediation will be undertaken on this parcel as part of this remedy. If ongoing testing detects residual contamination which could present a potential human health risk to workers who may excavate the site in the future, the site management plan would include appropriate safety measure to be in place and would require appropriate handling and disposal of all excavated soils.

The following are the elements of the selected remedy per the ROD for OU2; however, the actual work performed is described in Section 4:

1. A remedial design program would be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. A pre-design investigation will be necessary to confirm sediment conditions north of the boat club dock and in the immediate vicinity of off-shore mooring structures (a.k.a. the "dolphins") and to confirm conditions in the on-shore and intertidal areas. Green remediation principals and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

    a. Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;

    b. Reducing direct and indirect greenhouse gas and other emissions;

c. Increasing energy efficiency and minimizing use of non-renewable energy;

d. Conserving and efficiently managing resources and materials;

e. Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste. To support these objectives, the Department would consider incorporating excess stabilized soil into the existing, OU1 monolith;

f. Maximizing habitat value and creating habitat when possible. This could include reusing oversized stone from the current rip-rap shoreline for restoration of the original shoreline and intertidal zone in the vicinity of the jetty;

g. Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and

h. Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. On-shore areas (above the mean high water mark and below the existing ISS monolith which extends to the 100 year flood line) where MGP tar is present in the soil at less than 7 feet below ground surface (bgs) will be excavated and transported to a permitted, off-site treatment/disposal facility. The excavation will occur in a manner which controls emissions of odors, dust, and VOCs. Following excavation, slopes would be restored using existing soil/sediment/rip-rap meeting the cleanup criteria and vegetation.

3. On-shore areas where significant quantities of MGP tar are present at greater than 7 feet bgs will be treated using in-situ solidification (ISS). The ISS will create a low permeability cement monolith which will effectively isolate the MGP contamination from human contact and the environment, eliminating potential exposure pathways. Implementing ISS at this site will require conducting a treatability study to verify that the design standards (permeability less than 10-6 cm/sec and unconfined compressive strength

between 50 and 500 psi) can be achieved by the ISS method being employed. Following solidification, post-mix sampling will be conducted to verify effectiveness. Appropriate steps will also be taken to protect the solidified soil from frost damage and wave erosion, and to isolate it from the environment.

4. Sediment (below the mean high water mark) which contains visible MGP tar or which, through multiple lines of evidence has been shown to contain MGP-related contamination resulting in an impact to the environment, will be removed by dredging and transported to a permitted, off-site treatment and disposal facility. The approximate extent of this removal is shown on Figure 6. Following completion of the remedial action, the stream bed and banks will be restored with a minimum 2 foot thick clean substrate layer. The design will include a restoration plan for areas disturbed by the remedy and will be consistent with the requirements of 6 NYCRR Part 608.

5. The remedy will result in some on-shore soil and solidified material remaining at the site which contains site contaminants at levels above restricted residential soil cleanup objectives (SCOs). These materials will be isolated from the public by a minimum of 2 feet of soil meeting restricted residential SCOs, or another barrier acceptable to the NYSDEC and NYSDOH (e.g., asphalt). For the areas where underlying soil does not meet SCOs, a demarcation layer will be provided. For areas where solidified material underlies the cover, the material itself will serve as the demarcation layer due to the nature of the material. The two feet of clean soil cover currently in place in OU1 will also be restored as necessary following OU2 remedial activities. This restoration will ensure that the remedy for OU1 will not be negatively impacted by the work proposed for OU2.

6. The remedy selected for Operable Unit 1 included the imposition of an institutional control. The following updates the requirements for that institutional control to be consistent with current regulations and guidance. The institutional control, in the form of an environmental easement will:

a. require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3).

b. allow the use and development of the controlled property for restricted residential, commercial and industrial uses as defined by Part 375-1.8(g), though land use is subject to local zoning laws;

c. restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or County DOH;

d. prohibit agriculture or vegetable gardens on the controlled property;

e. require compliance with the Department approved Site Management Plan;

7. The remedy selected for Operable Unit 1 required a Site Management Plan. The following updates the requirements for that plan to be consistent with current regulations and guidance, including the following:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

i. Institutional Controls: The Environmental Easement discussed in Paragraph 6 above.

ii. Engineering Controls: The soil cover discussed in Paragraph 5.

iii. This plan includes, but may not be limited to: (1) Soil Management Plan which details the provisions for management of future excavations in areas of remaining contamination; (2) descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions; (3) a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;(4)provisions for

the management and inspection of the identified engineering controls;(5)maintaining site access controls and Department notification; and (6) the steps necessary for the periodic reviews and certification of the institutional and engineering controls;

b. A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

i. Monitoring of groundwater to assess the performance and effectiveness of the remedy;

ii. Monitoring the steps taken to protect the solidified soil from frost damage and wave erosion, and to isolate it from the environment;

iii. Monitoring the success of restoration;

iv. A schedule of monitoring and frequency of submittals to the Department;

v. Monitoring for vapor intrusion for any buildings developed on the site, as may be required pursuant to item 7.a.iii above.

8. The property owner or remedial party will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site (c) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

3.0 OPERABLE UNIT 1 REMEDIAL ACTIVITIES

The Remedial Action at the Nyack Site was completed in 4 phases. The OU1 remedy was implemented in phases 1 through 3 (2004-2007), and the Remedial Action for OU2 was performed in phase 4 (2014-2015).

3.1 SUMMARY OF OU1 REMEDIAL ACTIVITIES - PHASES 1 THROUGH 3

The purpose of this section is to summarize the work performed at OU1. Remedial actions performed at OU1 have been previously documented in separate Construction Completion Reports, submitted to the NYSDEC after each phase of work was completed. This section contains an executive level summary of the remedial actions performed at OU1.

The remedial action at OU1 was conducted in three separate phases. The first phase, which addressed impacts in bedrock via NAPL recovery followed by ISCO, was completed in November 2005. The second phase addressed soil impacts on the Upper Terrace and Hudson Vista property. The Upper Terrace area was remediated via excavation, and ISS was conducted on the Hudson Vista property. These remedial actions were completed in June of 2006. The third phase addressed the Lower Terrace soil remediation via soil excavation and ISS and was completed in September 2007.

A more detailed description of each phase is detailed in the paragraphs below.

Phase 1

The RETEC Group implemented monthly groundwater level monitoring and NAPL recovery of the existing wells between August 23, 2004 and July 7, 2005. Observed NAPL was recovered from nine wells for a total volume of 59.56 liters. This activity ceased when the injection well installation phase of the project began on August 3, 2005.

The *In Situ* Chemical Oxidation program at the Nyack site was implemented between August 3 and November 11, 2005. The program involved the installation of additional injection wells, the extraction and treatment of recovered groundwater, and the injection of Fenton's Reagent into the bedrock zone. An extensive groundwater

monitoring program was undertaken to track the progress of the remedy. A total of 87,190 gallons of 17% Fenton's Reagent was injected and 28,326 gallons of impacted groundwater was extracted, treated, and used as oxidant dilution water.

The information and certifications for Phase 1 of the OU1 remediation made in the "November, 2006, Upper Terrace In Situ Chemical Oxidation: Completion Report" (RETEC, 2006a) were relied upon to prepare this FER and certify that the remediation requirements for the Site have been met.

Phase 2

The remedial action included excavation and off-Site disposal of soils on the Upper Terrace of the former MGP site and ISS of impacted soil on the Hudson Vista portion of the Lower Terrace, adjacent to the former MGP property. The work on the Site's Upper Terrace (owned by Presidential Life Insurance, Inc. at the time) and Hudson Vista Lower Terrace was completed between January 2006 and June 2006. The work was completed in accordance with the ROD and the design documents as documented in the completion report titled "September, 2006, Hudson Vista Lower Terrace In situ Solidification and Presidential Upper Terrace Excavation: Completion Report" (RETEC, 2006a). A total of 25,377.47 tons of soil and 2,107.63 tons of debris were removed from the Site and properly disposed of at approved disposal or recycling facilities. 2,520 cubic yards of impacted soils were solidified and 47,951 gallons of stormwater was collected and disposed. The Hudson Vista site was restored to pre-remediation conditions, while the Presidential site was partially restored to allow for the subsequent phase of remediation.

RETEC was the certifying engineering firm, D.A. Collins Environmental Services (DAC) was the general contractor for soil excavation, and Geo Solutions was the ISS specialty subcontractor. Air Logics implemented perimeter air monitoring, recording, and reporting during the remediation.

The information and certifications made in the "September, 2006, Hudson Vista Lower Terrace In situ Solidification and Presidential Upper Terrace Excavation:

Completion Report" (RETEC, 2006a) were relied upon to prepare this report and certify that the remediation requirements for the Site have been met.

Phase 3

The remedial action included the soil excavation and ISS of soil impacts on the Presidential Lower Terrace and restoration activities on the Upper and Lower Terraces of the former MGP site. The Lower Terrace remediation and site restoration work were completed between February 2007 and September 2007. The work was completed in accordance with the ROD and the design documents (RETEC, 2006). A total of 12,634 tons of soil and 158 tons of debris were removed from the Site and properly disposed of at approved disposal or recycling facilities. 11,400 cubic yards of impacted soils were solidified and 21,000 gallons of stormwater was collected and disposed of. The Site was restored to near original conditions and landscaped to a park-like setting in accordance with the property owner's requirements.

AECOM was the certifying engineering firm, Sevenson Environmental Services was the general contractor for the soil excavation and ISS, GeoCon was the ISS specialty subcontractor, and Air Logics implemented perimeter air monitoring, recording, and reporting.

The information and certifications made in the "December, 2008, Remediation of Lower Terrace Soils and Site Restoration: Completion Report" (AECOM, 2008) were relied upon to prepare this report and certify that the remediation requirements for the Site have been met.

4.0 OPERABLE UNIT 2 REMEDIAL ACTIVITIES

The remedial activities at the Site were performed in accordance with the NYSDEC approved Remedial Design Report (RDR) (GEI, 2013). All deviations from the RDWP and RDR are noted below within the specific work sub-section, as well as in Section 4.10. The remedial activities in OU2, the fourth and final phase of remedial activities at the Site, were not previously documented in a CCR. The information that is required for an OU2 CCR is documented in the following sections.

4.1 GOVERNING DOCUMENTS

This section has been prepared to summarize the regulatory compliance and construction documents that were developed to support the implementation of the OU2 remedy, from March 2014 through April 2015. The following documents were submitted for approval to O&R and were forwarded to the NYSDEC for comment prior to implementation.

4.1.1 Remedial Design Work Plan (RDWP)

The primary governing document for the Remedial Action was the RDWP. It included a conceptual approach for the Remedial Design and described the environmental monitoring program to be implemented during the remedial activities.

4.1.2 Remedial Design Report (RDR)

The RDR provided the detailed Drawings and Specifications which governed the execution of the OU2 remedy.

4.1.3 Site Specific Health & Safety Plan (HASP)

All remedial work performed under this Remedial Action was in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA.

The governing safety document for this work was the HASP, which was provided by DAC as Submittal No. 4 dated February 14, 2014. DAC provided a Site Health and Safety Officer during the OU2 Remedial Action and was responsible for the health and safety of their workers. The HASP was complied with for all remedial and invasive work performed at the Site.

4.1.4 Construction Quality Assurance Plan (CQAP)

The CQAP was prepared by GEI Consultants, Inc., P.C. (GEI) for the environmental remediation of OU2 of the Nyack former MGP Site. The CQAP was included as Appendix I of the RDR (GEI, 2013). The CQAP managed performance of the Remedial Action tasks through designed and documented QA/QC methodologies applied in the field and in the lab. The CQAP provided a detailed description of the observation and testing activities that were used to monitor construction quality and confirm that remedial construction was in conformance with the remediation objectives and specifications. Specific construction activities covered in the CQAP included the following features of the remediation:

- Pre-construction activities.
- Monitoring of excavation extent.
- ISS via auger mixing and jet grouting which included verification of grout mixture and volume, the jet grouting test column program, verification of homogeneity, and laboratory testing for permeability and compressive strength.
- Excavation and backfilling monitoring.
- Borrow source analytical testing.
- Compaction requirements.
- Cofferdam installation.
- Vibration monitoring.
- Structural deformation monitoring.
- Dredging operations which included:
  - Turbidity monitoring.
  - Sheen monitoring.
  - Horizontal and vertical dredge extent monitoring.
- Backfill, grading, and riprap placement.

4.1.5 Soil/Materials Management Plan

Elements of the soil/material management plan, were included in the RDR, Technical Execution Plan (TEP) Section G (Stockpile Management and Loading),

Section I (Disposal Facilities), Section L (Wastewater Treatment, transportation and off-site disposal), and Section H (Off-Site transportation).

There were four major phases to the material handling and staging of material on-site:

- Removal, segregation and stockpiling of existing rip-rap.
- Handling of excavated pre-ISS cut material.
- Handling of ISS/jet grout spoils.
- Handling of sediment during dredging activities.

4.1.6 Storm-Water Pollution Prevention Plan

Stormwater pollution prevention elements were included in the RDR specifications (Section 01570, Erosion and Sedimentation Control), design drawings (DWG. No. 20: Site Management Details), and TEP Section G (Stockpile Management and Loading). The erosion and sediment controls for all remedial construction were conducted in accordance with the Remedial Design in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control. Surface water runoff was intercepted and diverted through use of temporary erosion controls that included temporary swales, silt fence, and hay bales.

4.1.7 Community Air Monitoring Plan (CAMP)

Community and site perimeter air monitoring was conducted according to the approved CAMP and the site-specific Air Monitoring Plan prepared by AECOM. The CAMP has been provided as an appendix to the RAWP. The air monitoring program consisted of real-time monitoring on a 24 hour a day/7 days a week basis from 6 fixed stations located along the site perimeter. The purpose of the CAMP program was to evaluate site conditions, as well as collect confirmatory samples to verify the protective nature of the site-specific action levels and site management activities.

4.1.8 Contractor's Technical Execution Plan (TEP)

The contractor created a site-specific TEP that provided details on the means and methods to be used in the execution of the work. It was reviewed and accepted by GEI, O&R, and the NYSDEC prior to implementation. The TEP was written to be in compliance with the technical specifications prepared by GEI for the project which are included as Appendix F in the RDR.

4.1.9 Additional Contractor Submittals

This section outlines the primary submittals that were required from the contractor during the performance of the remediation:

Initial Submittals:

- Critical Path Method Schedule.
- Pre-Construction Survey.
- Pre-Dredge Bathymetry.
- Remedial Action Contingency Plan.
- Contractor Environmental Health and Safety Plan.
- Schedule of Permits.
- Temporary Fabric Structure Design.
- Cofferdam Design.
- Technical Execution Plan (which included the following sections):
    - Excavation and Backfill.
    - Dredging.
    - Stockpile Management and Loading.
    - Off-Site Transportation.
    - Disposal Facilities.
    - In-Situ Solidification by Auger Mixing and Jet Grout.
    - Wastewater Treatment, Transportation and Off-Site Disposal.
    - Site Restoration.
    - Quality Control.

Submittals During Remediation:

- Contractor Daily Report.
- Progress Schedule.
- Invoices.

Project Closeout Submittals:

- Substantial Completion.
- Post-Construction survey.
- Post Dredge Bathymetry.
- Record Documents.
- Utility Repair Confirmation.
- Permit Closeout.
- Final Acceptance.

The Remediation Engineer reviewed all plans and submittals for this remedial project (i.e. those listed above plus contractor and subcontractor submittals) and confirmed that they were in compliance with the Remedial Design (RD) documents. All remedial documents were submitted to NYSDEC and New York State Department of Health (NYSDOH) in a timely manner and prior to the start of work.

4.1.10 Community Participation Plan

The pertinent elements of the Community Participation Plan that were performed during the Remedial Action included the development and distribution of a Fact Sheet and holding a public meeting. The NYSDEC Fact Sheet was prepared and distributed to the public in November 2013. A public meeting for the project was conducted on November 18, 2013 in Nyack, New York.

4.2 REMEDIAL PROGRAM ELEMENTS

4.2.1 Contractors and Consultants

The Construction Manager (CH2M Hill), under contract to O&R, acted as O&Rs on-Site representative and oversaw, coordinated, and documented the work conducted by the contractor.

The remediation contractor (D.A. Collins Environmental Services), under contract to O&R, was responsible for all on-Site construction activities including, but not limited to, compliance with all applicable OSHA health and safety regulations, construction personnel health and safety, implementation of odor control measures (as necessary), traffic control, site security, ISS, dredging, material handling, transportation and disposal,

and any other tasks outlined in the RDR or the contractor bid and scope package. Geo-Solutions served as the specialty ISS subcontractor.

GEI Consultants, Inc., P.C. (Engineer) of Ithaca, New York, under contract to O&R, served as the Engineer of Record for the remedy. GEI was responsible for the engineering design, permitting, quality control testing, observation of the work, and reviewing submittals and reports provided by the contractor.

AECOM, under the contract with O&R, was responsible for implementation of the CAMP, maintenance of air sampling logs, and meteorological logs.

TRC Solutions acted as a full-time NYSDEC on-Site representative during the remedial aspects of the Remedial Action.

The following are the key personnel that were involved with the 2014-2015 remedial action activities.

Orange and Rockland:

Jeffrey Peifer
Project Manager
Orange and Rockland
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(845) 222-3570

Maribeth McCormick
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Orange and Rockland
3 Old Chester Rd
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NYSDEC:

Elizabeth Lukowski
Project Manager
NYS Dept. of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 14th Floor
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(518) 402-9683

CH2M Hill:

Tim Olean
Senior Construction Manager
CH2M Hill
(508) 395-6960

Randall Smith
On-Site Construction Manager
CH2M Hill
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GEI:

John Finn, P.E.
Engineer of Record
GEI Consultants, Inc., P.C.
1301 Trumansburg Road, Suite N
Ithaca, NY 14850
(607) 216-8955

Maria Stepanova, P.E.
On-Site Engineer
GEI Consultants, Inc., P.C.
1 Greenwood Avenue, Suite 210
Montclair, NJ 07042
(973) 873-7128

4.2.2 Site Preparation

A pre-construction meeting was held with NYSDEC and all contractors on February 6, 2014.

Documentation of agency approvals and permits required by the RD is included in the Remedial Design Report, Appendix G (GEI, 2013).

The New York's State Environmental Quality Review Act (SEQRA) requirements were not applicable to this project, as it was completed under the Order on Consent. All substantive compliance requirements for attainment of applicable natural resource or other permits were achieved during this Remedial Action.

A NYSDEC-approved project sign was erected at the project entrance and remained in place during all phases of the Remedial Action.

The project was divided into two main phases of work, an onshore phase consisting primarily of ISS, and an offshore phase consisting of sediment removal via dredging. Specific site preparation activities were performed prior to the start of each phase, as outlined in the sections below.

4.2.2.1 Mobilization and Onshore Site Preparation

GEI and DAC mobilized to the Site on March 12, 2014. An initial kick-off meeting was held at the Site with representatives from O&R, CH2M Hill, AECOM, GEI, DAC, the NYSDEC, and their sub-consultant, TRC. The installation of trailers and temporary facilities was also initiated. The preparation for remedial activities began immediately upon mobilization of equipment and personnel. Site preparation activities were completed on March 21, 2014, and included:

- Mobilizing equipment and materials.

- Establishing work zones, support facilities, decontamination facilities, erosion control measures, and construction of a decontamination/anti-tracking pad.
- Improvement of the existing access road from the Upper Terrace to the Lower Terrace to allow for usage by trucks and equipment.
- Installing the silt fencing and erosion controls.
- Installing temporary phone and electrical connections to trailers.
- Clearing of vegetation within the remediation areas.
- Laying out the excavation and ISS areas.
- Installing a temporary cofferdam structure directly offshore of the ISS limits installing the storage tanks for the storage of collected wastewater.
- Installing perimeter air monitoring stations and notification system.
- Material Management for Site Preparation. The top 2 feet of soil cover that had been placed above the OU1 ISS on the Lower Terrace was excavated to allow the OU2 work to be completed. Similarly, on the Upper Terrace, topsoil was excavated and moved to a temporary stockpile to allow for the installation of the temporary construction facilities (e.g., trailers, temporary parking, and sanitary facilities). The location of the temporary stockpiles is shown on Figure 7.
- Restoring the on-site potable water source so that it could supply potable water for use during the RA.

4.2.2.2 Offshore Site Preparation

Prior to the start of the dredging work, the contractor removed the temporary cofferdam, erected the temporary fabric structures (TFS), and installed the sediment transfer bins outside of the TFS. The dredged sediments were transferred to the bins when they were offloaded from the offshore portion of the Site, dewatered, and then placed into the TFS. . The site preparation for off-shore work began on July 28th, 2014 and ended on September 4th, 2014 with the start of dredging activities.

The contractor installed a flexible near-shore turbidity curtain and oil absorbent boom along the shoreline during the cofferdam installation, and fixed turbidity curtain and oil absorbent boom around the offshore perimeter of the Site prior to dredging.

Additionally, an inner turbidity curtain and oil-absorbent boom were maintained around the dredge area. Light buoys were maintained outside the fixed turbidity curtain for night-time boat safety.

Turbidity monitoring buoys were delivered to the site on March 17th, 2014, and were placed off-shore prior to any construction activities. One was installed to the north of the jetty, one to the south of the jetty, and one to the east of the jetty. The location of the northern buoy changed during the project based on the access agreement with the Nyack Boat Club. The upstream and downstream designation of the buoys changed with the tidal cycle.

4.2.3 General Site Controls

4.2.3.1 Pre-Construction Survey

Thew Associates Land Surveyors performed a pre-construction survey of the Site and adjacent properties, which included a visual inspection with photographic documentation of existing conditions prior to the beginning the installation of sheet piles. Additionally, a pre-construction bathymetric survey was performed prior to start of dredging activities.

4.2.3.2 Road Closures

There were no road closures associated with the project activities.

4.2.3.3 Record Keeping

A Site visitors log has was maintained on Site by DAC. The Construction Manager (CM) kept project records on Site, and maintained a website document repository to facilitate document sharing and record retention among all the parties involved. The project-specific website was maintained for the duration of the project. At the end of the project, the records were archived and transferred to O&R.

4.2.3.4 Site Security

An 8-foot-tall, chain-link fence surrounded the Site perimeter, as well as the Hudson Vista portion of the Upper Terrace, which was used as a staging area for the remedial action. All vehicles and equipment were secured on Site within the perimeter fence at the end of each working day.

A security service was present on weekdays during non-working hours and on weekends and holidays. A log of Site visitors was maintained by the contractor.

4.2.3.5 Equipment Decontamination

A decontamination pad was constructed at the foot of the gravel access road leading to the Lower Terrace. Approximately 6 inches of the previously existing gravel area was removed, and a poly-liner with sump installed. The liner was then filled with gravel. This decontamination pad also acted as an anti-tracking pad for vehicles departing the Work zone. No trucks or equipment used in the Work zone could enter or exit the Site without traveling over the decontamination pad.

4.2.3.6 Erosion and Sedimentation Controls

Silt fencing was constructed along the eastern portion of Upper Terrace and at the foot of the steep hill that divides the Upper and Lower Terrace. Prior to the temporary fabric structure (TFS) erection, a ditch was constructed around the base of the TFS to prevent the stormwater runoff from entering the TFS. Additionally, the base of the TFS was raised 2 feet above the existing grade to protect the structure against a potential storm surge from the Hudson River.

The temporary facilities, perimeter fencing, decontamination pad, erosion and sediment controls, and stormwater management controls were mobilized and/or constructed between March 11 and March 21, 2014 with the exception of the TFS which was mobilized between July 28th and September 4th, 2014 for handling sediments during the dredging portion of the work.

4.2.3.7 Vibration Monitoring

An automatic vibration monitoring system was implemented by Vibra-Tech, Inc. as a subconsultant to DAC at four locations during sheet pile driving, ISS, and sheet pile extraction activities. The stations were located at the Site perimeter between the work area and nearby structures. Additionally, optical survey and monitoring points were installed every 100 linear feet along the cofferdam system to monitor for settlement and lateral deflection. The settlement monitoring points were installed after complete cofferdam erection, and remained there until the cofferdam was taken down.

4.2.3.8 Turbidity Controls

A temporary turbidity curtain was placed at the beginning of the project, prior to ground-intrusive activities, per NYSDEC request. The temporary curtain was placed along the shoreline and was intended to prevent runoff from creating turbid conditions before the start of the offshore portion of the work. It was replaced by the permanent turbidity curtain prior to the start of dredging activities. Both the temporary and

permanent turbidity curtains were placed to prevent migration of fines from the Site that could result in turbid conditions in the Hudson River. The silt fence and turbidity curtains were inspected regularly for damage and repaired as needed. The turbidity controls were taken down on January 23, 2015, upon completion of riprap placement at the end of dredging phase. The temporary turbidity curtain was deployed again on April 10, 2015 during the final site restoration phase in which clean sand and additional riprap were placed along the shoreline and the restoration plantings were installed. The turbidity curtain was removed for the final time on April 26, 2015.

4.2.4 Nuisance Controls

4.2.4.1 Odor and Dust Control

Odors were controlled during the remedial activities by applying Rusmar odor suppressant foam and/or plastic sheeting, as necessary. Dust was controlled through the application of water via spraying and/or misting.

Some MGP-impacted materials were removed during the pre-ISS excavation. The contractor applied foam frequently during the excavating, dredging, and sediment transfer activities.

The TFS was erected prior to dredging and acted as an engineered odor and dust control during the sediment mixing/handling, which all took place inside the TFS. The TFS was equipped with a TIGG 6,000 cubic foot per minute blower and one TIGG N5000PDB air treatment system. Air was monitored both inside the TFS and at the outlet of the activated-carbon filter. No exceedances of MGP-related compounds were noted at either location during the sediment handling work. Dust outside the TFS was controlled by spraying water mist on the dry work surfaces.

Trucks leaving the Site were lined and covered with plastic and tarped to prevent odors.

4.2.4.2 Truck Wash Procedures

Prior to leaving the Site trucks were decontaminated within the limits of the on-Site decontamination pad. Trucks were decontaminated with long handled brooms or brushes and then pressure washed, if necessary. Wastewater generated from the decontamination process was collected and pumped into the on-Site frac tank. Soils collected from the decontamination pads were bulked with the excavated material and

disposed of off Site at the O&R-approved disposal facility.

4.2.4.3 Truck Routing

Trucks entered and exited the Site via Main Street, in accordance with the RDR. Flaggers assisted with guiding trucks entering and exiting the Site. Once exited truck had departed the Site, they turned west on Main Street, which turned into Route 59, until merging with Interstate Highway Route 87 (I-87).

4.2.5 Community Air Monitoring Plan

O&R retained AECOM Technology Corp. to conduct a Community Air Monitoring Program (CAMP) during the intrusive activities. Collection of Air Quality data, including: total volatile organic compounds (TVOC); PAHs; and particulate matter ten (10) microns or less (PM_{10}) began on March 26, 2014 and ended on January 19, 2015. The real-time monitoring and confirmatory air sampling used U.S. Environmental Protection Agency (EPA)-approved sampling and analytical methods.

Real-time perimeter air quality monitoring, in conjunction with confirmatory air sampling, was performed at the Nyack site during remedial activities. The goal of the real-time air monitoring and responses to exceedances accomplished the following:

- Established background levels of target compounds in ambient air.
- Monitored and documented perimeter ambient air levels of target compounds during the remedial activities.
- Provided an early warning system to prevent elevated off-Site exposures by responding aggressively to exceedances of short-term action levels, to ensure that longer-term exposures at the perimeter remained below acceptable risk levels.
- Evaluated the ongoing effectiveness of, and need for, additional vapor and/or dust suppression controls and/or alteration of work activities to reduce airborne compounds to below acceptable risk levels.

The automated system operated by AECOM consisted of six fixed air monitoring (FAM) units around the Site perimeter, as shown in Appendix I – Figure 1 of the CAMP. An additional temporary air monitoring station was utilized when the site activities occurred at or near the Nyack Boat Club property and the fixed station could not be used. These units were powered by electrical power connections and included a battery backup

system. Any TVOC values above the project-established Response Limit would automatically trigger the gas chromatograph (GC) at that station to begin to continuously sample and measure in the compound-specific mode where quantitative concentrations of benzene, toluene, ethylbenzene, and xylene (BTEX) in ambient air would be determined. Each FAM station included the following components:

- Station enclosure with sample manifold system;
- An organic vapor analyzer (RAE portable photo-ionization detector);
- A separate baseline GC;
- A particulate monitor (DustTrak Model 8520);
- A data logger plus wireless radio communications device;
- A battery backup system; and
- Environmental control devices (heater and AC).

As part of the CAMP program, integrated samples for volatile organic compounds (VOCs) and PAHs were collected once per week at three locations. Samples were collected for 24 hour periods at one upwind and two downwind locations based on forecasted wind direction for the sample period.

Appendix I, CAMP Data, presents the data collected during the CAMP, compares TVOCs and particulate matter less than 10 micrometers in diameter (PM_{10}) to pre-determined action levels, and documents response actions as required by the CAMP Contingency Plan.

4.2.5.1 CAMP Contingency Plan

The CAMP Contingency Plan included a tiered warning system based on contaminant concentrations averaged over a 15-minute period as shown in the table below:

Site-Specific Response and Action Limits and the Corresponding Site Conditions

			Site Condition		
Target – Units	**Response Limit**	**Action Limit**	**Operational Condition**	**Response Condition (Above Background[1])**	**Action Condition (Above Background[1])**
TVOC (PID) – ppm	5.0	25.0	$[C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] < 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	1.0	$[C_{avg}] \leq 1.0$	NA	$[C_{avg}] > 1.0$
PM_{10} – µg/m3	100	150	$[C_{avg}] \leq 100$	$100 < [C_{avg}] < 150$	$[C_{avg}] > 150$

Definitions:

TVOC =	Total Volatile Organic Compounds
PID =	Photoionization Detector for TVOC
GC =	Gas Chromatograph for BTEX compounds
PM10 =	Particulate Matter
ppm =	Parts per million
µg/m3 =	Micrograms per cubic meter
[C] =	Concentration of target parameter collected from a discrete sample
[Cavg] =	15-minute average concentration of target parameter
NA =	Not applicable

4.2.5.2 CAMP Results

There were no Action Limit exceedances for PM_{10} or TVOC concentrations in comparison to New York state's DER-10 (as outlined in the CAMP Data provided in Appendix I) caused by ground intrusive (i.e., construction related) or impacted soil activities during the entire Air Monitoring program (March 29, 2014 through January 19, 2015).

There were, however, a limited number of elevated PM_{10} concentrations (6 events) above the Action Limits that were attributed to non-ground intrusive or non-impacted soil activities. These occurrences are discussed in Appendix I.

No odor complaint notifications were reported during the construction activities. Appendix I contains the summary of air monitoring activities and observations.

4.2.6 Reporting

4.2.6.1 Daily Field Reports

Field Reports were submitted to O&R and NYSDEC on a daily basis by the CM. The reports were typically sent at the end of the day or the morning of the following day. CM also documented and distributed meeting minutes from the weekly construction meetings. Weekly activities, including health and safety notes, security issues, and schedule updates were discussed during the weekly meetings. The weekly meeting minutes were updated and distributed to all the stakeholders for concurrence after each meeting.

All daily reports are included in electronic format in Appendix F. The digital photo log required by the RD is included in electronic format in Appendix G.

4.2.6.2 Weekly CAMP Reports

Weekly CAMP reports were submitted to the NYSDEC and NYSDOH at the beginning of the following week. The reports included a summary of the week's construction activities, data collected, and reported any exceedances. The Air Monitoring Summary Report is provided in Appendix I.

4.2.6.3 ISS Reporting

Daily ISS activity reports were prepared by Geo-Solutions and submitted to the project team. The reports included daily totals and running totals for both the auger-mixed ISS and jet-grout columns, as well as a sketch showing where ISS had been completed on that day. Appendix F contains the daily contractor report with information on the ISS work performed during each day where ISS was performed.

4.2.6.4 Turbidity Monitoring and Reporting

Automated turbidity monitoring took place from March 2014 through January 2015. The turbidity measurements were obtained using an automated system, which was deployed on buoys before the start of in-water work. Water quality monitoring was performed during the cofferdam installation and removal, and dredging activities to evaluate the water quality in the adjacent Hudson River. Daily turbidity monitoring reports were provided to NYSDEC during dredging activities, from September 2014 through January 2015.

4.2.6.5 Sheen Monitoring

The contractor set up a boom system in conjunction with the turbidity curtain to protect the water column outside the Site perimeter during the performance of the remedy. GEI inspected the area for visible sheen beyond the turbidity curtain and boom system during each day when the turbidity controls were in place. Oil booms were replaced as necessary. On April 18, 2014, a sheen was observed outside the perimeter absorbent booms. No corresponding sheen was observed inside of the perimeter booms and the sheen was not attributed to on-Site activities. However, the contractor removed the sheen with absorbent booms as a precaution.

4.2.6.6 Vibration and Settlement Monitoring and Reporting

Vibration monitoring was performed to document the vibrations experienced at the Site perimeter during the installation and removal of the sheet pile cofferdam, and settlement monitoring was performed to document the performance of the cofferdam.

In the event that a vibration was recorded that was over the threshold level, a notification email was sent to multiple recipients, including Vibra-Tech, the contractor, and GEI. Thew Associates (a New York State licensed surveyor working as a subconsultant to DAC) collected daily readings of the optical survey points placed along the cofferdam and the results were reported daily during the ISS operations and weekly thereafter, until the sheeting was removed.

No vibration greater or equal to 0.5 inches/second of peak particle velocity (PPV) was registered at the Site perimeter. Optical survey points indicated one significant movement on May 27, 2014 related to an excavator accidentally striking the cofferdam in the vicinity of the monitoring point. The recorded movement was determined to have not compromised cofferdam stability.

4.3 CONTAMINATED MATERIALS REMEDIATION

The remedy for the Site, as dictated in the ROD and detailed in the RD, used a combination of sediment dredging and soil excavation/ISS to achieve the RAOs. The limits of the soils/sediments that were removed, solidified, and dredged as part of this remedy are shown in the remediation overview (Figure 3). More detailed drawings of the remedy are shown in the as-built drawings contained in Appendix L.

4.3.1 Pre-ISS Excavation

A preliminary excavation to prepare for ISS in the onshore area was performed with conventional excavation equipment using open cuts and slopes. The purpose of the preliminary excavation was to remove visible obstructions and the remains of the historical wooden bulkhead that could potentially inhibit ISS operations. Topsoil placed on the Lower Terrace during OU1 remediation was also removed and stockpiled until restoration activities at the completion of the remedy.

A portion of the onshore excavation area consisted of the removal and stockpiling of existing riprap that was determined to be suitable for reuse during the restoration phase of the work. The pieces of existing stone, that were not suitable for reuse during restoration, were transported to an off-Site disposal facility. ISS site preparation

activities began with riprap removal on April 1, 2014. Obstruction removal, consisting predominately of the remnant bulkhead, continued throughout the auger-mixing ISS phase when additional wooden obstructions were encountered.

4.3.2 Oil Line Removal

A 6 inch oil line existed at the Site with the vertical portion of the line visible between the remains of the southern mooring dolphin. A pre-design investigation identified oily liquid remaining inside the pipe, and potentially asbestos-containing material (ACM) coal-tar wrap on the exposed portion of the pipe. The oily liquid was siphoned off and analyzed. The exact pipe location onshore could not be established but the pipe's end was uncovered during the pre-ISS trenching and found to have been previously plugged with concrete. The onshore portion of the pipe was removed in its entirety, and the offshore portion of the pipe was also removed in its entirety during the dredging phase of the work. ACM disposal details are provided in section 4.3.8 Disposal Details.

4.3.3 In Situ Solidification

4.3.3.1 In Situ Solidification: Auger Mixing

ISS auger mix activities were conducted from May 1 to June 6, 2014. Impacted soils between the existing ISS monolith and MHW were remediated by solidifying the impacted soil with a cementitious grout. The ISS mixing rig consisted of a Delmag RH18. The soil was mixed by utilizing 9-foot-diameter 2- flight mixing auger to cover most of the ISS area, and a 4.5-foot auger to provide coverage between the larger ISS columns and NYSDEC-approved limit of ISS. There have been a total of 281 auger-mixed columns installed in OU2, including 65 columns with 4.5 ft diameter and 216 columns with 9 ft diameter. Grout was pumped through the auger while it was rotated into the soil.

Multiple passes of the auger were made until a homogenous consistency was achieved. A cement-grout batch plant was constructed on the Lower Terrace to prepare the grout to the design mix specifications. GeoSolutions, Inc., the specialty subcontractor performing the ISS, recorded the auger coordinates for the center of each ISS column. The location of the center of each column was surveyed in the field using Total Station survey equipment. The centers of ISS columns were positioned so the columns overlapped to remediate all of the impacted soils.

The prescribed grout mixture volume was added through the auger based on the effective volume of each column. The effective volume was calculated based on the total

depth and number of overlaps for each column. The grout mixture consisted of Portland cement and water. The design mix of ingredients used for auger mixing was 9 percent cement by weight of soil and 1:1 water to dry reagent ratio. The design mix was selected by the contractor based on the results of the treatability study and accepted by GEI. Mixing operations generally proceeded with minimal interruptions and some obstructions were encountered. The presence of jet grout columns on the as-built drawings outside of the original areas planned to be treated via jet grouting noted on the design drawings indicate the presence of obstructions encountered during the auger mixing work. Obstructions were either removed via auger advancement or left in-place to be mixed around using jet grouting as described below. Appendix F contains the daily ISS reports, which include pertinent information about the ISS columns and grout batch reports.

Discreet samples were taken from every 500 cubic yards of soil solidified and were visually inspected by GEI to check for adequate mixing. The visual observations were made for color identification, characterization of the homogeneity of the samples, the presence of unmixed clods, pH levels, and an evaluation of the presence of free product. A discussion of the quality assurance/quality control (QA/QC) results is below.

4.3.3.2 In Situ Solidification: Jet Grouting

ISS via jet grouting was performed to address impacts that could not be effectively reached using the auger mix method. Jet grout mixing was used to treat soil between the bottom of the auger mixed column and above the bedrock surface in areas A and D, as shown on Figure 3. The second area where jet grout mixing was used is in locations where the auger could not advance to the design depth due to the presence of an underground obstruction that could not be removed with the available excavating equipment. The narrow diameter of the jet grout drill stem allowed access to areas below the obstruction while forcing grout to be mixed with the soil at high pressures without the use of the auger. The locations of jet grout columns where obstructions occur is shown on the as-built drawings contained in Appendix L.

A jet grout test program was performed on May 22, 2014 to identify the optimal equipment settings and expected jet grout column diameter. Four columns were created using varying injection pressures, and nozzle sizes. The test columns were excavated to expose their condition, consistency, and effective diameter. Test column # 2 provided the best results with a water to cement ratio of 1:1, a nozzle size of 4 mm and an injection pressure of 3,500 psi, yielding an effective diameter of 4.5 feet. The design mix of

ingredients used for jet grout mixing had the same 1:1 water to dry reagent ratio as the auger-mixed ISS. An overlap ratio of 25% insured 100% coverage.

Jet grouting commenced on June 6, 2014 and continued uninterrupted until July 1, 2014. The perimeter of areas A and D of the ISS auger mixed mass was solidified, and jet grouting was performed under obstructions within the mass at 19 column locations where design depth was not achieved using the auger because of an obstruction. These locations are shown on the ISS as-built figure in Appendix L.

Spoils generated from the ISS process were allowed to cure, stockpiled and characterized for off-site disposal at the thermal desorption facilities.

4.3.3.3 In Situ Solidification Quality Control

ISS Auger Mix Quality Control

Using the samples collected during field inspection of soil mix material, composite samples were molded and one sample from every 500 cubic yards of solidified soil was selected and sent to GeoTesting Express, Inc. in Acton, Massachusetts, for geotechnical analysis. The geotechnical tests included unconfined compressive strength (UCS) and permeability. Table 4 presents the UCS and permeability results. All geotechnical data for the ISS confirmation sampling is included in Appendix J. The performance standards for UCS and permeability tests were minimum 50 pounds per square inch (lb/in^2) and a maximum limit of 500 lb/in^2, and $1x10^{-6}$ cm/sec, respectively. Maximum UCS for auger-mixed ISS samples was 290 lb/in^2). All quality control samples that were collected met the project performance criteria.

Jet Grout Quality Control

During the jet grout implementation, several parameters were monitored to ensure that the full scale implementation mirrored the parameters as demonstrated in the pilot test. In order to ensure the pilot test dimensions of each column were achieved, the following parameters were monitored by the rig and jet pump operators: depth (ft), grout flow (gal/min), pressure (lbs/in), withdrawal rate (ft/min), and stem rotation (rotations/ min). The jet grout quality control sampling used different techniques because a representative “wet” sample could not be extracted from the narrow 6-inch diameter hole that is created with the jet grout drill stem. To verify the lateral and vertical extent of the column, core samples were retrieved from June 24, 2014 through July 8, 2014. The core samples were retrieved using 4.25 inch diameter hollow stem augers and 2 inch diameter

split spoon samplers. The split spoons were used once it was realized in the field that wet core sampling would also wash out the sample and provide little recovery. In order to verify the jet grout columns were reaching the design width, cores were taken at the overlap of two columns. The cores were taken down to the bedrock surface to confirm the vertical extent of the jet grout column in the wedge between the bedrock surface and the bottom of the auger mixing. The core samples were visually examined for homogenous color or presence of grout, recovery, and moisture content, and then photographed (located in Appendix G). Once the test boring was complete, each bore hole was tremie grouted to the ground surface. All of the jet grout columns were verified in the field to meet the lateral and vertical extents found in the pilot test.

4.3.3.4 Water Management and Disposal

The ISS remedy resulted in the minimal accumulation of high alkaline water with a pH ranging up to 14 (as measured by instant test strip in the field). The high alkalinity water was generated in low-lying enclosed areas, specifically between the cofferdam and upland ISS terrace, and there was no human or wildlife contact with the high pH water. As soon as the issue was recognized, the water was collected into the frac tanks, treated to reduce pH, and disposed of at the approved facility (Clean Water of New York, Inc.).

4.3.4 Dredging

The remedy included the removal of sediments, via mechanical dredging, to depths ranging from 2 ft. to 10.5 ft. below the existing sediment surface. All dredging work was performed inside the double turbidity controls, comprised of the fixed outer barrier and moveable inner barrier. A total of 8,360 cubic yards of sediment were removed. The contractor subcontracted with a licensed surveyor, Thew Associates PE-LS, PLLC of Canton, New York, to conduct pre and post-bathymetric surveys of the offshore portion of the Site to create record drawings of the dredging portion of the remedial construction. The areas and final elevations of dredging are shown on Figure 3. The bathymetric surveys are included with the as-built in Appendix L. The surveys were performed using instruments that provided a vertical accuracy of ±0.1 feet and a horizontal accuracy of ±0.05 feet. All project elevations were referenced to NAVD88.

The contractor removed riprap along the shoreline, decontaminated, and stockpiled for reuse the riprap compliant with the project specifications (governing size

and quality). A temporary near-shore turbidity curtain was put in place during this work. The location of the temporary stockpile is shown on Figure 7.

The offshore dredging was predominately performed using an enclosed environmental dredging bucket from a barge. Some of the near shore areas were dredged via a long reach excavator from land. Regardless of the methodology used, all the work was performed while meeting the applicable criteria for controlling turbidity. The dredging was conducted within the double flexible turbidity curtain. The outer curtain was located at the perimeter of the dredging management area, and the inner curtain was placed around the specific portion of the Site being dredged on a given work day.

Entrained and free liquids collected with the dredging spoils were sent for off-Site disposal at Clean Water of New York in Staten Island, NY. Sediments that were dredged beyond the casting range of the dredging equipment were placed into a hopper barge before being directly transferred onshore. Excess free liquids in the hopper barge that were in direct contact with MGP impacts were also sent for off-site disposal at Clean Water of New York in Staten Island, NY. The sediments within the hopper barge were then offloaded onto the sediment bins for transfer into the TFS, where the sediment was allowed to dewater further and then amended with cement kiln dust to comply with disposal facilities' moisture content requirement. A total of 18,623 tons of amended sediment were disposed of off-site.

4.3.5 Trucking

Vehicles carrying soil/ISS spoils/solidified sediment exited the material handling area (or TFS for amended sediments) and proceeded immediately to a decontamination pad. At the decontamination pad, the trucks were visually inspected (i.e., box sidewalls, box tailgate, and tires, etc.), cleaned with brushes/brooms, and decontaminated with pressure sprayers, if needed. Following decontamination, the trucks were covered with plastic and tarps and then proceeded directly to the designated disposal facility. Odor suppressing foam was used during each step of the material handling process, as necessary.

4.3.6 Post-ISS Excavation

Upon completion of the ISS and dredging, the post-ISS excavation of the onshore areas was performed. Areas treated via ISS were graded such that 2 feet of clean cover could be placed over the ISS monolith while raising the area to its final restoration grade.

4.3.7 Site Restoration

After the completion the remedial construction activities, the Site was be restored in accordance with remedial design documents as described in the following sections.

4.3.7.1 Onshore Restoration

Following the completion of the remedial activities, the onshore portions of OU2 were restored to their previously existing grades with certified clean backfill that meets the restricted residential use SCO standard. In places where ISS was performed, the ISS monolith surface serves as the demarcation barrier. Any portions of OU1 that were disturbed during the performance of the remedy were similarly restored. The Site was landscaped and planted to restore the park-like setting. The Lower Terrace and a portion of the Upper Terrace were seeded. Shrubs and erosion control materials were installed on the slope between the terraces to stabilize any areas disturbed during remedial activities.

4.3.7.2 Intertidal Zone and Offshore Restoration

As part of the restoration design for the intertidal area, a survey was performed during which the plant communities currently occupying the Site and immediate environs were identified, existing slopes measured, and wildlife observations documented.

Based on the results of the survey, the intertidal zone restoration was designed to address the long-term stabilization of the upland, shoreline, and near shore areas. Plant materials were carefully selected to maximize the use of native vegetation for the final cover in the restoration. A riprap slope was designed for the waterfront to prevent shoreline erosion and protect the ISS monolith from potential decomposition from wave action. As stated in the ROD, the restoration of the intertidal zone will conform to the requirements of 6 NYCRR Part 608. Approximately two thirds of the Site shoreline was restored to elevation +5 ft., with a joint plantings treatment of willow species live stakes installed between the riprap stone. The southern portion of the shoreline was restored to the field-verified spring high tide elevation of +4 ft., with brush mattress unslope of the riprap and joint planting.

The offshore portions of the Site that were dredged to a maximum depth of 2 or 3 ft. below the existing sediment surface were not backfilled and were left at their final

dredge grade. The deeper dredge areas were backfilled to within 2 ft. of their pre-remediation bathymetry.

A figure of the location of restoration elements is shown in Figure 5. Details of these restoration elements are shown on Figure 6.

Contour maps of the dredge limits and aquatic fill restoration limits for remedial activities at the Site are included in Appendix L.

4.3.8 Disposal Details

The work generated several different types of solid waste: riprap and debris, soil, spoils from ISS swell, wood debris (wooden piles), and sediment amended with cement kiln dust Liquid wastes were also generated and consisted of stormwater, water collected during the sediment dewatering process, and water from decontamination pad. Regardless of the source, all wastewater was collected into the frac tanks and disposed of at Clean Water of New York, Inc. at 3249 Richmond Terrace, P.O. Box 030312, Staten Island, NY. Additionally, potentially asbestos-containing material (ACM) waste was generated during the removal of the coal tar-wrapped oil pipe that extended from the intertidal zone to one of the offshore mooring dolphins. All sections of the pipe were treated as and disposed of as ACM, even though, based on visual observations, the coal tar-wrap was present on only a small section of the pipe. The ACM waste was shipped to High Acres Landfill/Waste Management of NY at 425 Perinton Parkway, Fairport, NY. The amended sediments were shipped to ESMI NJ and Bayshore for thermal treatment. Wood debris, generated during the pre-ISS excavation, was sized and shipped to Minerva Enterprises, LLC at Waynesburg, Ohio. At the completion of the ISS work, ISS spoils material was characterized and shipped to Bayshore for thermal treatment from July 15, 2014 through January 5, 2015. Table 2 details the total tonnage and waste applicable waste streams for each facility used. Manifests for all material shipped from the Site can be found in Appendix H.

Letters from Applicants to disposal facility owners and acceptance letters from disposal facility owners are attached in Appendix H.

Manifests and bills of lading are included in electronic format in Appendix H.

4.3.9 On-Site Reuse

Soil previously used on-Site as a cap was removed and stored in a covered pile prior to any intrusive activities and was later used as backfill for clean cover on top of the ISS after being tested for compliance with the project clean fill criteria.

4.4 REMEDIAL PERFORMANCE/DOCUMENTATION SAMPLING

There was no end-point analytical sampling implemented as a part of the OU2 remediation per the NYSDEC-approved Remedial Design Work Plan. During ISS implementation, the contractor had to verify that the grout mixture is prepared in accordance with the mix design, and that the amount of grout injected into each column matches the design values.

Testing performed as a part of ISS quality control is described in section 4.3.3.3 In-situ Solidification Quality Control.

4.5 BACKFILL

Three different types of backfill were used at the Site. Soil previously used on-Site as a cap was removed and stored in a covered pile prior to any intrusive activities and was later used as backfill for clean cover on top of the ISS. General fill was used to backfill the excavations and as a part of cap in the dredge areas. Topsoil was used in the top 6 inches on top of ISS area.

Analytical results were obtained for the reused topsoil. . The topsoil had small exceedances of several pesticides. The topsoil was resampled at the request of the NYSDEC. The results of the second round of sampling were acceptable to the NYSDEC and the material was approved for use. Topsoil sampling results are provided in (Appendix M.

The general fill was a New York State Department of Transportation item #4 material with less than 10% fines. Analytical results are presented in Appendix J.

A table of all sources of imported backfill with quantities for each source is shown in Table 2. Tables summarizing chemical analytical results for backfill, in comparison to allowable levels, are provided in Appendix M. A figure showing the site locations where backfill was used at the site is shown in Figure 5.

4.6 CONTAMINATION REMAINING AT THE SITE

4.6.1 Soil

Achievement of unrestricted SCOs was not the selected remedy for the Site and residual contaminated soil and groundwater/soil vapor remain beneath the Site in the bedrock underlying the Upper Terrace and Lower Terrace areas of the Eastern Parcel and

the ISS mass underlying the Lower Terrace area. Soil located on the Upper Terrace and the steep slope between Upper Terrace and Lower Terrace have been remediated by excavating the soils that contained total PAHs at concentrations of over 500 mg/kg or that were visibly impacted by coal tar. The limits of excavation are presented on Figure 5 of the SMP. Clean fill has been placed as backfill in these areas.

Soils on the Lower Terrace as well as the adjacent Hudson Vista Associates Property's lower parking lot area have been remediated by ISS to bedrock or to the NYSDEC-approved design depth, with the deepest ISS boundary extending to 22.4 feet bgs (elevation -19 based of North American Vertical Datum of 1988) southeast of the Site's jetty, along the shoreline.

In general, the remedy resulted in soils remaining on site with PAH in compliance with the remedial action objectives ("RAOs"), but in excess of individual restricted use SCOs. These soils are present around the perimeter of the Upper Terrace excavation (as shown on Figure 13 in the SMP), and also within and underneath the ISS mass. Because soils on Site are generally located above groundwater table, there is a low potential for soil recontamination above bedrock.

On the Upper Terrace, no demarcation layer was placed because excavation was to bedrock and the bedrock surface serves as an effective demarcation layer. Within the ISS areas, no demarcation layer was placed on top of the ISS mass. The top of ISS serves as an effective demarcation layer due to the hardened nature of material.

Cross-sections (Figures 7 through 10 in the SMP) identify the soil condition prior to remediation. Figure 13 in the SMP identifies soil remaining outside the OU1 excavation and compares the soil analytical results to Restricted SCOs.

4.6.2 Bedrock

Remedial actions performed at the Site met the requirements of the ROD for OU1 and NYSDEC-approved design documents. Specifically, as indicated in the ISCO Completion Report (RETEC, 2006) for the Site, the target of one full pore volume of Fenton's Reagent was delivered to the bedrock zone, resulting in the elimination or reduction of MGP-related contaminants present in the bedrock to extent practicable. Residual MGP impacts may exist in the bedrock on-Site.

4.6.3 Groundwater

The primary groundwater contaminants associated with the Site are BTEX and PAHs. Groundwater contamination in the bedrock in the Upper Terrace was addressed by removing the source material in the overburden, and treating coal tar in the bedrock with chemical oxidation. Both the OU1 and OU2 RODs require institutional controls that restrict the use of groundwater. The required Environmental Easement for the Site restricts the use of groundwater from the Eastern Parcel as a source of potable or process water, without necessary water quality treatment as determined by the NYSDEC, New York State Department of Health (NYSDOH), or Rockland County DOH.

4.6.4 Sediment

The primary sediment contaminants associated with the Site are BTEX and PAHs. Offshore sediments have been remediated by dredging to the horizontal extent and depths in accordance with the NYSDEC-approved design (GEI, 2013), and in conformance with the requirements of the OU2 ROD. No additional impacts were discovered during the remedial action. The deepest dredging was performed adjacent to the ISS platform to the depth of approximately 12 feet (elevation -10 based of North American Vertical Datum of 1988) southeast of the Site's jetty, along the shoreline. Dredging to the lowest elevation of -14 was performed to the east of the mooring dolphins, where the dredge depth was 2 to 3 feet.

The contamination remaining in sediments does not include tar-saturated sediments, all of which were removed by the remedial action. Some light impacts, which are covered by clean sediment, remain. Sediment impacts in the form of blebs, globs, or sheen remain approximately 120 feet south of the mooring dolphins, limited to the 2 locations shown on Figure 8: SD12 and SD27. At SD 12 location the impacted interval is limited to 0.1 feet at the 4.6 feet below sediment, and at SD27 location the impact is limited to 0.7 feet interval at 5.1 feet below sediment surface. Neither location has any MGP impact in the surface sediment layer.

Since contaminated soil, groundwater, bedrock, and sediment remains beneath the site after completion of the Remedial Action, Institutional and Engineering Controls are required to protect human health and the environment. These Engineering and

Institutional Controls (ECs/ICs) are described in the following sections. Long-term management of these EC/ICs and residual contamination will be performed under the Site Management Plan (SMP) approved by the NYSDEC.

4.7 SOIL COVER SYSTEM

Exposure to remaining contamination in soil at the site is prevented by a soil cover system placed over the site. This cover system is comprised of a minimum of 2 feet of clean soil, meeting Restricted Residential SCOs and clean sand and riprap along the shoreline. Figure 5 shows the approximate extent of the clean cover. An Excavation Work Plan, which outlines the procedures required in the event the cover system and/or underlying residual contamination are disturbed, is provided in Appendix A of the SMP (GEI, 2015).

4.8 OTHER ENGINEERING CONTROLS

The remedy for the site did not require the construction of any other engineering control systems.

4.9 INSTITUTIONAL CONTROLS

The on-site parcel will require institutional controls. These controls are defined in the SMP. Specifically, the site remedy requires that an environmental easement be placed on the property to (1) implement, maintain and monitor the Engineering Controls; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the site to restricted residential, commercial or industrial uses only, in accordance with local regulations. Inspections of all remedial components installed at the Site (including both the Eastern Parcel and the ISS area of the Hudson Vista Associates Property) will be conducted at the frequency specified in the SMP Monitoring Plan schedule. Responsibilities of the Owner and Remedial Party are outlined in Appendix B of the SMP. A comprehensive Site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report for the Site required by the SMP.

The environmental easement for the site was executed by the Department on March 30, 2016, and filed with the Rockland County Clerk on April 27, 2016. The County Recording Identifier number for this filing is #2016-00012277. A copy of the easement and proof of filing is provided in Appendix C. The Hudson Vista Associates

Property's lower parking lot area is considered an off-Site area. It is subject to the requirements of the SMP, however, is not a part of the environmental easement.

4.10 DEVIATIONS FROM THE REMEDIAL ACTION WORK PLAN

The RA was completed in general accordance with the RAWP and Contract Documents. Both the horizontal and vertical extent of the ISS/dredge area were implemented as per design. The deviations from the RAWP are noted below:

4.10.1 Modification of the Intertidal Restoration Elevation and Vegetative Design

Original Requirement in the RD

The original intertidal restoration was designed to maximize the use of native vegetation while providing long-term stabilization of the upland, shoreline, and near shore project areas. The design incorporated multiple "green/living" shoreline treatments, including brushmattress, live stakes, fascines, and a shrub planted buffer. The vegetative treatments were designed for installation within the 100-year floodplain landward of the regular intertidal zone (low tide to spring high tide). Protective stone riprap was to be replaced in-kind in the tidal zone below the proposed vegetated treatments.

Action Taken

An additional vegetative treatment, referred to as joint-planting, was added to the project design. This is a USDA Natural Resources Conservation Service (NRCS) streambank stabilization practice of combining live stakes and riprap to produce a hybrid vegetative and structural option that is recommended for high energy environments. This treatment extended from approximately 1 foot above low tide to spring high tide along one third of the shoreline, and approximately 1 foot above spring high tide along two thirds of the shoreline. A layer of brushmattress was installed upslope of the joint planting along one third of the shoreline starting at the spring high tide line. An approximate 5 to 15 foot wide zone of live stakes was installed along the shoreline above the joint planting treatments. A total of 130 shrubs were interplanted within the live stake zone and extended into the Lower Terrace to provide additional shoreline buffer and enhance final slope stabilization.

Reason for Change

During the winter construction shutdown period, erosion and storm damage was observed along the shoreline. As a result, the potential wave energy and storm surge

erosion risk were re-evaluated, and the joint planting hybrid treatment was added to the project design.

Additionally, the observed high tide varied from the predicted high tide estimate provided during the design process. The spring high tide (normally occurring highest non-storm related high tide) provided by the surveyor in 2012 was elevation 2 feet (NAVD 88). The spring high tide was field verified in 2015 at approximately elevation 4 feet. With the original goal and requirement to protect the ISS with a stable 2-foot-thick soil/riprap cover from regularly experienced tidal wave force erosion, the designed shoreline treatments were extended up the slope to correspond with the field verified tidal zone elevations.

Approval for Action

The shoreline treatment redesign, including the addition of the joint plantings, was approved by the NYSDEC on April 10, 2015.

Modifications to the shoreline treatment(s) extents to reconcile the original 2012 predicted elevations with the observed 2015 tidal zone elevations were approved by the NYSDEC on April 23, 2015.

Effect of Action

As of the date of this FER, the intertidal restoration is functioning as anticipated. An inspection and certification was to be made 90 days after the completion of construction. This initial inspection was performed on June 26, 2015, as required.

4.10.2 Modification of the Planting Schedule

Original Requirement in the RD

The original planting schedule as shown on the design drawings was part of the approved design.

Action Taken

Some of the plants that did not survive the initial planting were replaced with similar, but not exactly the same, types of plants. The replacement plantings were plant types that had successfully taken root during the initial restoration planting.

Reason for Change

Some of the plants did not survive the initial planting. Because of the time of year, replacing the plants in kind would not have been possible and instead were

substituted for different plants that would perform similarly and allow the site to meet the design concept at an earlier date.

Approval for Action

The plant substitution is in conformance with the NYSDEC accepted restoration design, and formal approval was not requested.

Effect of Action

The site was restored in a manner consistent with the overall design intent with minor substitutions for some of the plants contained in the original design.

4.10.3 ISS Modification

Original Requirement in the RD

The original intent was to accomplish most of the ISS by the means of auger-mixing, and seal the space between the bottom of the ISS columns and bedrock with jet-grout ISS technique, as well as jet-grout the perimeter of ISS areas A and D. Similarly jet grouting had to be performed where obstruction were encountered during the vertical auger mixing. In addition the ISS mass installed during OU-2 activities had to be tied with the OU-1 ISS mass.

Action Taken

ISS activities have been undertaken in general accordance with the design document. During the course of the OU-2 ISS implementation subsurface obstructions were encountered and could not be removed in 4 small ISS column locations, and the jet-grout technique was utilized to solidify the soil underneath these location

In the northern part of the OU-2 ISS extent (Area A) a few ISS and jet-grout columns did not need to be installed due to presence of the ISS columns installed as a part of OU-1 ISS activities.

5.0 REFERENCES

AECOM, 2008. Remediation of Lower Terrace Soils and Site Restoration: Completion Report, Nyack Manufactured Gas Plant Site, Nyack, New York, December 11, 2008.

GEI, 2012. Remedial Design Work Plan, Nyack Former MGP Site, Operable Unit No. 2, Village of Nyack, Rockland County, NY, Site No. 344046, July 2012.

GEI, 2013. Remedial Design Report – 100% Design Submittal, Nyack Former MGP Site, Operable Unit No. 2, Village of Nyack, Rockland County, NY, Site No. 344046, October 2013.

GEI, 2015. Site Management Plan, Nyack Former Manufactured Gas Plant, Rockland County, New York, NYSDEC Site Number: 344046, May 2015.

RETEC, 2006a. Hudson Vista Lower Terrace *In Situ* Solidification and Presidential Upper Terrace Excavation: Completion Report, Nyack Manufactured Gas Plant Site, Nyack, New York, September 13, 2006.

RETEC, 2006b. Upper Terrace In Situ Chemical Oxidation: Completion Report, Nyack Manufactured Gas Plant Site, Nyack, New York, November 3, 2006.

Tables

Table 1
Soil Cleanup, Soil Reuse, Soil Import Criteria - Restricted Residential
Nyack Former Manufactured Gas Plant Site
Nyack, New York

Contaminant	CAS Number	Protection of Public Health
		Restricted-Residential
Semivolatiles		
Acenaphthene	83-32-9	100[a]
Acenapthylene	208-96-8	100[a]
Anthracene	120-12-7	100[a]
Benz(a)anthracene	56-55-3	1[c]
Benzo(a)pyrene	50-32-8	1[c]
Benzo(b)fluoranthene	205-99-2	1[c]
Benzo(g,h,i)perylene	191-24-2	100[a]
Benzo(k)fluoranthene	207-08-9	3.9
Chrysene	218-01-9	3.9
Dibenz(a,h)anthracene	53-70-3	0.33[b]
Fluoranthene	206-44-0	100[a]
Fluorene	86-73-7	100[a]
Indeno(1,2,3-cd)pyrene	193-39-5	0.5[c]
Naphthalene	91-20-3	100[a]
Phenanthrene	85-01-8	100[a]
Pyrene	129-00-0	100[a]
Volatiles		
Benzene	71-43-2	4.8
Ethylbenzene	100-41-4	41
Toluene	108-88-3	100[a]
Xylene (mixed)	1330-20-7	100[a]

Notes:

All soil cleanup objectives (SCOs) are in parts per million (ppm).

[a] The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.

[b] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value.

[c] For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

Table 2
Off-Site Sediments/ Waste Disposal Volumes and Facilities
Nyack Former Manufactured Gas Plant Site
Nyack, New York

Disposal Facilities	Stormwater/Decon Water (gal)	Debris (ton)	Amended Sediment /ISS Spoils (ton)	Asbestos-Containing Material (ton)
Bayshore Soil Management, 75 Crows Mill Road, Keasby, NJ 08832			18,623.46	
ESMI of New York, 304 Towpath Rd, Fort Edward, NY 12828			203.64	
Clean Water of New York, 3249 Richmond Terrace, Staten Island, NY 10303-0312	101,060			
Minerva Enterprises, LLC, 8955 Minerva Rd SE, PO Box 709, Waynesburg, OH 44688		397.99		
High Acres Landfill/ Waste Management of NY, 425 Perinton Parkway, Fairport, NY 14450				3.26
TOTAL	**101,060.00**	**397.99**	**18,827.10**	**3.26**

Table 3
Off-Site Backfill Volumes and Facilities
Nyack Former Manufactured Gas Plant Site
Nyack, New York

Backfill Facilities	Sand (tons)	Riprap (tons)
Tilcon New York Inc. 162 Old Mill Road West Nyack, NY 10994	7,084.37	1,466.22
Tilcon New York Inc. 66 Scratchup Road Haverstraw, NY 10927	397.29	
Totals	**7,481.66**	**1,466.22**

Table 4
In-Situ Solidification GeoTesting Results
Nyack Former Manufactured Gas Plant Site
Nyack, New York

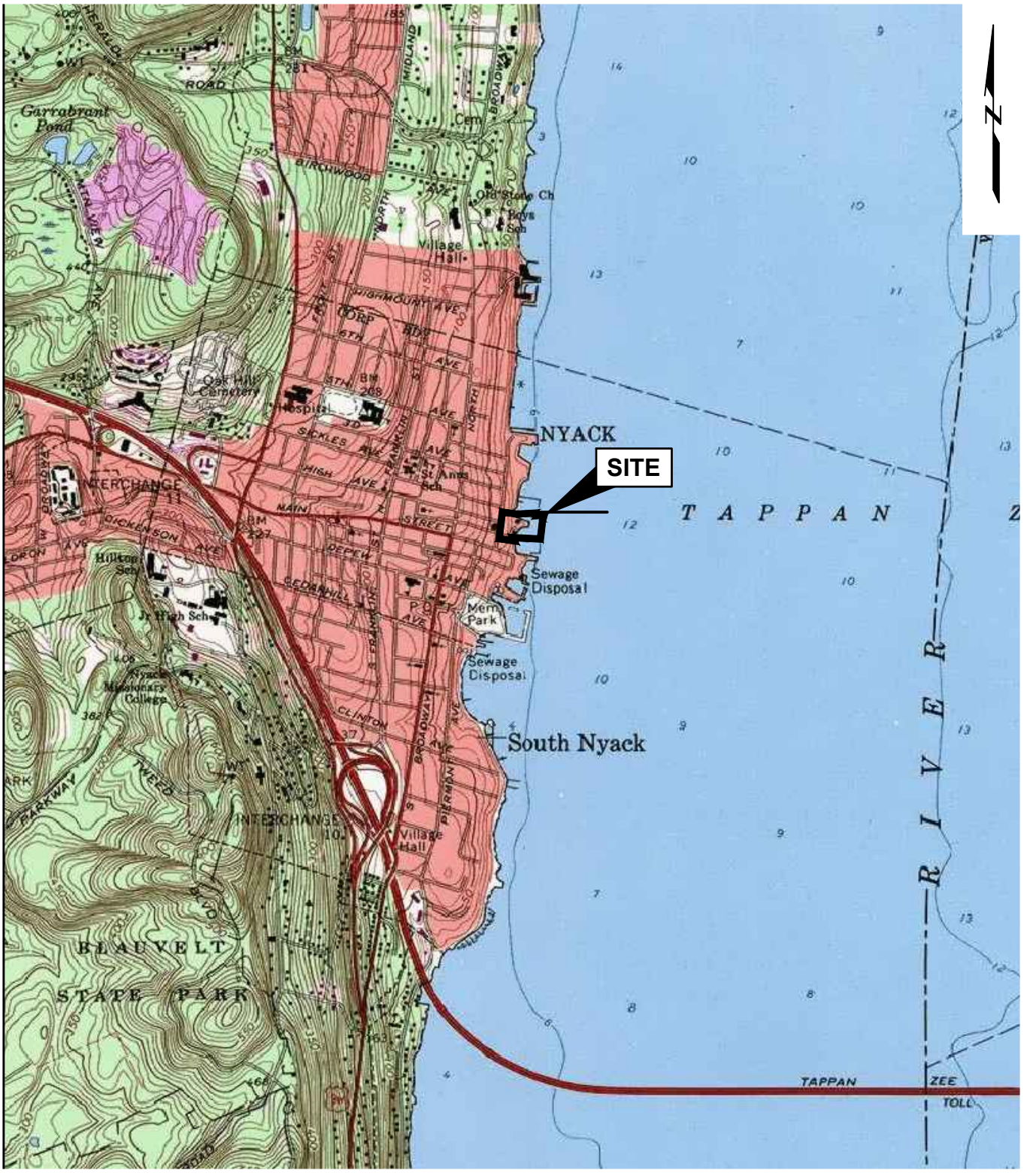
Sample ID	RA Phase	Type of mixing	Curing Age, days	Compressive Strength, psi	Compressive Strength Pass/Fail	Free Liquids Observed Yes/No	Permeability, cm/sec	Permeability Pass/Fail
ISS-B57-2014-05-01	OU-2	ISS	28	70	Pass	No	8.5x10-7	Pass
ISS-A8-2014-05-02	OU-2	ISS	28	180	Pass	No	5.3x10-7	Pass
ISS-B37-2014-05-05	OU-2	ISS	28	125	Pass	No	8.7x10-7	Pass
ISS-D44-2014-05-06	OU-2	ISS	28	55	Pass	No	3.1x10-7	Pass
ISS-D36-2014-05-07	OU-2	ISS	28	165	Pass	No	1.1x10-7	Pass
ISS-D9-2014-05-08	OU-2	ISS	28	180	Pass	No	1.1x10-7	Pass
ISS-D12-2014-05-09	OU-2	ISS	28	180	Pass	No	1.2x10-7	Pass
ISS-B22-2014-05-12	OU-2	ISS	28	90	Pass	No	7.8x10-7	Pass
ISS-B30-2014-05-13	OU-2	ISS	28	115	Pass	No	2.5x10-7	Pass
ISS-C8-2014-05-14	OU-2	ISS	28	290	Pass	No	1.7x10-7	Pass
ISS-C32-2014-05-15	OU-2	ISS	28	75	Pass	No	1.7x10-7	Pass
ISS-D24-2014-05-19	OU-2	ISS	28	135	Pass	No	1.1x10-7	Pass
ISS-D2-2014-05-20	OU-2	ISS	28	110	Pass	No	1.2x10-7	Pass
ISS-C27-2014-05-21	OU-2	ISS	28	120	Pass	No	4.6x10-7	Pass
ISS-B13-2014-05-22	OU-2	ISS	28	155	Pass	No	7.8x10-7	Pass
ISS-B4-2014-05-23	OU-2	ISS	28	75	Pass	No	2.6x10-7	Pass
ISS-C49-2014-05-27	OU-2	ISS	28	110	Pass	No	1.3x10-7	Pass
ISS-B63-2014-05-28	OU-2	ISS	28	95	Pass	No	3.2x10-7	Pass
ISS-C98-2014-05-29	OU-2	ISS	28	90	Pass	No	2.4x10-7	Pass
ISS-C75-2014-05-30	OU-2	ISS	28	70	Pass	No	8.1x10-7	Pass
ISS-C86-2014-06-02	OU-2	ISS	28	95	Pass	No	8.4x10-7	Pass
ISS-C42-2014-06-04	OU-2	ISS	28	110	Pass	No	9.0x10-7	Pass
ISS-C39-2014-06-04	OU-2	ISS	28	145	Pass	No	7.4x10-7	Pass
ISS-C53-2014-06-05	OU-2	ISS	32	115	Pass	No	5.9x10-7	Pass
JG-J24A-2014-06-06	OU-2	Jet Grout	31	375	Pass	No	6.0x10-7	Pass
ISS-C57-2014-06-06	OU-2	ISS	31	110	Pass	No	5.1x10-7	Pass
JG-J28B-2014-06-09	OU-2	Jet Grout	28	940	Exceed	No	8.1x10-7	Pass
JG-J28B-2014-06-09	OU-2	Jet Grout	31	840	Exceed	No	NA	NA
JG-J28H-2014-6-11	OU-2	Jet Grout	28	975	Exceed	No	7.2x10-7	Pass
ISS-D48-2014-6-11	OU-2	ISS	28	250	Pass	No	2.8x10-7	Pass
JG-C69F-2014-6-12	OU-2	Jet Grout	28	760	Exceed	No	7.8x10-7	Pass
ISS-C70-2014-06-09	OU-2	ISS	31	145	Pass	No	8.4x10-7	Pass
ISS-C126-2014-6-10	OU-2	ISS	30	95	Pass	No	2.2x10-7	Pass
JG-J12B-2014-6-10	OU-2	Jet Grout	30	815	Exceed	No	6.2x10-7	Pass
JG-C51A-2014-06-16	OU-2	Jet Grout	28	1155	Exceed	No	2.1x10-7	Pass
JG-C39C-2014-06-17	OU-2	Jet Grout	28	570	Exceed	No	4.7x10-7	Pass
JG-J29A-2014-06-18	OU-2	Jet Grout	28	480	Pass	No	1.4x10-7	Pass
JG-J71B-2014-06-19	OU-2	Jet Grout	28	305	Pass	No	8.8x10-8	Pass
JG-J60B-2014-06-20	OU-2	Jet Grout	28	340	Pass	No	1.6x10-7	Pass
JG-D27D-2014-06-23	OU-2	Jet Grout	28	405	Pass	No	9.7x10-8	Pass
JG-D42F-2014-06-24	OU-2	Jet Grout	28	310	Pass	No	1.2x10-7	Pass
JG-D25B-2014-06-25	OU-2	Jet Grout	28	350	Pass	No	2.1x10-7	Pass
JG-D39F-2014-06-26	OU-2	Jet Grout	28	290	Pass	No	2.4x10-7	Pass
JG-J54B-2014-06-27	OU-2	Jet Grout	28	365	Pass	No	1.3x10-7	Pass
JG-J55A-2014-06-30	OU-2	Jet Grout	28	325	Pass	No	7.8x10-8	Pass
JG-J48A-2014-07-01	OU-2	Jet Grout	28	635	Exceed	No	1.6x10-7	Pass

Table 5
Summary of Remaining Soil Contamination Above Restricted Residential Levels
Nyack Former Manufactured Gas Plant Site
Nyack, New York

Sample ID Date Sampled	NYSDEC SCOs, ppm	SB2(8.5-10.0) 9/28/1999		SB9(14.0-15.5) 10/7/1999		SB22(7.0-7.3) 5/16/2001		SB28(7-10) 5/16/2001		SB55(8-9.3) 6/4/2008	
PAH Compunds (ug/Kg)											
Naphthalene	100	0.41	U	0.009	J	0.36	U	0.06	J	0.29	J
2-Methylnapthalene	#N/A	0.41	U	0.38	U	0.27	J	0.37	U	0.15	J
Acenaphthylene	100	0.092	J	0.007	J	0.53		0.15	J	0.055	J
Acenaphthene	100	0.44		0.017	J	0.87		0.37	U	0.11	J
Fluorene	100	0.33	J	0.38	U	3.8		0.048	J	0.069	J
Phenanthrene	100	1.2		0.041	J	3.2		0.23	J	0.24	J
Anthracene	100	0.38	J	0.012	J	3		0.11	J	0.081	J
Fluoranthene	100	0.54		0.038	J	0.79		0.73		0.22	J
Pyrene	100	0.98		0.065	J	1.7		0.063	J	0.26	J
Benzo(a)anthracene	1	0.37	J	0.018	J	3.9		0.13	J	0.16	J
Chrysene	3.9	0.36	J	0.017	J	0.4	J	0.1	J	0.14	J
Benzo(b)fluoranthene	1	0.13	J	0.007	J	6.5		0.37	U	0.17	J
Benzo(k)fluoranthene	3.9	0.16	J	0.012	J	0.33	J	0.37	U	0.054	J
Benzo(a)pyrene	1	0.24	J	0.015	J	1.1		0.48		0.17	J
Indeno(1,2,3-cd)pyrene	0.5	0.084	J	0.008	J	0.076	J	0.37	U	0.096	J
Dibenzo(a,h)anthracene	0.33	0.036	J	0.38	U	5.3		0.37	U	0.027	U
Benzo(g,h,i)perylene	100	0.11	J	0.021	U	7		0.29	J	0.13	J
Total PAHs		5.452		0.266		38.766		2.391		2.395	

Notes:
U = The material was analyzed for, but not detected. The associated numerical vanlue is the sample quantitation limit
J = The associated numerical value is an estimated quantity.
Highlighted values are in exceedance of the NYSDEC Restricted Residential Soil Cleanup Objective.

Figures



SOURCE:
U.S.G.S. TOPOGRAPHIC MAP CREATED WITH TOPO! ® ©2004
NATIONAL GEOGRAPHIC (www.nationalgeographic.com/topo)

0 2000' 4000'
SCALE: 1" = 2000'

Final Engineering Report Nyack Former MGP Nyack, New York	GEI Consultants	SITE LOCATION MAP
Orange and Rockland Utilities, Inc. Goshen, New York	Project 1400400	April 2016 Fig. 1

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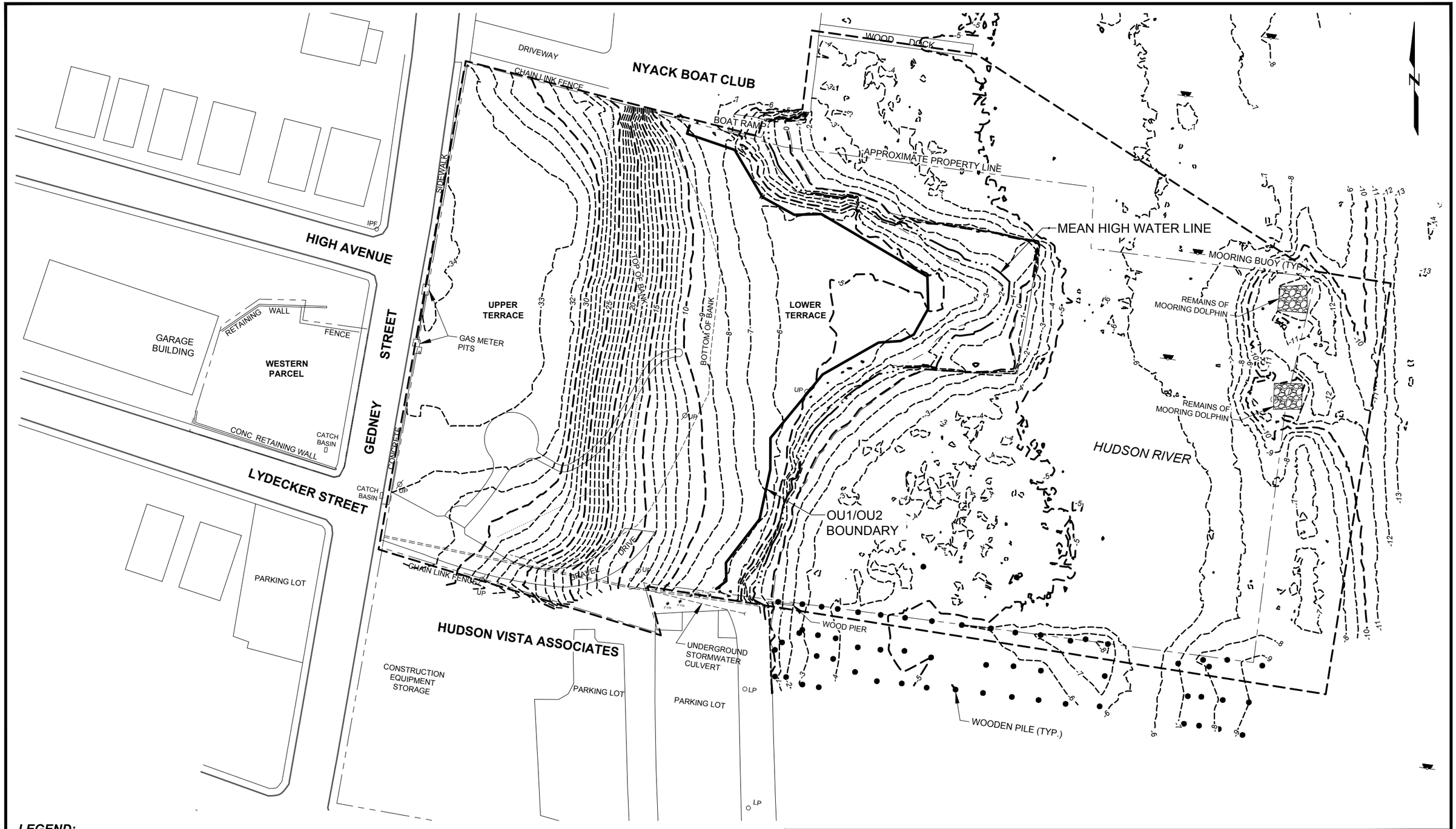

LEGEND:

- PROJECT LIMIT
- 5-FOOT CONTOUR - MAJOR
- 1-FOOT CONTOUR - MINOR

NOTES:

1. TOPOGRAPHY BASED ON SURVEY COMPLETED 9/10/2012 BY THEW SURVEYORS.

0 60' 120'

SCALE: 1" = 60'

Final Engineering Report
Nyack Former MGP
Nyack, New York

Orange and Rockland Utilities, Inc.
Goshen, New York

GEI Consultants

SITE PLAN - TOPOGRAPHY

Project 1400400 | April 2016 | Fig. 2

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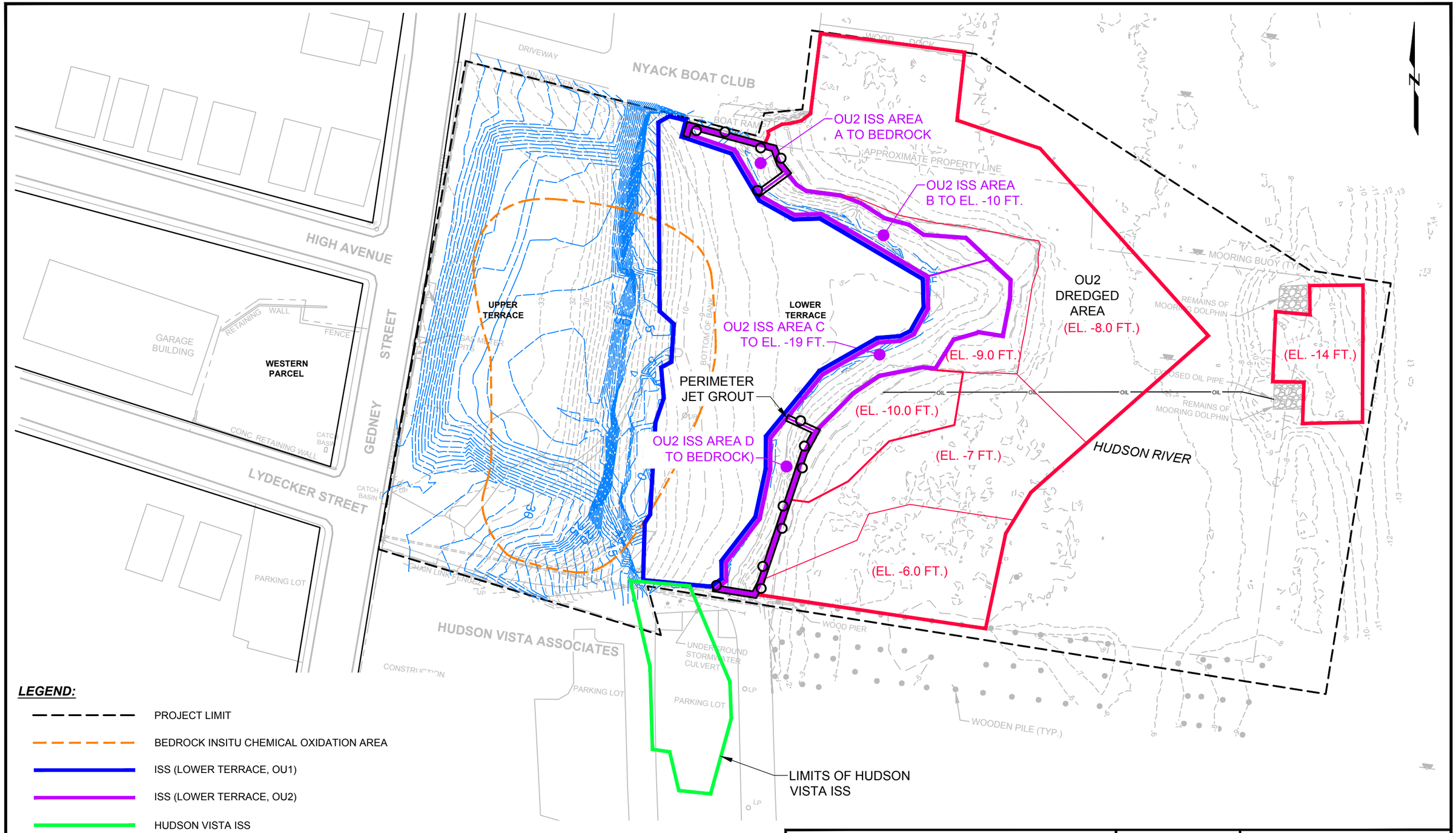

LEGEND:

- PROJECT LIMIT
- BEDROCK INSITU CHEMICAL OXIDATION AREA
- ISS (LOWER TERRACE, OU1)
- ISS (LOWER TERRACE, OU2)
- HUDSON VISTA ISS
- DREDGE AREA (OU2)
- OU1 EXCAVATION CONTOURS
- PERIMETER JET GROUT

0 60' 120'

SCALE: 1" = 60'

Final Engineering Report
Nyack Former MGP
Nyack, New York

Orange and Rockland Utilities, Inc.
Goshen, New York

GEI Consultants

REMEDIATION OVERVIEW

Project 1400400 | April 2016 | Fig. 3

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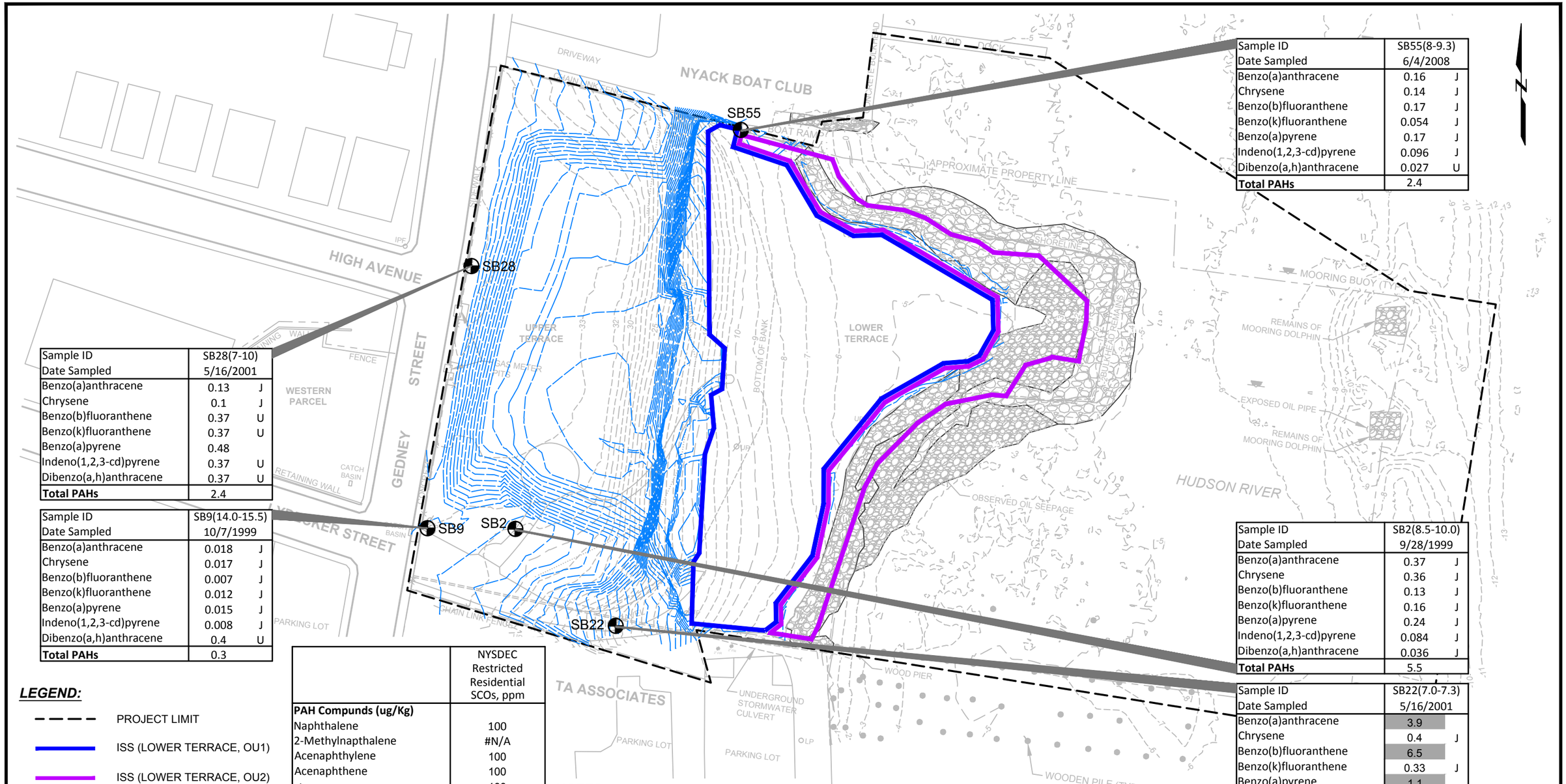

Sample ID	SB28(7-10)	
Date Sampled	5/16/2001	
Benzo(a)anthracene	0.13	J
Chrysene	0.1	J
Benzo(b)fluoranthene	0.37	U
Benzo(k)fluoranthene	0.37	U
Benzo(a)pyrene	0.48	
Indeno(1,2,3-cd)pyrene	0.37	U
Dibenzo(a,h)anthracene	0.37	U
Total PAHs	2.4	

Sample ID	SB9(14.0-15.5)	
Date Sampled	10/7/1999	
Benzo(a)anthracene	0.018	J
Chrysene	0.017	J
Benzo(b)fluoranthene	0.007	J
Benzo(k)fluoranthene	0.012	J
Benzo(a)pyrene	0.015	J
Indeno(1,2,3-cd)pyrene	0.008	J
Dibenzo(a,h)anthracene	0.4	U
Total PAHs	0.3	

Sample ID	SB55(8-9.3)	
Date Sampled	6/4/2008	
Benzo(a)anthracene	0.16	J
Chrysene	0.14	J
Benzo(b)fluoranthene	0.17	J
Benzo(k)fluoranthene	0.054	J
Benzo(a)pyrene	0.17	J
Indeno(1,2,3-cd)pyrene	0.096	J
Dibenzo(a,h)anthracene	0.027	U
Total PAHs	2.4	

Sample ID	SB2(8.5-10.0)	
Date Sampled	9/28/1999	
Benzo(a)anthracene	0.37	J
Chrysene	0.36	J
Benzo(b)fluoranthene	0.13	J
Benzo(k)fluoranthene	0.16	J
Benzo(a)pyrene	0.24	J
Indeno(1,2,3-cd)pyrene	0.084	J
Dibenzo(a,h)anthracene	0.036	J
Total PAHs	5.5	

Sample ID	SB22(7.0-7.3)	
Date Sampled	5/16/2001	
Benzo(a)anthracene	3.9	
Chrysene	0.4	J
Benzo(b)fluoranthene	6.5	
Benzo(k)fluoranthene	0.33	J
Benzo(a)pyrene	1.1	
Indeno(1,2,3-cd)pyrene	0.076	J
Dibenzo(a,h)anthracene	5.3	
Total PAHs	38.8	

LEGEND:

- PROJECT LIMIT
- ISS (LOWER TERRACE, OU1)
- ISS (LOWER TERRACE, OU2)
- OU1 EXCAVATION CONTOURS
- BORING
- SURFACE SOIL
- U — THE MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED NUMERICAL VALUE IS THE SMPLE QUANTITATION LIMIT
- J — THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMAGED QUANTITY

	NYSDEC Restricted Residential SCOs, ppm
PAH Compunds (ug/Kg)	
Naphthalene	100
2-Methylnapthalene	#N/A
Acenaphthylene	100
Acenaphthene	100
Fluorene	100
Phenanthrene	100
Anthracene	100
Fluoranthene	100
Pyrene	100
Benzo(a)anthracene	1
Chrysene	3.9
Benzo(b)fluoranthene	1
Benzo(k)fluoranthene	3.9
Benzo(a)pyrene	1
Indeno(1,2,3-cd)pyrene	0.5
Dibenzo(a,h)anthracene	0.33
Benzo(g,h,i)perylene	100
Total PAHs (site-specific SCO)	500

NOTES:

1. HIGHLIGHTED VALUES ARE IN EXCEEDANCE OF THE NYSDEC RESTRICTED RESIDENTIAL SOIL CLEANUP OBJECTIVE.
2. 500 PPM TOTAL PAHS IS A SITE-SPECIFIC CLEANUP OBJECTIVE.
3. SOIL SAMPLES REMOVED OR SOLIDIFIED DURING REMEDIATION ARE NOT SHOWN.

0 60' 120'

SCALE: 1" = 60'

Final Engineering Report
Nyack Former MGP
Nyack, New York

Orange and Rockland Utilities, Inc.
Goshen, New York

GEI Consultants

Project 1400400

SOIL CONCENTRATIONS OUTSIDE OF REMEDIAL AREA

April 2016 Fig. 4

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LEGEND:

- PROJECT LIMIT
- SEED TO NATIVE WARM SEASON GRASS MIXTURE
- BRUSHMATTRESS RESTORATION AREA
- LIVE WHIP/JOINT PLANTING
- LIVE STAKE RESTORATION AREA
- CLEAN AND REPLACE RIPRAP
- APPROXIMATE EXTENT OF PLACEMENT OF CLEAN SOIL COVER

0 60' 120'

SCALE: 1" = 60'

NOTES:

1. A MINIMUM OF 2 FEET OF CLEAN SOIL COVER WAS PLACED OVER THE ISS, AS REQUIRED BY THE RECORD OF DECISION.

Final Engineering Report Nyack Former MGP Nyack, New York	GEI Consultants	APPROXIMATE EXTENT OF CLEAN SOIL COVER
Orange and Rockland Utilities, Inc. Goshen, New York	Project 1400400	April 2016 Fig. 5

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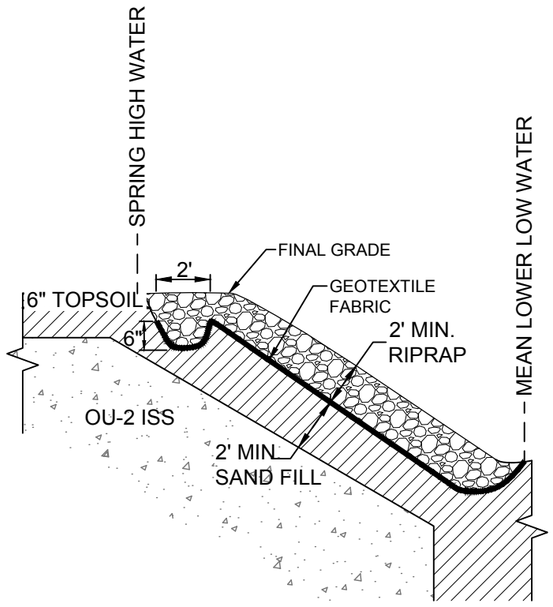
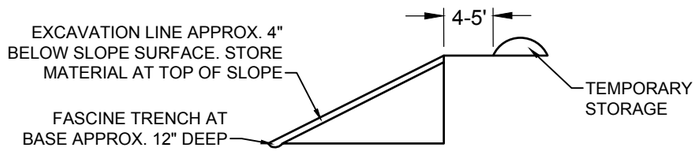
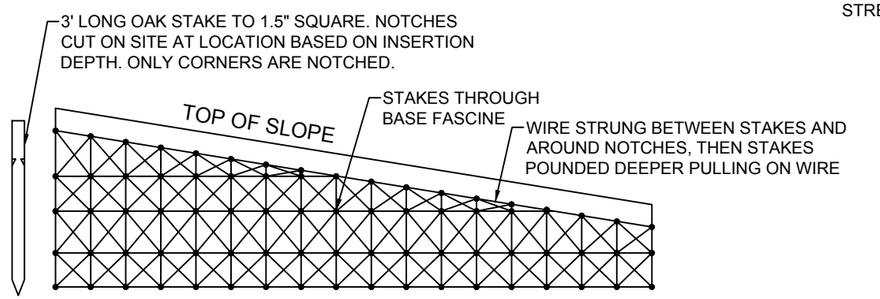


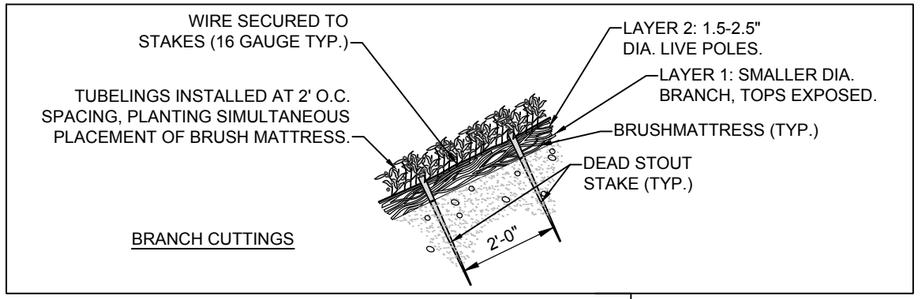
SECTION
NOT TO SCALE

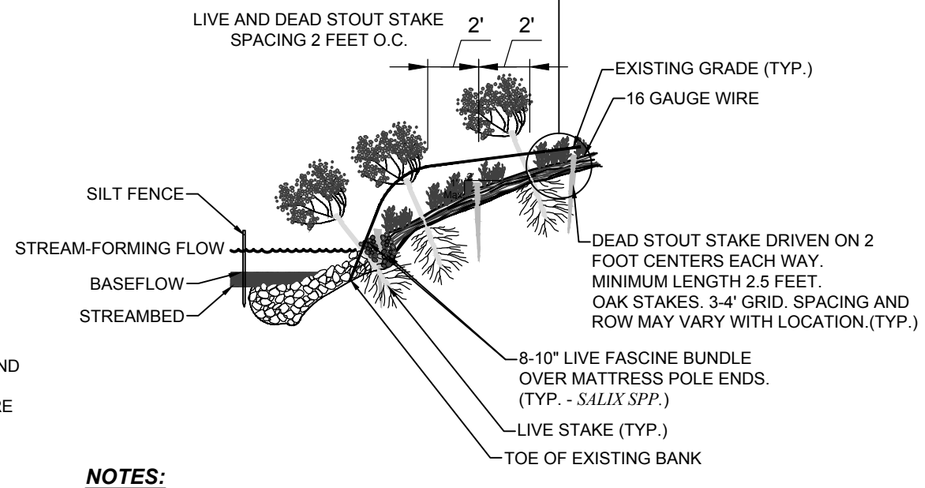


BRUSHMATTRESS PROFILE



BRUSHMATTRESS EXCAVATION

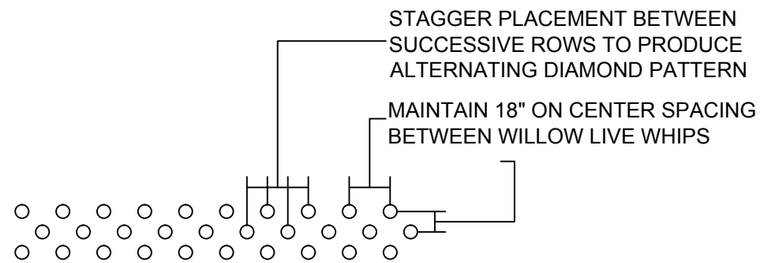




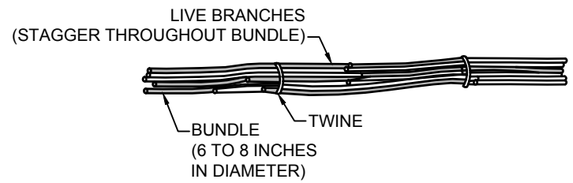
NOTES:

1. ROOTED/ LEAFED CONDITION OF THE LIVING PLANT MATERIAL IS NOT REPRESENTATIVE OF THE TIME OF INSTALLATION.

BRUSHMATTRESS DETAILS
NOT TO SCALE



PLANTING DETAILS FOR JOINT PLANTING
NOT TO SCALE



LIVE FASCINE DETAIL
NOT TO SCALE

Final Engineering Report Nyack Former MGP Nyack, New York	GEI Consultants	TYPICAL COVER DETAILS
Orange and Rockland Utilities, Inc. Goshen, New York	Project 1400400	April 2016 Fig. 6

APPROXIMATE LIMITS OF TEMPORARY UPPER TERRACE TOPSOIL STOCKPILE

APPROXIMATE LIMITS OF TEMPORARY RIPRAP STOCKPILE

APPROXIMATE LIMITS OF TEMPORARY LOWER TERRACE SOIL STOCKPILE

MEAN HIGH WATER LINE

OU1/OU2 BOUNDARY

NYACK BOAT CLUB

HUDSON VISTA ASSOCIATES

HIGH AVENUE

GEI STREET

LYDECKER STREET

UPPER TERRACE

LOWER TERRACE

WESTERN PARCEL

GARAGE BUILDING

RETAINING WALL

FENCE

CONC. RETAINING WALL

DRIVEWAY

CHAIN LINK FENCE

SIDEWALK

GAS METER PITS

TOP OF BANK

BOTTOM OF BANK

BOAT RAMP

WOOD DOCK

APPROXIMATE PROPERTY LINE

MOORING BUOY (TYP.)

REMAINS OF MOORING DOLPHIN

REMAINS OF MOORING DOLPHIN

HUDSON RIVER

WOOD PIER

WOODEN PILE (TYP.)

UNDERGROUND STORMWATER CULVERT

CONSTRUCTION EQUIPMENT STORAGE

PARKING LOT

PARKING LOT

PARKING LOT

CATCH BASIN

CATCH BASIN

GRAVEL DRIVE

CHAIN LINK FENCE

IPF

UP

LP

LEGEND:

PROJECT LIMIT

5-FOOT CONTOUR - MAJOR

1-FOOT CONTOUR - MINOR

NOTES:

1. TOPOGRAPHY BASED ON SURVEY COMPLETED 9/10/2012 BY THEW SURVEYORS.

0 60' 120'

SCALE: 1" = 60'

Final Engineering Report
Nyack Former MGP
Nyack, New York

Orange and Rockland Utilities, Inc.
Goshen, New York

GEI Consultants

STOCKPILE AREAS

Project 1400400 | April 2016 | Fig. 7

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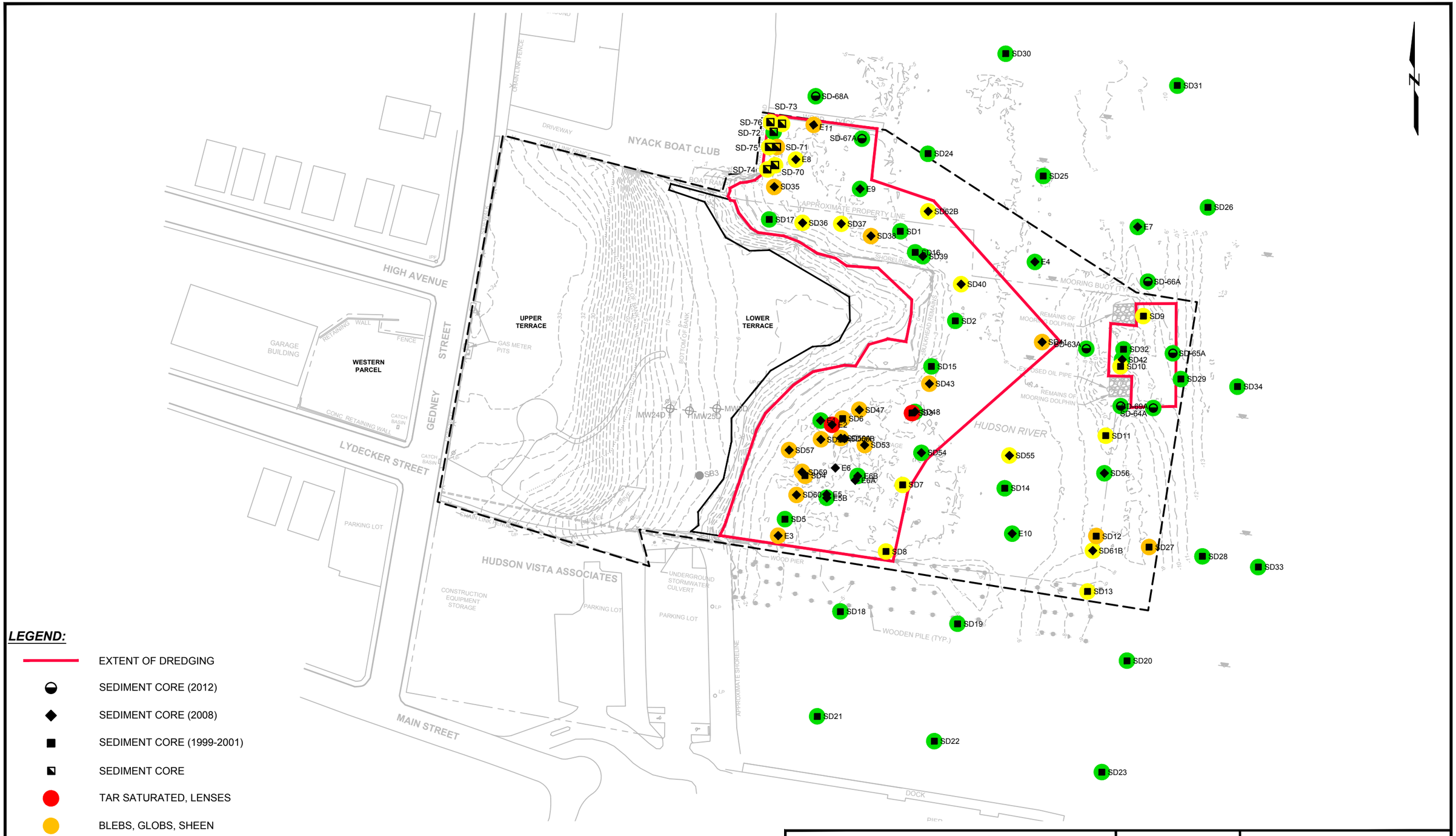

LEGEND:

- EXTENT OF DREDGING
- SEDIMENT CORE (2012)
- SEDIMENT CORE (2008)
- SEDIMENT CORE (1999-2001)
- SEDIMENT CORE
- TAR SATURATED, LENSES
- BLEBS, GLOBS, SHEEN
- STAINING ODOR
- NO OBSERVED IMPACTS

0 80' 160'

SCALE: 1" = 80'

Final Engineering Report
Nyack Former MGP
Nyack, New York

Orange and Rockland Utilities, Inc.
Goshen, New York

GEI Consultants

SEDIMENT IMPACT
PRIOR TO REMEDIATION

Project 1400400 | April 2016 | Fig. 8

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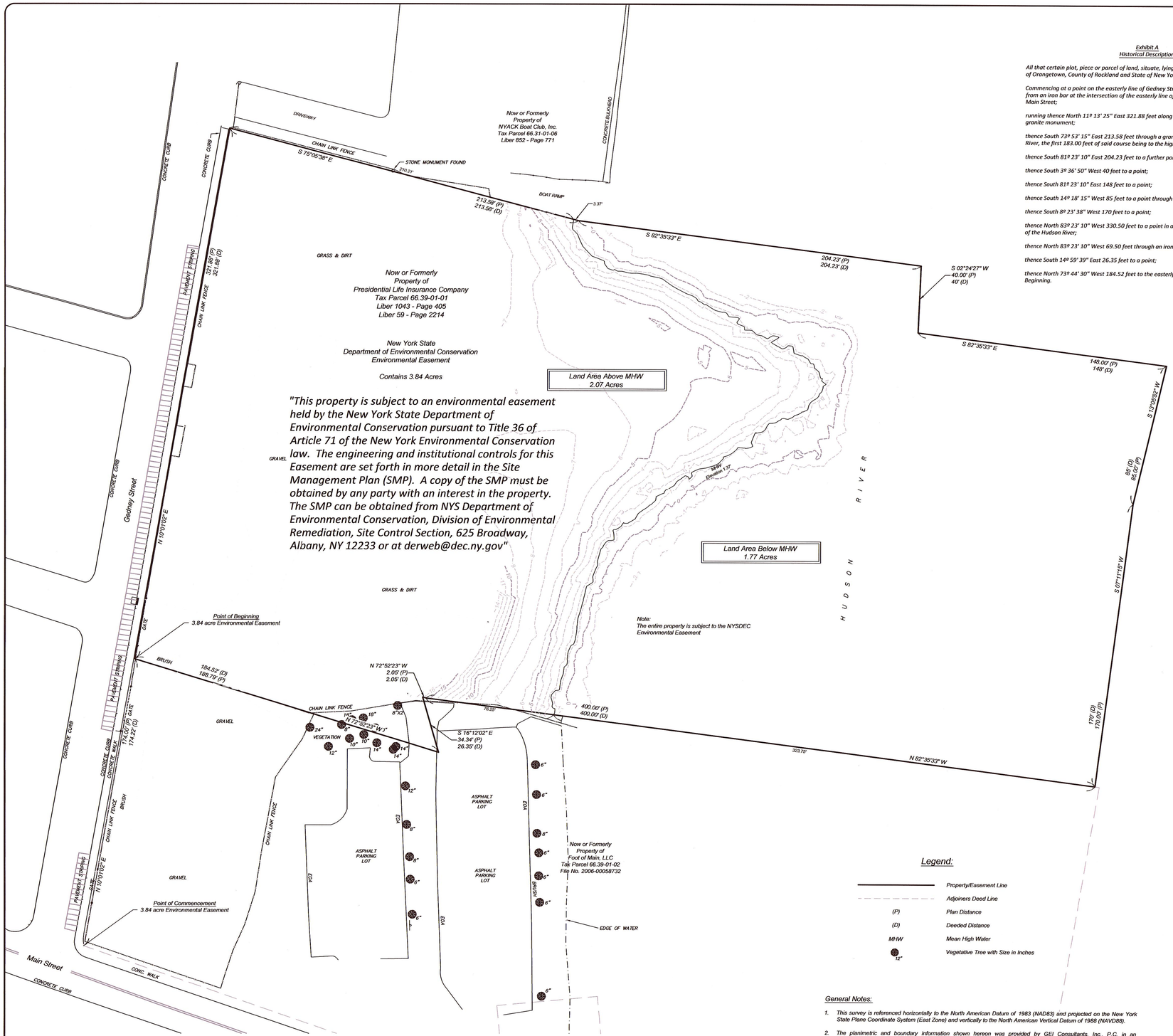
Appendix A

Survey Map, Metes and Bounds



"This property is subject to an environmental easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation law. The engineering and institutional controls for this Easement are set forth in more detail in the Site Management Plan (SMP). A copy of the SMP must be obtained by any party with an interest in the property. The SMP can be obtained from NYS Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@dec.ny.gov"

Note:
The entire property is subject to the NYSDEC Environmental Easement

Legend:

- Property/Easement Line
- Adjoiners Deed Line
- (P) Plan Distance
- (D) Deeded Distance
- MHW Mean High Water
- 12" Vegetative Tree with Size in Inches

General Notes:

1. This survey is referenced horizontally to the North American Datum of 1983 (NAD83) and projected on the New York State Plane Coordinate System (East Zone) and vertically to the North American Vertical Datum of 1988 (NAVD88).
2. The planimetric and boundary information shown hereon was provided by GEI Consultants, Inc., P.C. in an AutoCAD.DWG file format, prepared by Maser Consultants, P.C. as cited in the reference drawings. Thew Associates PE-LS, PLLC did not perform a boundary retracement survey of the 3.84-acre parcel and relied on the survey prepared by Maser Consultants, P.C. to prepare the legal description of the Environmental Easement.
3. The contours shown hereon were generated in an Autodesk Civil 3D environment, referenced to the North American Vertical Datum of 1988 (NAVD88), and are based on an instrument survey completed by Thew Associates PE-LS, PLLC on February 4, 2015.

Reference Drawings:

1. "Boundary Survey for TZ VISTA LLC, Section 66.39 Block 1 Lot 1, Section 66.38 Block 2 Lot 14 & 15, Village of NYACK, Rockland County, new York State", dated September 4, 2014, prepared by Maser Consultants P.C., and is distinguished as Project No. 0003038.

NYSDEC Environmental Easement Control Notes:

1. This Environmental Easement requires compliance with the Department approved Site Management Plan.
2. This Environmental Easement requires the property owner to complete and submit to the NYSDEC a periodic certification of institutional and engineering control in accordance with Part 375-1.8 (h)(3).
3. This Environmental Easement allows the use and development of the controlled property for restricted residential, commercial and industrial uses as defined by Part 375-1.8(g), though land use is subject to local zoning laws.
4. This Environmental Easement restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or County DOH.
5. This Environmental Easement prohibits agricultural or vegetable garedens on the controlled property.

Unauthorized alteration or addition to a survey map bearing a licensed land surveyors seal is a violation of Section 7209, Subdivision 2 of the New York State Education Law.

Only copies from the original of this survey marked with an original of the surveyor's inked seal or his embossed seal shall be considered to be valid and true copies.

Exhibit A
Historical Description

All that certain plot, piece or parcel of land, situate, lying and being in the Village of Nyack, Town of Orangetown, County of Rockland and State of New York, bounded and described as follows:

Commencing at a point on the easterly line of Gedney Street, which point is 174.22 feet northerly from an iron bar at the intersection of the easterly line of Gedney Street with the Northerly line of Main Street;

running thence North 11º 13' 25" East 321.88 feet along the easterly line of Gedney Street to a granite monument;

thence South 73º 53' 15" East 213.58 feet through a granite monument to a point in the Hudson River, the first 183.00 feet of said course being to the high water line of Hudson River;

thence South 81º 23' 10" East 204.23 feet to a further point in the Hudson River;

thence South 3º 36' 50" West 40 feet to a point;

thence South 81º 23' 10" East 148 feet to a point;

thence South 14º 18' 15" West 85 feet to a point through two moored dolphins;

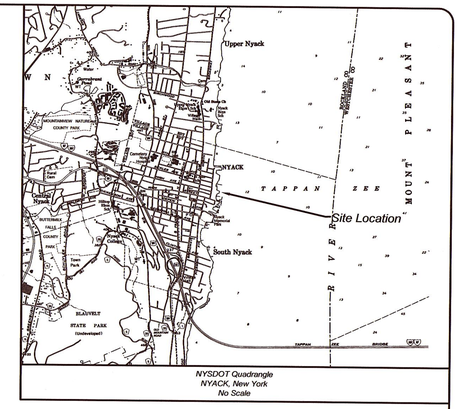
thence South 8º 23' 38" West 170 feet to a point;

thence North 83º 23' 10" West 330.50 feet to a point in a bulkhead located on the high water line of the Hudson River;

thence North 83º 23' 10" West 69.50 feet through an iron pipe to a point;

thence South 14º 59' 39" East 26.35 feet to a point;

thence North 73º 44' 30" West 184.52 feet to the easterly line of Gedney Street, the point of Beginning.



Environmental Easement
To Be Acquired By
New York State Department of Environmental Conservation
From
Presidential Life Insurance Company

Surveyor's Modern Description

All that tract or parcel of land situate in the Village of Nyack, County of Rockland, State of New York, and being more precisely described as follows:

Commencing *at the intersection of the easterly bounds of Gedney Street with the northerly bounds of Main Street, said point being the southwesterly corner of a parcel of land conveyed by Hudson Vista Associates, Inc. to Foot of Main, LLC by deed dated October 24, 2006 and recorded in the Rockland County Clerk's Office on November 6, 2006 as File No. 2006-00058732;*

thence continuing North 10 degrees 01 minutes 02 seconds East, along the easterly bounds of Gedney Street, a distance of 174.00 feet to a point, said point being the ***Point of Beginning;***

thence North 10 degrees 01 minutes 02 seconds East, along the easterly bounds of Gedney Street, a distance of 321.88 feet to the southwesterly corner of a parcel of land conveyed by Emily Joan Donato to Nyack Boat Club, Inc. by deed dated December 6, 1968 and recorded in the Rockland County Clerk's office on December 9, 1968 in Liber 852 of Deeds at Page 771;

thence along the southerly line of Nyack Boat Club, Inc., the following four courses and distances:

1. *South 75 degrees 05 minutes 38 seconds East a distance of 213.58 feet to a point in the Hudson River, said course passing over the high water line of the Hudson River at a distance of 210.21 feet;*
2. *South 82 degrees 35 minutes 33 seconds East, within the Hudson River, a distance of 204.23feet;*
3. *South 02 degrees 24 minutes 27 seconds West, within the Hudson River, a distance of 40.00 feet;*
4. *South 82 degrees 35 minutes 33 seconds East, within the Hudson River, a distance of 148.00 feet;*

thence continuing the Hudson River, the following two courses and distances:

1. *South 13 degrees 05 minutes 52 seconds West a distance of 85.00 feet to a point;*
2. *South 07 degrees 11 minutes 15 seconds West a distance of 170.00 feet to a point on the northerly line of Foot of Main, LLC;*

thence along the northerly line of Foot of Main, LLC, the following four courses and distances:

1. *North 82 degrees 35 minutes 33 seconds West a distance of 400.00 feet to a point, said course passing over the high water line of the Hudson River at a distance of 323.75 feet ;*
2. *North 75 degrees 52 minutes 23 seconds West a distance of 2.05 feet to a point;*
3. *South 16 degrees 12 minutes 02 seconds Eat a distance of 34.34 feet to a point;*
4. *North 72 degrees 52 minutes 23 seconds West a distance of 188.79 feet to the* ***Point of Beginning.***

To contain 3.84-acres of land, more or less.

The above-described parcel is intended to be a portion of the same premises conveyed by F. W. D. Properties, Inc. by deed dated May 14, 1980 and recorded in the Rockland County Clerk's Office on May 15, 1980 in Liber 1043 of Deeds at Page 405.

The above mentioned bearings and distances were taken from a map titled "Boundary Survey for TZ VISTA LLC, Section 66.39 Block 1 Lot 1, Section 66.38 Block 2 Lot 14 & 15, Village of NYACK, Rockland County, New York State", dated September 4, 2014, prepared by Maser Consultants P.C., and is distinguished as Project No. 0003038.

	The Battery (Station 8518750)	Tarrytown (Station 8518919)
Reference Datum	NAVD88	NAVD88
Mean Higher-High Water	2.27	1.59
Mean High Water	1.95	1.37
NAVD88	0.00	0.00
Mean Sea Level	-0.21	-0.15
Mean Low Water	-2.58	-1.81
Mean Lower-Low Water	-2.78	-1.95

The Battery (Station 8518750) is the referenced harmonic tide gauge station for the subordinate tide gauge station Tarrytown (Station 8518919). The heights at The Battery are multiplied by 0.70 to obtain the tide gauge elevations at Tarrytown.

GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.
30 0 15 30 60 120
(IN METERS)
10 0 5 10 20 40
1 cm = 3.6 m

REV	DESCRIPTION	DATE

STATE OF NEW YORK — JEREMY LEE SWEET — 050882 — LICENSED LAND SURVEYOR

DRAWN:
CHECKED:
SCALE: 1" = 30'
DATE: 06/03/2015
PROJECT NUMBER: CK3615-03-15

Map Showing
NYSDEC Environmental Easement
55 Gedney Street, Nyack, New York 10960
Former Nyack MGP Site

Village of Nyack
County of Rockland
State of New York

Thew Associates LAND SURVEYORS
P.O. Box 463
6431 US Highway 11
Canton, New York 13617
T: 315/386-2776
F: 315/386-1012
9478 River Road
Marcy, New York 13403
T: 315/733-7279
F: 315/797-1957
www.ThewAssociates.com

Appendix B

Digital copy of FER (CD)

Appendix C

Environmental Easement

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 30th day of March, 2016, between Owner(s) Athene Annuity & Life Assurance Company of New York f/k/a Presidential Life Insurance Company, having an office at 69 Lydecker Street, Nyack, New York 10960, County of Rockland, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 55 Gedney Street in the Village of Nyack, Town of Orangetown, County of Rockland and State of New York, known and designated on the tax map of the County Clerk of Rockland as tax map parcel numbers: Section 66.39 Block 1 Lot 1, being the same as that property conveyed to Grantor by deed dated May 14, 1980 and recorded in the Rockland County Clerk's Office in Liber and Page 1043/405. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 3.84 +/- acres, and is hereinafter more fully described in the Land Title Survey dated June 3, 2015 and last revised January 26, 2016 prepared by Jeremy Lee Sweeney, LLS of Thew Associates, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the

protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Order on Consent Index Number: D3-0001-98-08 as modified August 31, 2005, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Rockland County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled

Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held

by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: 344046
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Athene Annuity & Life Assurance Company of New York:

By: _____

Print Name: Guy H. Smith III

Title: President Date: February 26, 2016

State of South Carolina) **Grantor's Acknowledgment**

County of Greenville)

The foregoing instrument was acknowledged before me this 26th day of February, 2016 by Guy H. Smith III, President of Athene Annuity & Life Assurance Company of New York, a New York corporation, and that he executed the instrument on behalf of the corporation.

_____

Notary Public for South Carolina

Print Name: Robert T. Coleman III

My commission expires: 4-14-2021

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 30th day of March, in the year 2016, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chinsano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

All that tract or parcel of land situate in the Village of Nyack, County of Rockland, State of New York, and being more precisely described as follows:

Commencing at the intersection of the easterly bounds of Gedney Street with the northerly bounds of Main Street, said point being the southwesterly corner of a parcel of land conveyed by Hudson Vista Associates, Inc. to Foot of Main, LLC by deed dated October 24, 2006 and recorded in the Rockland County Clerk's Office on November 6, 2006 as File No. 2006-00058732;

thence continuing North 10 degrees 01 minutes 02 seconds East, along the easterly bounds of Gedney Street, a distance of 174.00 feet to a point, said point being the **Point of Beginning**;

thence North 10 degrees 01 minutes 02 seconds East, along the easterly bounds of Gedney Street, a distance of 321.88 feet to the southwesterly corner of a parcel of land conveyed by Emily Joan Donato to Nyack Boat Club, Inc. by deed dated December 6, 1968 and recorded in the Rockland County Clerk's office on December 9, 1968 in Liber 852 of Deeds at Page 771;

thence along the southerly line of Nyack Boat Club, Inc., the following four courses and distances:

1. South 75 degrees 05 minutes 38 seconds East a distance of 213.58 feet to a point in the Hudson River, said course passing over the high water line of the Hudson River at a distance of 210.21 feet;
2. South 82 degrees 35 minutes 33 seconds East, within the Hudson River, a distance of 204.23feet;
3. South 02 degrees 24 minutes 27 seconds West, within the Hudson River, a distance of 40.00 feet;
4. South 82 degrees 35 minutes 33 seconds East, within the Hudson River, a distance of 148.00 feet;

thence continuing the Hudson River, the following two courses and distances:

1. South 13 degrees 05 minutes 52 seconds West a distance of 85.00 feet to a point;
2. South 07 degrees 11 minutes 15 seconds West a distance of 170.00 feet to a point on the northerly line of Foot of Main, LLC;

thence along the northerly line of Foot of Main, LLC, the following four courses and distances:

1. North 82 degrees 35 minutes 33 seconds West a distance of 400.00 feet to a point, said course passing over the high water line of the Hudson River at a distance of 323.75 feet ;

2. North 72 degrees 52 minutes 23 seconds West a distance of 2.05 feet to a point;

3. South 16 degrees 12 minutes 02 seconds Eat a distance of 34.34 feet to a point;

4. North 72 degrees 52 minutes 23 seconds West a distance of 188.79 feet to the Point of Beginning.

To contain 3.84-acres of land, more or less.

The above-described parcel is intended to be a portion of the same premises conveyed by F. W. D. Properties, Inc. by deed dated May 14, 1980 and recorded in the Rockland County Clerk's Office on May 15, 1980 in Liber 1043 of Deeds at Page 405.

The above mentioned bearings and distances were taken from a map titled "Boundary Survey for TZ VISTA LLC, Section 66.39 Block 1 Lot 1, Section 66.38 Block 2 Lot 14 & 15, Village of NYACK, Rockland County, New York State", dated September 4, 2014, prepared by Maser Consultants P.C., and is distinguished as Project No. 0003038.

TP-584 (4/13)

New York State Department of Taxation and Finance

Combined Real Estate Transfer Tax Return, Credit Line Mortgage Certificate, and Certification of Exemption from the Payment of Estimated Personal Income Tax

Recording office time stamp

See Form TP-584-I, Instructions for Form TP-584, before completing this form. Print or type.

Schedule A — Information relating to conveyance

Grantor/Transferor	Name *(if individual, last, first, middle initial)* (☐ *check if more than one grantor*)	Social security number
☐ Individual	Athene Anriuity & Life Assurance Company of New York	
☒ Corporation	Mailing address	Social security number
☐ Partnership	69 Lydecker Street	
☐ Estate/Trust	City / State / ZIP code	Federal EIN
☐ Single member LLC	Nyack / NY / 10960	13-2570714
☐ Other	Single member's name if grantor is a single member LLC *(see instructions)*	Single member EIN or SSN

Grantee/Transferee	Name *(if individual, last, first, middle initial)* (☐ *check if more than one grantee*)	Social security number
☐ Individual	New York State Department of Environmental Conservation	
☐ Corporation	Mailing address	Social security number
☐ Partnership	625 Broadway	
☐ Estate/Trust	City / State / ZIP code	Federal EIN
☐ Single member LLC	Albany / NY / 12233	14-6013200
☒ Other	Single member's name if grantee is a single member LLC *(see instructions)*	Single member EIN or SSN

Location and description of property conveyed

Tax map designation – Section, block & lot *(include dots and dashes)*	SWIS code (six digits)	Street address	City, town, or village	County
66.39-01-01	392403	55 Gedney Street	Nyack	Rockland

Type of property conveyed *(check applicable box)*

1 ☐ One- to three-family house
2 ☐ Residential cooperative
3 ☐ Residential condominium
4 ☒ Vacant land
5 ☐ Commercial/Industrial
6 ☐ Apartment building
7 ☐ Office building
8 ☐ Other _____

Date of conveyance: 3 | 30 | 16 (month / day / year)

Percentage of real property conveyed which is residential real property 0 % *(see instructions)*

Condition of conveyance *(check all that apply)*

a. ☐ Conveyance of fee interest
b. ☐ Acquisition of a controlling interest (state percentage acquired _____ %)
c. ☐ Transfer of a controlling interest (state percentage transferred _____ %)
d. ☐ Conveyance to cooperative housing corporation
e. ☐ Conveyance pursuant to or in lieu of foreclosure or enforcement of security interest *(attach Form TP-584.1, Schedule E)*
f. ☐ Conveyance which consists of a mere change of identity or form of ownership or organization *(attach Form TP-584.1, Schedule F)*
g. ☐ Conveyance for which credit for tax previously paid will be claimed *(attach Form TP-584.1, Schedule G)*
h. ☐ Conveyance of cooperative apartment(s)
i. ☐ Syndication
j. ☐ Conveyance of air rights or development rights
k. ☐ Contract assignment
l. ☐ Option assignment or surrender
m. ☐ Leasehold assignment or surrender
n. ☐ Leasehold grant
o. ☒ Conveyance of an easement
p. ☒ Conveyance for which exemption from transfer tax claimed *(complete Schedule B, Part III)*
q. ☐ Conveyance of property partly within and partly outside the state
r. ☐ Conveyance pursuant to divorce or separation
s. ☐ Other *(describe)* _____

For recording officer's use	Amount received	Date received	Transaction number
	Schedule B., Part I $ _____ Schedule B., Part II $		

Schedule C — Credit Line Mortgage Certificate (Tax Law, Article 11)

Complete the following only if the interest being transferred is a fee simple interest.
I (we) certify that: *(check the appropriate box)*

1. ☐ The real property being sold or transferred is not subject to an outstanding credit line mortgage.

2. ☐ The real property being sold or transferred is subject to an outstanding credit line mortgage. However, an exemption from the tax is claimed for the following reason:
   - ☐ The transfer of real property is a transfer of a fee simple interest to a person or persons who held a fee simple interest in the real property (whether as a joint tenant, a tenant in common or otherwise) immediately before the transfer.
   - ☐ The transfer of real property is (A) to a person or persons related by blood, marriage or adoption to the original obligor or to one or more of the original obligors or (B) to a person or entity where 50% or more of the beneficial interest in such real property after the transfer is held by the transferor or such related person or persons (as in the case of a transfer to a trustee for the benefit of a minor or the transfer to a trust for the benefit of the transferor).
   - ☐ The transfer of real property is a transfer to a trustee in bankruptcy, a receiver, assignee, or other officer of a court.
   - ☐ The maximum principal amount secured by the credit line mortgage is $3,000,000 or more, and the real property being sold or transferred is **not** principally improved nor will it be improved by a one- to six-family owner-occupied residence or dwelling.

     Please note: for purposes of determining whether the maximum principal amount secured is $3,000,000 or more as described above, the amounts secured by two or more credit line mortgages may be aggregated under certain circumstances. See TSB-M-96(6)-R for more information regarding these aggregation requirements.
   - ☐ Other *(attach detailed explanation)*.

3. ☐ The real property being transferred is presently subject to an outstanding credit line mortgage. However, no tax is due for the following reason:
   - ☐ A certificate of discharge of the credit line mortgage is being offered at the time of recording the deed.
   - ☐ A check has been drawn payable for transmission to the credit line mortgagee or his agent for the balance due, and a satisfaction of such mortgage will be recorded as soon as it is available.

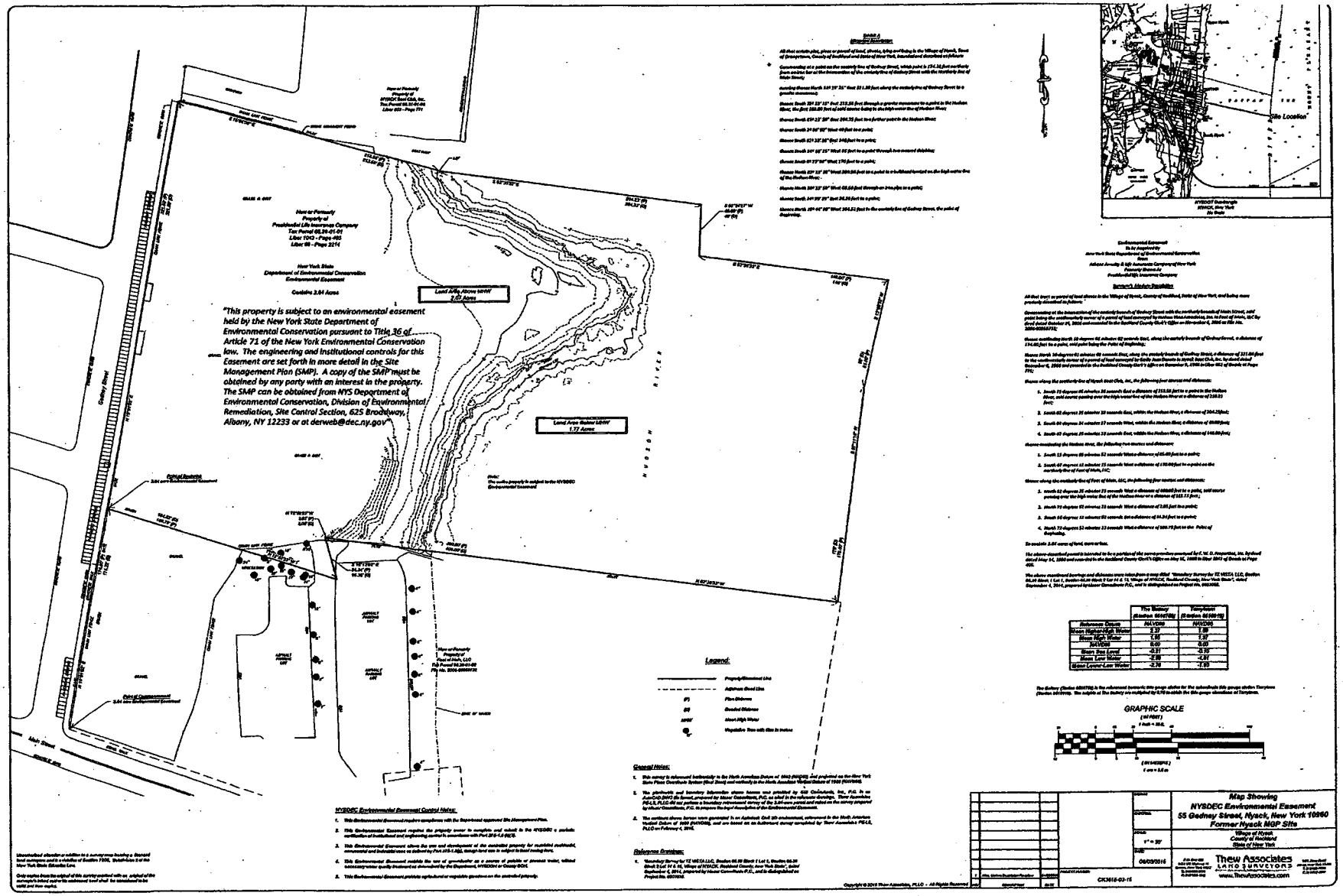
4. ☐ The real property being transferred is subject to an outstanding credit line mortgage recorded in _____ (insert liber and page or reel or other identification of the mortgage). The maximum principal amount of debt or obligation secured by the mortgage is _____. No exemption from tax is claimed and the tax of _____ is being paid herewith. *(Make check payable to county clerk where deed will be recorded or, if the recording is to take place in New York City but not in Richmond County, make check payable to the **NYC Department of Finance.**)*

Signature (both the grantor(s) and grantee(s) must sign)

The undersigned certify that the above information contained in schedules A, B, and C, including any return, certification, schedule, or attachment, is to the best of his/her knowledge, true and complete, and authorize the person(s) submitting such form on their behalf to receive a copy for purposes of recording the deed or other instrument effecting the conveyance.

Grantor signature	Title	Grantee signature	Title
Guy H. Smith III	Trustee	Andrew Englielmi	Attorney
		Andrew Englielmi	
Grantor signature	Title	Grantee signature	Title

Reminder: Did you complete all of the required information in Schedules A, B, and C? Are you required to complete Schedule D? If you checked *e*, *f*, or *g* in Schedule A, did you complete Form TP-584.1? Have you attached your check(s) made payable to the county clerk where recording will take place or, if the recording is in the New York City boroughs of Manhattan, Bronx, Brooklyn, or Queens, to the ***NYC Department of Finance***? If no recording is required, send your check(s), made payable to the ***Department of Taxation and Finance***, directly to the NYS Tax Department, RETT Return Processing, PO Box 5045, Albany NY 12205-5045.



Reference Datum	The Battery (Station 8518750) NAVD88	Tompkinsville (Station 8519019) NAVD88
Mean Higher-High Water	2.37	2.39
Mean High Water	1.95	1.97
NAVD88	0.00	0.02
Mean Tide Level	-0.31	-0.29
Mean Low Water	-2.66	-2.61
Mean Lower-Low Water	-2.76	-2.69

The Gedney (Station 8518750) is the adjacent harmonic tide gauge station for the submerged tide gauge station Tompkinsville (Station 8519019). The heights at The Battery are multiplied by 0.98 to obtain the tide gauge elevations at Tompkinsville.

Appendix D

NYSDEC Approvals of Substantive Technical Requirements

GEI Consultants

Memo

To: Maribeth McCormick, Orange & Rockland Utilities, Inc.

Pr. No: 121640-*-1003

From: Paul Jansen, GEI Consultants, Inc.

Copy: John Finn, P.E. GEI Consultants, Inc.

Chris Pray, P.E., GEI Consultants, Inc.

Date: March 1, 2013

Re: NYSDEC Conference Call Held on February 27, 2013 Meeting Minutes

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This memorandum presents a summary of the conference call held on February 27th, 2013 between GEI Consultants, Inc. (GEI), Orange and Rockland Utilities, Inc. (O&R), and the New York State Department of Environmental Conservation (NYSDEC). Participants representing each organization were as follows:

For GEI:

- Paul Jansen (PJ)
- John Finn, P.E. (JF)
- Chris Pray, P.E. (CP)
- James Edwards (JE)

For O&R:

- Maribeth McCormick (MM)

For the NYSDEC:

- Liz Lukowski (LL)

The following sections summarize the topics discussed and the required follow up actions, if any.

1. The parties discussed the 65% design drawings, specifically the clarity with regard to being able discern the limits of work and water levels (mean higher high water, mean sea leave, etc.), and the need to more clearly see the limits of work relative to the water lines and the location of explorations.

   GEI will add a summary of work sheet to the 95% design drawing package that will be submitted to the NYSDEC. The drawing will have non-essential elements turned off or set to grey scale to improve readability and will depict the limits of ISS, limits of dredging, and the mean high water line. LATERALLY and Vertically (add borings locations). Submit this as an informal submission to make sure LIZ is OK.

2. The parties discussed the differences between mean higher high water (MHHW) and mean high water (MHW) and whether the use of MHHW instead of MHW is consistent with the Record of Decision (ROD) for the site.

   A typical day experiences a diurnal tide cycle consisting of two high tides. The MHHW is the average of the higher high tides occurring in a day, while the MHW is the average of all high tides. According to data obtained from the NOAA website the difference between the two is approximately 0.2 FT. The MHHW line was placed on the drawings to satisfy the requirements

of the USACE, GEI will alter this line to show MHW for the design drawings. As the elevation difference is quite small, this change should not alter the overall estimated quantities or scope of the work in any meaningful way.

3. The group discussed whether extending the ISS past the MHW line for constructability reasons was acceptable or if the ISS had to terminate exactly at the MHW line. LL stated that she was comfortable squaring off edges for constructability reasons or to incorporate deeper impacts into the ISS monolith, but would need to discuss this issue with the Department of Fish and Wildlife before confirming. MM followed up with a question asking if Fish and Wildlife had commented on the design, expressing concern about proceeding to far along the current path and then receiving a comment that would require a significant redesign effort.

   LL stated that she would follow up with Fish and Wildlife and send an answer to MM.

4. *The group discussed how AECOM had prepared past borelogs using one color scheme. GEI performed the PDI and did not record colors on the logs, only the plan view of the figures.* LL asked for colors to be added to the logs. LL stated that she wanted the logs revised using the upstate DEC colors that had been provided to the NYSDEC for use on National Grid projects, and that moving forward notes to the reviewer identifying differences in the color code used by AECOM and GEI to try to prevent confusion.

   GEI will make the required revisions to the boring logs.

5. Liz commented that some of the design cross sections reflected borings that had been planned as part of the PDI, but not executed.

   GEI will make the required updates to reflect these explorations as they were performed in the field.

6. The parties discussed the ISS depth for Area B (EL -3 FT) and how it was dissimilar from areas A and C (-10 FT). All participants agreed that the depth of ISS in Area B would be lowered to match the adjoining areas for easy of constructability. LL additionally stated that she believed the borings this design decision had been based on were not deep enough to justify this ISS depth.

   GEI has reviewed the boring logs. The 4 borings in the area of ISS Area B were all of sufficient depth to determine if impacts were present at the depths noted in Areas A and C. While the design decision is defensible based on the ROD, GEI agrees with O&R that it is prudent to increase the depth of ISS in Area B to match Areas A and B for constructability reasons.

7. The parties discussed the use of relative elevation (below sediment surface) in the dredge area, and the use of a referenced elevation (NAVD88) in the ISS areas, and how this could be confusing.

   This was a design decision made based on input received during the constructability review. Our reviewer recommended showing the dredging depths as depth below mean lower low water (MLLW). We selected the relative elevation as we felt using a depth below MLLW scale would be overly confusing. For the sake of consistency, GEI will change the drawings to reflect dredge depths relative to NAVD88 referenced elevations.

8. The participants discussed the potential need for jet grouting during the OU2 remediation in a similar fashion to what was done during the OU1 remediation. Specifically around the perimeter of the ISS monolith and to fill any gaps between the OU2 monolith and the OU1 monolith. LL stated that she believed the compressive strength of the OU1 monolith from ISS and jet grouting was prohibitively high and may not permit keying in via the ISS rig. O&R and GEI stated that they would discuss the issue of jet grouting internally and respond to the NYSDEC.

Need to go back and review data and cross checks

According to the OU1 Lower Terrace Completion Report prepared by AECOM, the target unconfined compressive strength (UCS) for the OU1 ISS monolith was 50 psi, and UCS testing was not performed on the material that was jet grouted. While the report does not present an average UCS for the OU1 monolith, an inspection of the results presented in Appendix D of the report indicate that the UCS is not prohibitively high so as to prevent keying into the existing mass while performing ISS on OU2.

ask DP or Tim. Tar pits — have to relocate in the deeper bed rock. OBSTRUCTIONS. How deep were they in OU1? OPEN TO JET Grouting.

9. The group discussed the Remedial Design Work Plan (RDWP) and the Pre-Design Investigation (PDI) report. LL stated that was comfortable approving the RDWP as amended by her comments sent via e-mail on February 7, 2013. The group discussing each comment as summarized below:
   a. Re: the sediment stockpile pad – GEI and O&R concurred that the USACE had presented a similar comment and the design had moved forward planning to treat any entrained liquids recovered with dredged sediments before disposal. The group briefly discussed disposing of treated water to the local POTW or via a SPDES equivalency permit. GEI had contacted the local POTW and been told that they were not accepting any water from construction projects. GEI will reach out and reconfirm that this is the case. LL stated that a SPDES permit could be obtained for this project.
   b. Re: the laboratory analysis – GEI and O&R concur with the comment that the pending based on average sample category will be removed and that borderline laboratory results for ISS columns will be discussed individually with the NYSDEC for approval.
   c. Re: the requirement for additional monitoring – PJ expressed concern that collected additional ISS cores after the monolith had been allowed to cure may harm the integrity of the monolith. Parties agreed to discuss requests for additional samples, collect as may be needed, or present evidence for discussion as to why collecting certain types of samples at certain points may not be advisable.
   d. Re: DOH comments on RDWP. LL confirmed she is still waiting for comments before sending but does not think they will be substantive.

Pray needs to discuss POTW.

10. LL confirmed the need to send sediment data to the Nyack Boat Club. MM agreed and requested that GEI prepare and send the data as soon as possible. → Send

geotech and chemical data

I more interested in geotech data because they want to build a bulkhead. - Both properties.

www.geiconsultants.com

455 Winding Brook Road, Suite 201
Glastonbury, CT
860-368-5300 Fax 860-368-5307

Jansen, Paul

Subject: RDWP/PDI Call

Start: Wed 2/27/2013 2:30 PM
End: Wed 2/27/2013 3:30 PM

Recurrence: (none)

Meeting Status: Meeting organizer

Organizer: Jansen, Paul
Required Attendees: eblukows@gw.dec.state.ny.us; McCormick, Maribeth; Finn, John; Pray, Christopher; Edwards, James

Call in 866-227-5157
Conf code 919-373-6464

Good Morning Liz.

I am the new Nyack GEI Project Manager replacing Tim Olean. Maribeth McCormick forwarded us your comments on the 65% design and the PDI that I have summarized in an agenda below and requested that I set up this call.

1) I'm having difficulty telling where the Mean High Water line is on the Figures/Drawings

    a. Show where the boring/testpit locations in relation to where the ISS ends and the dredging begins.

    b. Potentially add a figure in the RD that shows the investigation locations and the different ISS areas and Dredge areas. (Comment: The main place I see this being an issue is to the south where we don't have a good feel for impact depths because of the refusals in test pitting)

    c. Bedrock is unpredictable, how do you intend to deal with this (predriling?) and the major obstructions as well?

2) Should ISS Area B be removed and Areas A, B, and C all be to -10'.

3) Discussion regarding jet grouting contingency for areas that are highly impacted and we have a gap between the old ISS monolith and the new ISS.

4) The RD should use one datum for depths of treatment removals.
(Comment: Currently when discussing ISS and excavation elevation (below msl) is used but when discussing sediment bss is used; this is confusing. Also the old boring logs only use depth below ground surface, so it's difficult to compare.)

5) The PDI boring logs should have color coding for NAPL impacts

6) Finally, the Nyack Boat Club has contacted me about sediment data. I'd like to go ahead and send them the data only (not the report yet as it's not finalized).

Thank you,

Paul Jansen
Senior Project Manager

GEI Consultants
919-322-8702 office
919-622-2852 mobile
pjansen@geiconsultants.com
4000 Centre Green Way, Suite 180 Cary, NC 27513

Nyack Former MGP Site OU2 Remediation Kickoff Meeting
February 6, 2014

1. **Health and Safety Moment:** Driving safety during the winter months – we need to be aware of increased stopping distances and hazards not always visible to us. With increased snowfall comes higher snowbanks that inhibit our visibility at intersections, exits, entrances, etc. We need to pull out slowly and make sure we can see in both directions before just pulling out. This also applies to people walking in that they could not be visible until the last second and come from behind piled up snow just as they do from behind parked cars or trees. In addition slips/trips/falls becomes a more significant hazard. Make sure you walk carefully and are aware of the potential for ice and slick surfaces. Wear proper foot ware and also walk with your hands out of your pockets to help you balance or catch yourself if you happen to fall.

2. **Introductions (name, company, role):** On attached sheet

3. **Roles**
    a. Owner: O&R
    b. NYDEC – Regulatory Agency
    c. Engineer of Record: GEI
    d. Construction Management: CH2M HILL
    e. Contractor: DAC
    f. Air Monitoring: AECOM

4. **Permitting and Status**
    a. **Owner**
        i. **Nationwide 38 permit – USACE:** Completed and on file. This includes the Coastal Zone Management and State Historic Preservation Office approvals.
        ii. **401 Clean Water Certification – NYSDEC:** Completed 6/12/13 and is good until 12/31/16.
        iii. **POTW discharge:** O&R is working on this but POTW has not been responsive. Currently planning on using offsite disposal option but will continue to pursue this with the POTW.

    b. **Contractor**
        i. **Local construction and building (TFS):** DAC waiting on response from building inspector on this.
        ii. **Electrical:** No permit needed. Electrical sub will submit application to O&R to get power drop and Jeff to push it through as quickly as possible. Meeting on site with electrician on 2/12/14.
        iii. **Land Disturbance:** None needed
        iv. **Asbestos removal:** DAC sub (Martin Environmental) will apply for variance. This should take about 4 weeks and is in progress.
        v. **Parking:** No offsite parking will be utilized so no permits need to be obtained

vi. **US Coast Guard notifications:** Will notify USCG 30 days prior to beginning dredge work.

vii. **Other:** Water – have stub up on site just inside the gate but need to repair prior to use (broken below the ground). If no meter on it will need to get meter from city.

5. **Access Agreements**
   a. **Athene:** Done
   b. **Helmer Property:** Have verbal on this and can place trailer on site but Maribeth will continue working to get access agreements. Will need to get property owner added to AECOM and DAC additionally insured certificates.
   c. **Boat Club:** O&R still in discussion with them and now that we have the schedule we can sit down and talk. Also need to get prices for what a summer shutdown would be so that information can also be taken to table for talks.

6. **Submittals and Status**
   a. **eHASP / HASP:** Drafts were submitted on the 1/31/14 as requested so that they can be reviewed and comments made. A meeting on 2/11/14 will be held with DAC, Randy Smith, Jeff Peifer and Ken Houseman to review the comments so that we can try and get all revisions done in one shot to avoid going through several iterations of the plans that would take a great deal of time. DAC to revise and resubmit both documents on or before 2/14/14.
   b. **Technical Execution Plan:** TEP will be submitted in sections as is permitted per the specs. Sheeting and ISS work will come first along with resumes, key personnel and other sections needed to get started. Dredging and other sections can be completed and submitted later. Fist sections should begin coming middle of next week which includes DAC subcontractors.
      i. DEC would like to see list of submittals. Randy to place schedule from specs into DEC folder on SharePoint.

7. **Project Communications and protocols**
   a. **Internal**
      i. **Project Team:** All communications need to channel through Randy Smith (CM) so we have central lines of communication. We need to use the RFI process for all formal request and questions that have project impacts so we have formal documentation.
   b. **External**
      i. **Public:** We have been proactive with communications to the public and we have good relations currently. Only O&R speak to the public. If people approach you be polite, respectful and refer to Randy who will in turn refer to O&R (Kate, Jeff, and Maribeth).
      ii. **Press:** Same as above for public.

8. **Community Relations**
   a. **Traffic:** Traffic control needs to be taken seriously from the start and we have to be sure all the proper controls are in place. This starts the second we mobilize and includes deliveries and site set up not just material hauling. Haul trucks will be

staged up at the public lot by the freeway and then released as needed to the site. Would be the same routine as previously used at the site for trucking.

b. Parking: We are not parking off site and all vehicles will be pulled off the street.

c. Noise: Noise was an issue at this site previously. We need to adhere to the work hours and be sure we are not creating noise issues with the surrounding public.

d. Odor: Odor thresholds are very low and we need to be prepared to manage this at all times. All the tools, equipment and chemicals must be on site at all times and ready to go as needed whenever necessary.

e. Other: Need a project sign. Sign specs are on drawing #20. Sign will have DEC office number on it and O&R public relations as well. If O&R receives any calls DEC needs to be notified.

9. Scope Review

a. DAC overview of work plan and sequencing:

i. Mobe date projected at 24 Feb
ii. 3 weeks of set up
iii. Sheet piling through end of March
iv. April through June – ISS
v. Dredge set up and mobe – 2 weeks
vi. Dredging – mid July through September
vii. Backfilling and restoration – mid September through October

b. Above scenario assumes no summer shutdown. If we have to shut down then after ISS we would demobe and return in October to prepare for a Nov. 1 in water date. That could move back to September remobe and in water October possibly.

c. Turbidity controls in the ice a concern for startup and piling installation. DAC could break ice and install curtain but not preferred. Turbidity monitoring will also be a concern with the ice both along shore and the flows in the river.

d. AECOM overview of air monitoring – proposed air monitoring station locations

i. Will have 6 monitoring locations located around perimeter of the site
ii. All locations tied into weather station
iii. Will have on site people taking notes and readings around the site during remedial activities
iv. System will notify designated personnel of any exceedances
v. Will take 3 days of background readings prior to intrusive work – will need to have power hooked up to perform this.

e. GEI turbidity monitoring

i. Monitoring to be performed per the specs
ii. For sheet piling work monitoring location should be moved to same as dredging (i.e. 100 feet outside work area/silt curtain) then moved to location in plans when dredging begins
iii. System will have notification of key personnel in case of exceedances
iv. Monitoring will take place from start to finish of project regardless of what phase of work is being performed.

10. Pre-characterization Work

a. Sediments: Completed, waiting on soils results and will submit as a complete package

b. Soils: pulled on the 4th, will have results in a couple weeks.

c. **Wells:** All abandoned on the 5th.

11. Schedule

a. **Projected start date:** discussed above – Feb. 24th
b. **Critical sequencing:** Also discussed about but variance for oil pipeline is critical to piling installation.
c. **Potential issues**
    i. **Boat club:** Currently no access agreement to work on this property. O&R to have more discussions to determine if access can be achieved or if summer shutdown will be necessary.
    ii. **Oil pipeline removal:** 10 feet of pipe to be removed for sheet piling installation. DAC sub to get variance for pipeline work that will take approximately 4 weeks. Current schedule shows time for this but it will be close. DAC to also have diver available if needed and also be prepared to handle liquid from pipeline. If pipeline is lose the entire pipe may be removed at this time.
    iii. **Cofferdam construction:** other than pipeline no expected issues. Turbidity monitoring and controls will need to be looked at pending ice flows in river at time of installation.

12. Weekly Progress Meetings

a. **Every Thursday at 11 AM (site trailer and teleconference)**
b. **Others as needed**

13. NYSDEC questions and concerns

a. Need to have TEP from DAC placed on SharePoint along with any other documents NYSDEC requests for review.
b. Randy to set up DEC and TRC on SharePoint

14. Site security: Need to let O&R know when this is needed. Won't be necessary until after mobilization and we have equipment on site.

15. Housekeeping: Need to be on top of this from the start. Tracking of mud into streets is a big concern that needs to be managed.

16. Other Items

a. AECOM will be in trailer with DEC
b. NYSDEC needs a set of "for construction drawings"
c. DAC needs two sets of "for construction drawings"
d. Randy to determine how many drawings/plans/etc. are needed and convey to GEI

17. Site Walk

February 6, 2014 Nyack Former MGP Site Kickoff Meeting Sign In

Name	E-mail Address	Company	Project Role / Position	Contact Phone	Print	Sign
Elizabeth Lukowski	eblukows@gw.dec.state.ny.us	NYSDEC	Project Manager	(518) 402-9564	Teleconference	
Scott Deyette	sxdeyett@gw.dec.state.ny.us	NYSDEC	Construction Oversight	518-461-3721		Present
Jeffrey Peifer	PeiferJ@ORU.COM	ORU	Nyack PM	845-222-3570		Present
James Carbone	CarboneJ@oru.com	ORU	O & R Senior Construction Manager	845-629-0287		Did not attend
Maribeth McCormick	MCCORMICKM@oru.com	ORU	Remediation Manager	Office: 845-783-5534 Cell: 914- 557-1361		Present
Dave Work	workd@oru.com	ORU	O & R Project Manager	845-577-3664		Did not attend
Katherine Wysokowski	wysokowskik@oru.com	ORU	Public Affairs Representative	Office: 845-577-2539 Cell: 917-575-0205	Teleconference	
Tim Olean	Timothy.Olean@ch2m.com	CH2M HILL	Senior Construction Manager	508-395-6960		Present
Randall Smith	Randall.Smith2@ch2.com	CH2M HIILL	Construction Manager	317-645-6099		Present
John Finn	JFinn@geiconsultants.com	GEI	Engineer of Record	607-592-8541	Teleconference	
Christopher Pray	cpray@geiconsultants.com	GEI	Engineering Support	860-368-5430		Present
Maria Stepanova	mstepanova@geiconsultants.com	GEI	QA / QC	973-856-0605		Present
Paul Jansen	pjansen@geiconsultants.com	GEI	Project Manager	919-622-2852	Teleconference	
Frank Tringale	frank.tringale@aecom.com	AECOM	Project Manager	Office: 978-905-2434 Cell: 978-771-6398		Present
Leo Gendron	Leo.Gendron@aecom.com	AECOM	Air Dept. Manager	Office: 978-905-2214		Did not attend
Paul Taverna	paul.taverna@aecom.com	AECOM	Project Assistant/Technical	Office: 978-905-2427 Cell: 617-347-3725		Present
Dave MacDougall	dmacdougall@dacollins.com	DAC	Director of Remediation	518-365-3189		Present
Robert Montague	rmontague@dacollins.com	DAC	Project Manager	518-361-8848		Present
Stoney Collins	scollins@dacollins.com	DAC	Health and Safety Officer	518-580-8804		Present
Lisa Gorton	lgorton@dacollins.com	DAC	Project Engineer	518-320-5327		Present
Ron Rogers	rrogers@dacollins.com	DAC	DAC - Corporate Safety Director	518-857-9210		Present
Mark Kitko	mkitko@geo-solutions.com	GSI	Project Manager	724 448-1038	Teleconference	
Bill Buccille	BillB@geo-solutions.com	GSI	Manager of Estimating	412-855-1969		Did not attend
Jennifer DiPilato	jdipilato@trcsolutions.com	TRC	Project Manager	914-806-5719		Present
Mark Garrett	Mgarrett@trcsolutions.com	TRC	Construction Observation	917-843-1091		Present

Root, Mary

From: Finn, John
Sent: Friday, June 05, 2015 3:33 PM
To: Root, Mary
Subject: Nyack MGP site restoration NYSDEC Approval

From: Lukowski, Elizabeth B (DEC) [mailto:elizabeth.lukowski@dec.ny.gov]
Sent: Friday, April 10, 2015 4:15 PM
To: Coulombe, Bruce
Cc: McCormick, Maribeth; Peifer, Jeffrey (PeiferJ@ORU.COM); Finn, John; Jansen, Paul; Stepanova, Maria
Subject: RE: Nyack MGP site restoration - call-in information

Yes the revised plan is acceptable. Please submit a formal revision with letter modification request next week, but feel free to go ahead and schedule the work as the revised design describes.

Thanks and have a good weekend.

Liz

Elizabeth B. Lukowski
Project Manager
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway, Albany NY 12233-7014
P: 518.402.9662
elizabeth.lukowski@dec.ny.gov

From: Coulombe, Bruce [mailto:BCoulombe@geiconsultants.com]
Sent: Friday, April 10, 2015 4:03 PM
To: Lukowski, Elizabeth B (DEC)
Cc: McCormick, Maribeth; Peifer, Jeffrey (PeiferJ@ORU.COM); Finn, John; Jansen, Paul; Stepanova, Maria
Subject: RE: Nyack MGP site restoration - call-in information

Hi Liz –
Here's the revised figure that shows more plantings behind the point. Note that we've retained the expanded rip-rap in the point area because this area has high potential for overtopping and erosion. To compensate for the extra stone we've expanded the vegetated buffer zone behind the rip-rap. Please let me know if this revised plan is acceptable.
Thanks,
Bruce

Bruce D. Coulombe, P.G.
Senior Geologist

GEI Consultants
Consulting Engineers & Scientists
GEI Consultants, Inc., P.C.
1301 Trumansburg Road, Suite N | Ithaca, NY 14850
T: 607.216.8959 | **M:** 607.793.3426 | **F:** 607.274.7577

From: Lukowski, Elizabeth B (DEC) [mailto:elizabeth.lukowski@dec.ny.gov]
Sent: Friday, April 10, 2015 11:40 AM
To: Coulombe, Bruce
Subject: FW: Nyack MGP site restoration - call-in information

Take a look at this mark-up from Heather and let me know what your team thinks.

She found that the rip rap was expanded on the point and thought this area would have more plantings above the hybrid stabilization approach.

Root, Mary

From: Finn, John
Sent: Friday, June 05, 2015 3:58 PM
To: Root, Mary
Subject: FW: Nyack Revised South Shore Design

From: Lukowski, Elizabeth B (DEC) [mailto:elizabeth.lukowski@dec.ny.gov]
Sent: Thursday, April 23, 2015 2:16 PM
To: Jansen, Paul
Cc: Peifer, Jeffrey; Finn, John; McCormick, Maribeth
Subject: Re: Nyack Revised South Shore Design

Sounds good. Thanks.

Sent using OWA for iPhone

From: Jansen, Paul <pjansen@geiconsultants.com>
Sent: Thursday, April 23, 2015 2:13:22 PM
To: Lukowski, Elizabeth B (DEC)
Cc: Peifer, Jeffrey; Finn, John; McCormick, Maribeth
Subject: RE: Nyack Revised South Shore Design

Liz,

I talked to John and Jeff about your e-mail. Jeff has given us the ok to proceed with the new plan this afternoon. We will complete the shoreline fill and rip rap work and then work from the north to the south with the plantings which will give F&W time to make any planting adjustments in the next few days. With this go-ahead we plan on being complete by Tuesday next week.

Thank you very much for your attention to this.

- Paul

From: Lukowski, Elizabeth B (DEC) [mailto:elizabeth.lukowski@dec.ny.gov]
Sent: Thursday, April 23, 2015 1:29 PM
To: Jansen, Paul
Cc: Peifer, Jeffrey; Finn, John; McCormick, Maribeth
Subject: Re: Nyack Revised South Shore Design

I just talked to John Finn. I am not able to get a hold of any staff from F&W to make the determination. Given the timeliness of the planting it's my recommendation to go ahead with the revised design today. I highly doubt it will happen, but if F&W disagrees with the new plan we may have to come up with another solution later.

Sent using OWA for iPhone

From: Jansen, Paul <pjansen@geiconsultants.com>
Sent: Thursday, April 23, 2015 11:36:28 AM

To: Lukowski, Elizabeth B (DEC)
Cc: Peifer, Jeffrey
Subject: RE: Nyack Revised South Shore Design

Liz,

Understood.

I just called Rebecca and left a detailed message. One additional question….I assume you forwarded the e-mail from yesterday so F&W has all the information.

Thank you,
Paul

From: Lukowski, Elizabeth B (DEC) [mailto:elizabeth.lukowski@dec.ny.gov]
Sent: Thursday, April 23, 2015 11:31 AM
To: Jansen, Paul
Cc: Peifer, Jeffrey
Subject: Re: Nyack Revised South Shore Design

Absolutely, if they approve I do.
Rebecca's number is
528-402-8889

Sent using OWA for iPhone

From: Jansen, Paul <pjansen@geiconsultants.com>
Sent: Thursday, April 23, 2015 11:29:15 AM
To: Lukowski, Elizabeth B (DEC)
Cc: Peifer, Jeffrey
Subject: RE: Nyack Revised South Shore Design

Thanks Liz.

We will try Rebecca today and go to Heather if that does not work. We assume if F&W is OK with the change you are as well?

Thanks, Paul

From: Lukowski, Elizabeth B (DEC) [mailto:elizabeth.lukowski@dec.ny.gov]
Sent: Thursday, April 23, 2015 11:17 AM
To: Jansen, Paul
Cc: Peifer, Jeffrey
Subject: Re: Nyack Revised South Shore Design

If we cannot get a hold off her today, Heather is available for a call tomorrow.

Sent using OWA for iPhone

From: Jansen, Paul <pjansen@geiconsultants.com>
Sent: Thursday, April 23, 2015 10:39:28 AM
To: Lukowski, Elizabeth B (DEC)

Cc: Peifer, Jeffrey
Subject: Nyack Revised South Shore Design

Hi Liz,

Can I call you at 11:15 AM to check on the status of your review?

Thanks, Paul

Paul Jansen
Senior Project Manager
GEI Consultants
Consulting Engineers & Scientists
GEI Consultants of North Carolina, P.C.
4000 CentreGreen Way, Suite 180 | Cary, NC 27513
T: 919.322.8702 | **M:** 919.622.2852
www.geiconsultants.com | vCard | map | LinkedIn | Twitter | Facebook

Appendix E

Remediation-Related Permits

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

JUN 18 2013

REPLY TO
ATTENTION OF:

Regulatory Branch - Eastern Section

Subject: Pre-Construction Notification
Permit Application Number NAN-2012-000975
by Orange and Rockland Utilities Inc - Nyack former Gas Plant site

In accordance with the February 21, 2012 Federal Register, Reissuance of Nationwide Permits (77 FR 10184-10290), Section C, Nationwide Permit Condition No. 31, we are forwarding to you notification for the following activity in waters of the United States:

APPLICANT: Orange and Rockland Utilities, Inc.
3 Old Chester Road
Goshen, NY 10924

ACTIVITY: Dredging of approximately 8,995 cubic yards of sediments impacted by coal tar to a depth of 4 feet to 8 feet below Mean Low Water Line from a 1.19-acre area of the Hudson River. Turbidity curtains will contain turbidity associated with the dredging. The dredged sediments will be temporarily stockpiled at an upland location on site for dewatering and stabilization. Estimated dredging duration is approximately 3 month. Stabilized dredged sediments will be disposed of at a NYSDEC approved upland site. Work would also consist of placement of approximately 6,768 cubic yards of rip-rap, sand and stabilized soil fill over approximately 0.78 acre area for shoreline restoration.

The project is being required by a NYSDEC Order on Consent (Index# D3-0001-98-08) to clean up the site of a former manufactured gas plant.

WATERWAY: Hudson River

LOCATION: City of Nyack, Orange County, New York

The applicant has submitted material for review in accordance with the criteria of the nationwide permits described at 72 FR 11092, Section B, No. 38. The enclosed material describes the proposed project in detail.

As directed by the Notification procedures prescribed at Condition No. 31, your agency has ten calendar days from the date of this letter to telephone this office if you intend to provide any additional substantive, site-specific comments to this

pre-construction notification. If you so inform us, we will wait an additional 15 days before making a decision on this notification. If we do not hear from your agency within either of these time frames, we will presume you do not wish to comment on this notification.

In a letter dated November 10, 2005, the New York State Historic Preservation Office (SHPO) determined under file number 05PR01637 statedthat the project will have No Impact upon cultural resources in or eligible for inclusion in the State and National Register of Historic Places.

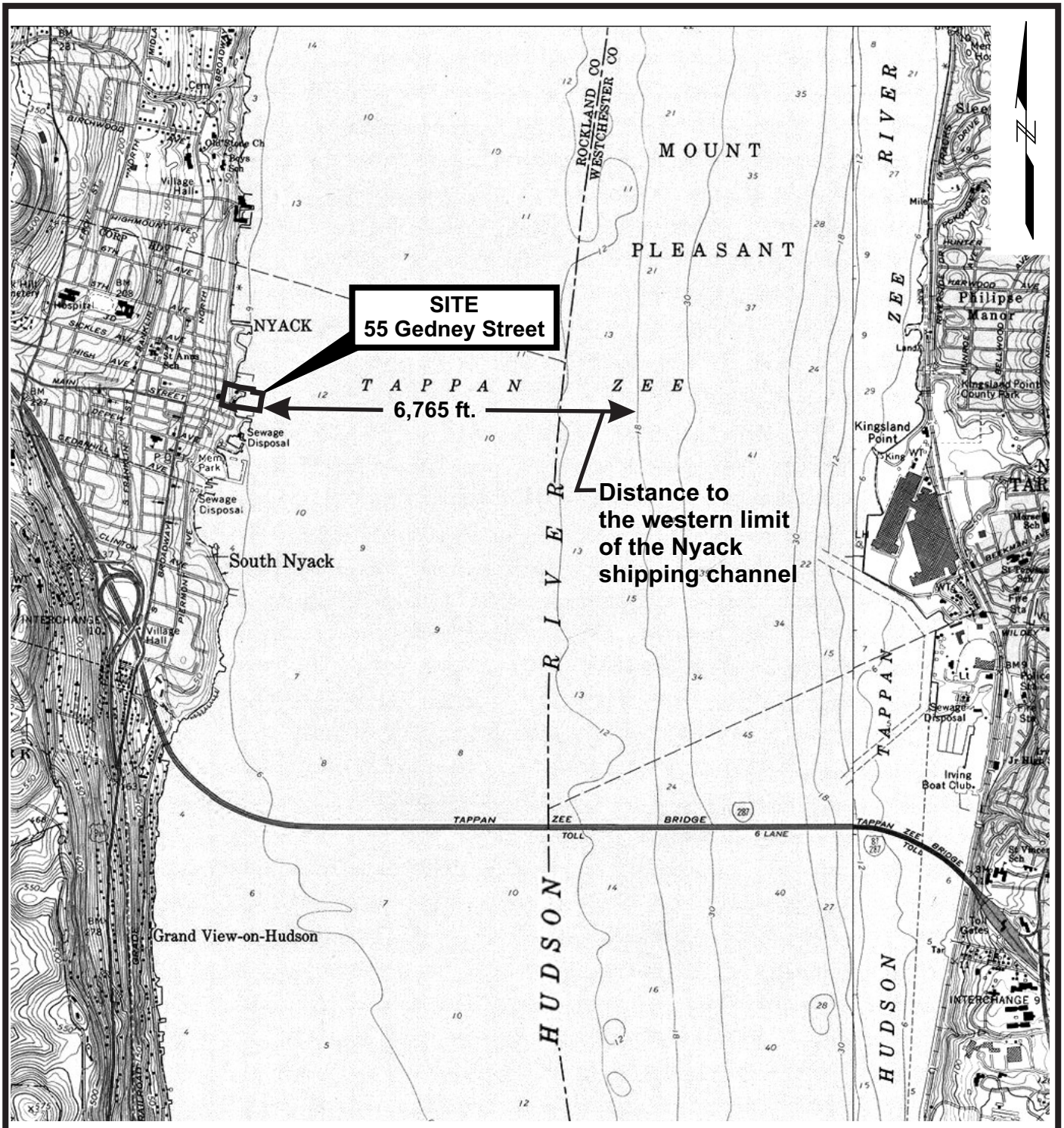
Pursuant to Section 307 (c) of the Coastal Zone Management Act of 1972 as amended (16 U.S.C. 1465 (c)(3)(A)), the applicant has certified that the activity complies with and will be conducted in a manner that is consistent with the approved state coastal zone management program. In a letter dated January 23, 2013, the New York State Department of State concurred with the applicant's certification under file number F-2012-0999.

If your agency does intend to provide substantive, site-specific comments, you should contact Jun Yan, of my staff, at (917) 790-8092 within the specified ten-day period. When responding to this notification, please refer to the Corps of Engineers Application Number and applicant, as identified in the subject line of this letter.

Sincerely,

Michael Scarano, P.E.
Deputy Chief, Regulatory Branch

Enclosures



SOURCE: Map created with TOPO! ® ©2004 National Geographic (www.nationalgeographic.com/topo)"

NAN-2012-00975
Page 1 of 8

0 0.5 1.0
SCALE, MILES

JOINT PERMIT APPLICATION
OPERABLE UNIT NO. 2, NYACK FORMER MGP SITE
VILLAGE OF NYACK, ROCKLAND COUNTY
ROCKLAND COUNTY, NEW YORK

ORANGE AND ROCKLAND UTILITIES, INC.
GOSHEN, NEW YORK

GEI Consultants

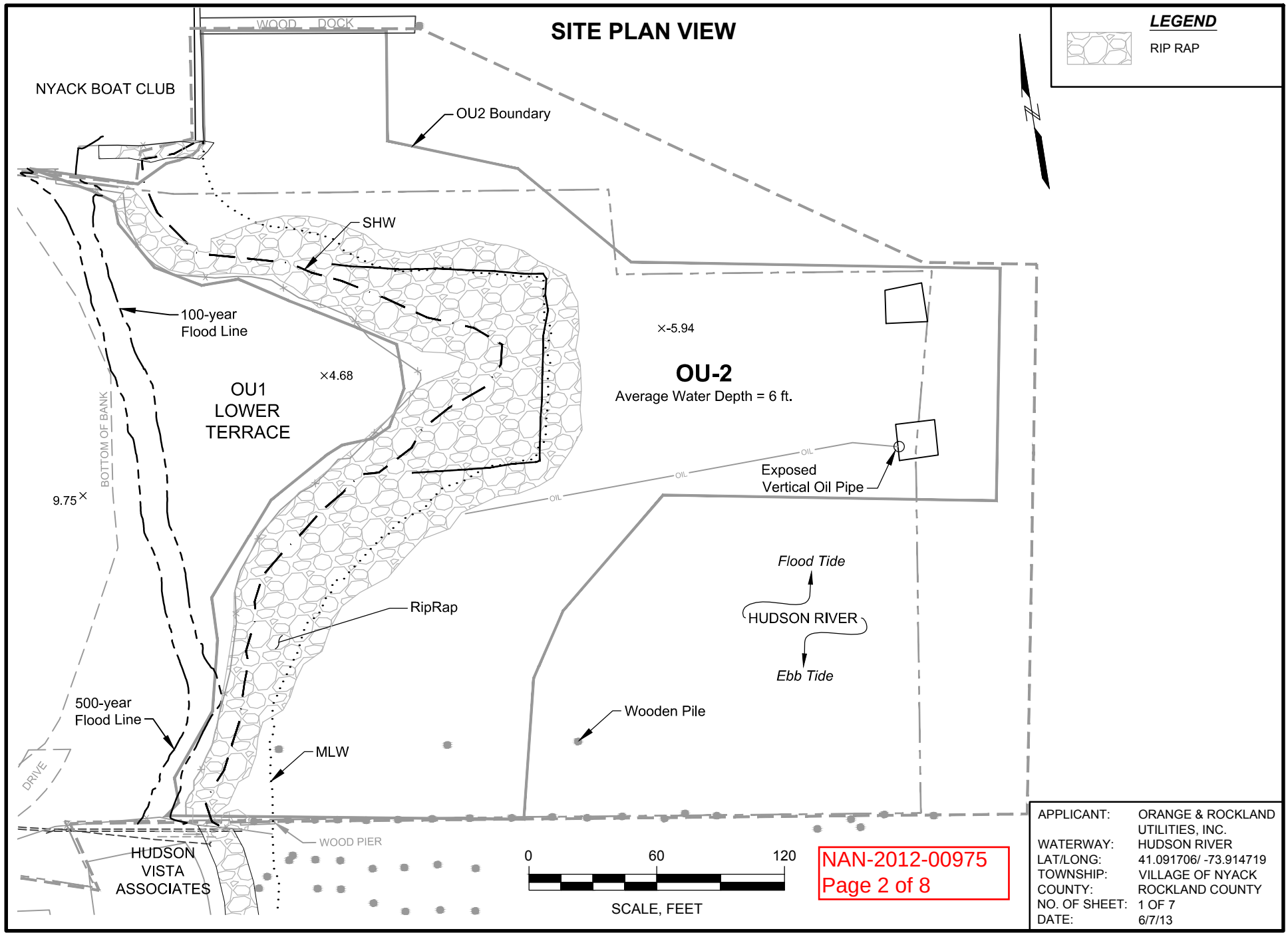
Project 121640-1002

SITE LOCATION MAP
Lat= 41.091706
Long= -73.914719

June 2013

I:\Project\ORANGE & ROCKLAND\Nyack\Permit Application\Nyack-Location.cdr

SITE PLAN VIEW



NAN-2012-00975
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APPLICANT:	ORANGE & ROCKLAND UTILITIES, INC.
WATERWAY:	HUDSON RIVER
LAT/LONG:	41.091706/ -73.914719
TOWNSHIP:	VILLAGE OF NYACK
COUNTY:	ROCKLAND COUNTY
NO. OF SHEET:	1 OF 7
DATE:	6/7/13

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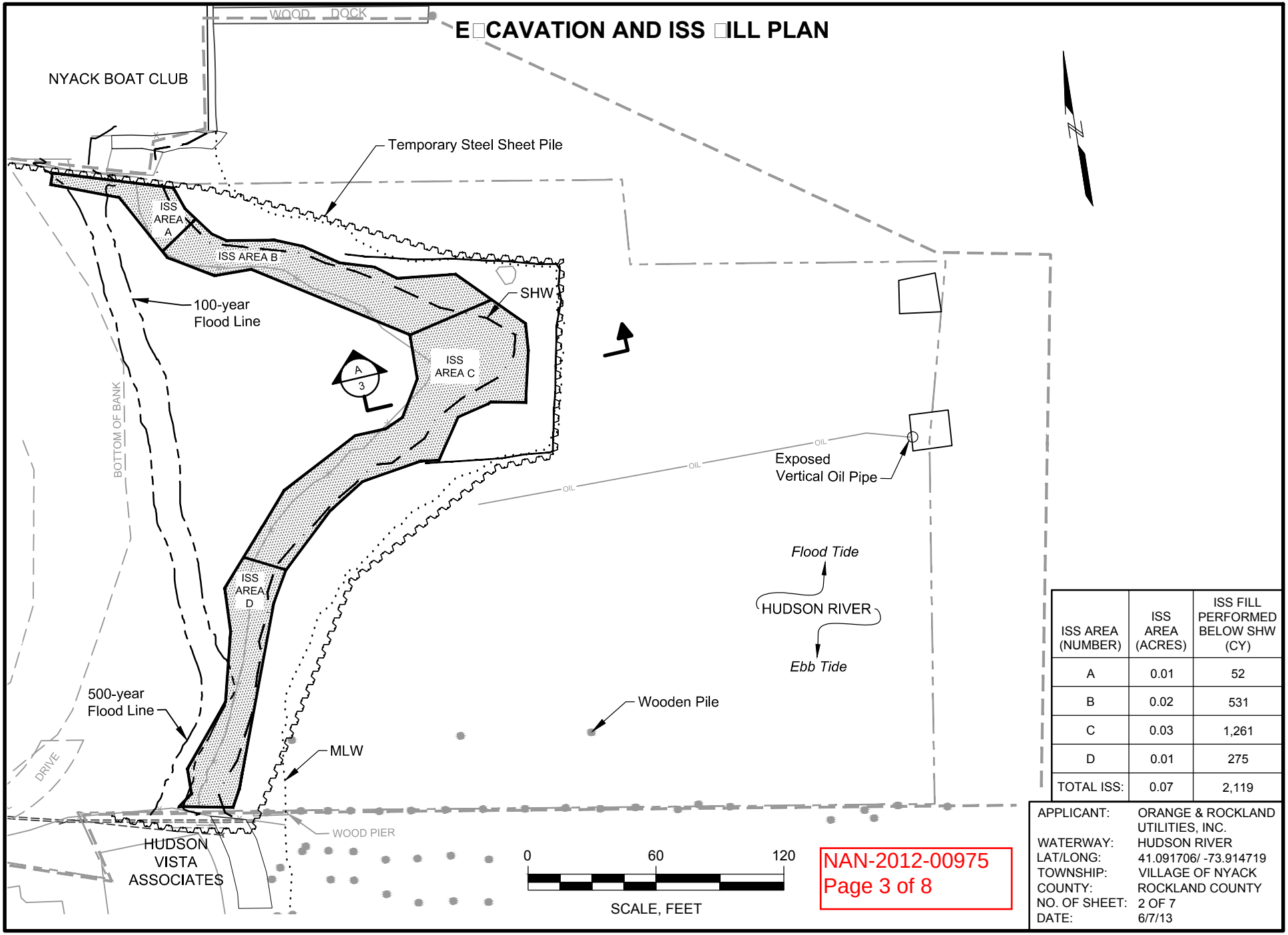
E□CAVATION AND ISS □ILL PLAN



ISS AREA (NUMBER)	ISS AREA (ACRES)	ISS FILL PERFORMED BELOW SHW (CY)
A	0.01	52
B	0.02	531
C	0.03	1,261
D	0.01	275
TOTAL ISS:	0.07	2,119

APPLICANT:	ORANGE & ROCKLAND UTILITIES, INC.
WATERWAY:	HUDSON RIVER
LAT/LONG:	41.091706/ -73.914719
TOWNSHIP:	VILLAGE OF NYACK
COUNTY:	ROCKLAND COUNTY
NO. OF SHEET:	2 OF 7
DATE:	6/7/13

NAN-2012-00975
Page 3 of 8

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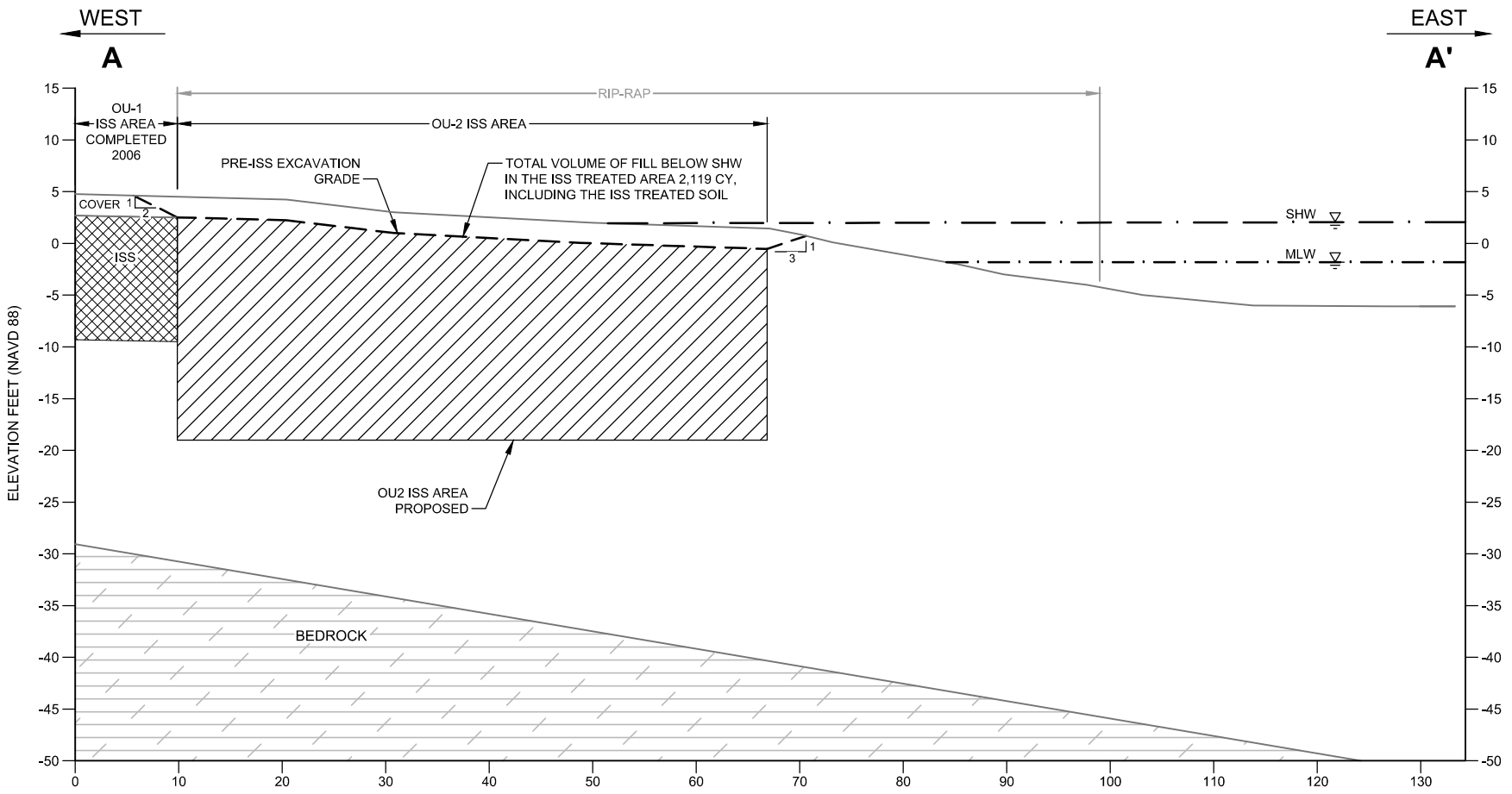

ISS CROSS SECTION A/3

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Page 4 of 8

APPLICANT:	ORANGE & ROCKLAND UTILITIES, INC.
WATERWAY:	HUDSON RIVER
LAT/LONG:	41.091706/ -73.914719
TOWNSHIP:	VILLAGE OF NYACK
COUNTY:	ROCKLAND COUNTY
NO. OF SHEET:	3 OF 7
DATE:	6/7/13

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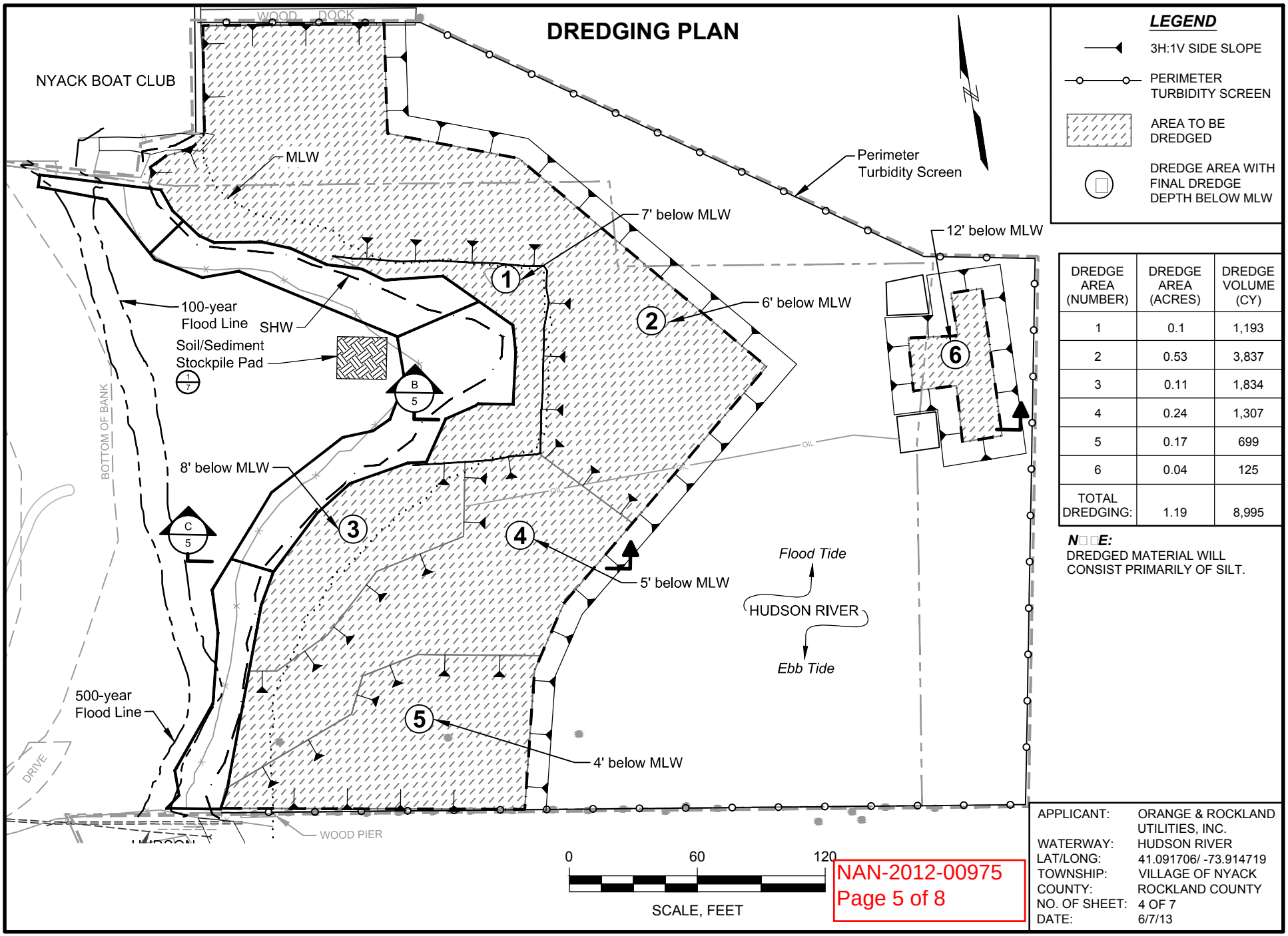
DREDGING PLAN



LEGEND

- 3H:1V SIDE SLOPE
- PERIMETER TURBIDITY SCREEN
- AREA TO BE DREDGED
- DREDGE AREA WITH FINAL DREDGE DEPTH BELOW MLW

DREDGE AREA (NUMBER)	DREDGE AREA (ACRES)	DREDGE VOLUME (CY)
1	0.1	1,193
2	0.53	3,837
3	0.11	1,834
4	0.24	1,307
5	0.17	699
6	0.04	125
TOTAL DREDGING:	1.19	8,995

NOTE:
DREDGED MATERIAL WILL CONSIST PRIMARILY OF SILT.

APPLICANT:	ORANGE & ROCKLAND UTILITIES, INC.
WATERWAY:	HUDSON RIVER
LAT/LONG:	41.091706/ -73.914719
TOWNSHIP:	VILLAGE OF NYACK
COUNTY:	ROCKLAND COUNTY
NO. OF SHEET:	4 OF 7
DATE:	6/7/13

NAN-2012-00975
Page 5 of 8

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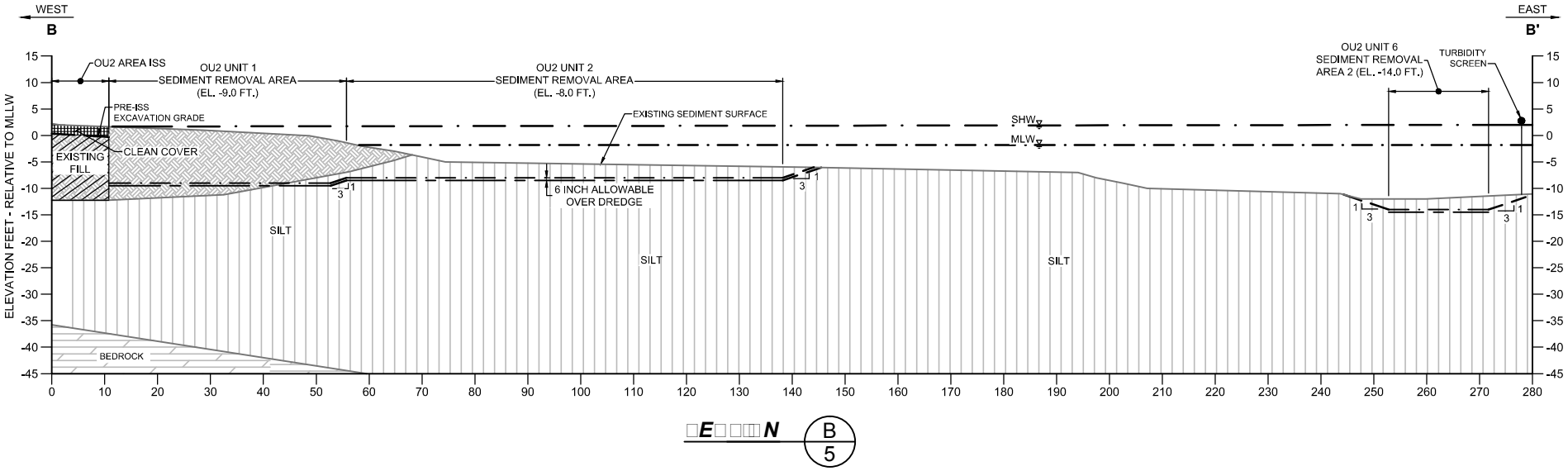
DREDGING CROSS SECTIONS



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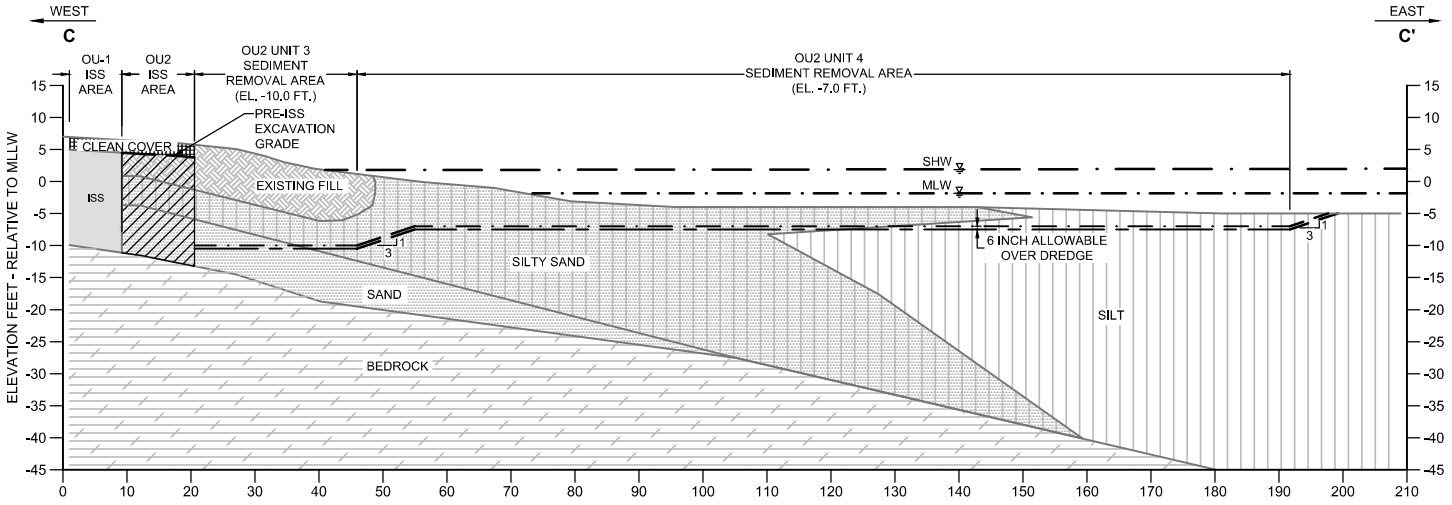

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NAN-2012-00975
Page 6 of 8

APPLICANT:	ORANGE & ROCKLAND UTILITIES, INC.
WATERWAY:	HUDSON RIVER
LAT/LONG:	41.091706/ -73.914719
TOWNSHIP:	VILLAGE OF NYACK
COUNTY:	ROCKLAND COUNTY
NO. OF SHEET:	5 OF 7
DATE:	6/7/13

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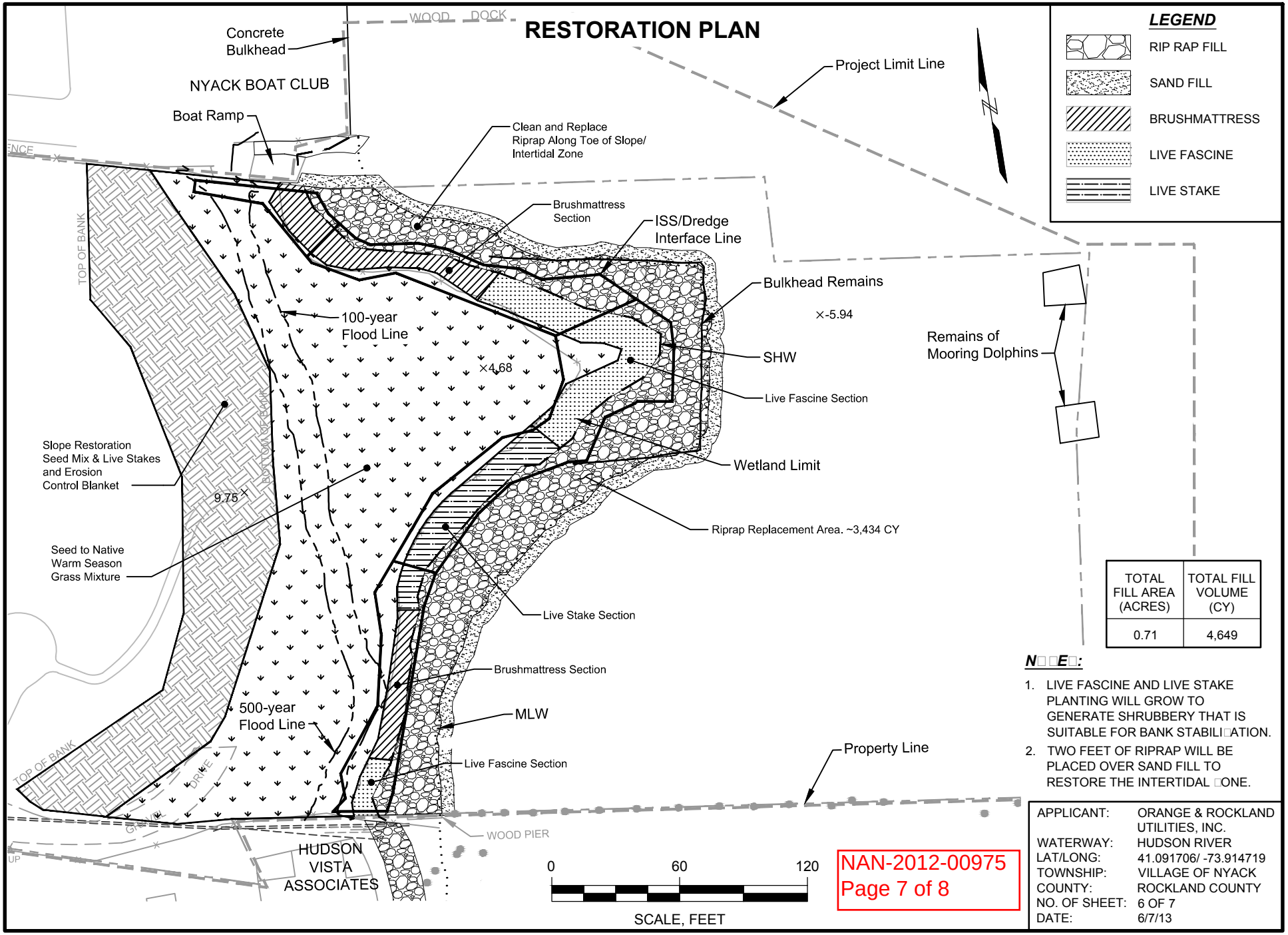
RESTORATION PLAN



LEGEND

- RIP RAP FILL
- SAND FILL
- BRUSHMATTRESS
- LIVE FASCINE
- LIVE STAKE

TOTAL FILL AREA (ACRES)	TOTAL FILL VOLUME (CY)
0.71	4,649

NOTE:

1. LIVE FASCINE AND LIVE STAKE PLANTING WILL GROW TO GENERATE SHRUBBERY THAT IS SUITABLE FOR BANK STABILIZATION.
2. TWO FEET OF RIPRAP WILL BE PLACED OVER SAND FILL TO RESTORE THE INTERTIDAL ZONE.

APPLICANT:	ORANGE & ROCKLAND UTILITIES, INC.
WATERWAY:	HUDSON RIVER
LAT/LONG:	41.091706/ -73.914719
TOWNSHIP:	VILLAGE OF NYACK
COUNTY:	ROCKLAND COUNTY
NO. OF SHEET:	6 OF 7
DATE:	6/7/13

NAN-2012-00975
Page 7 of 8

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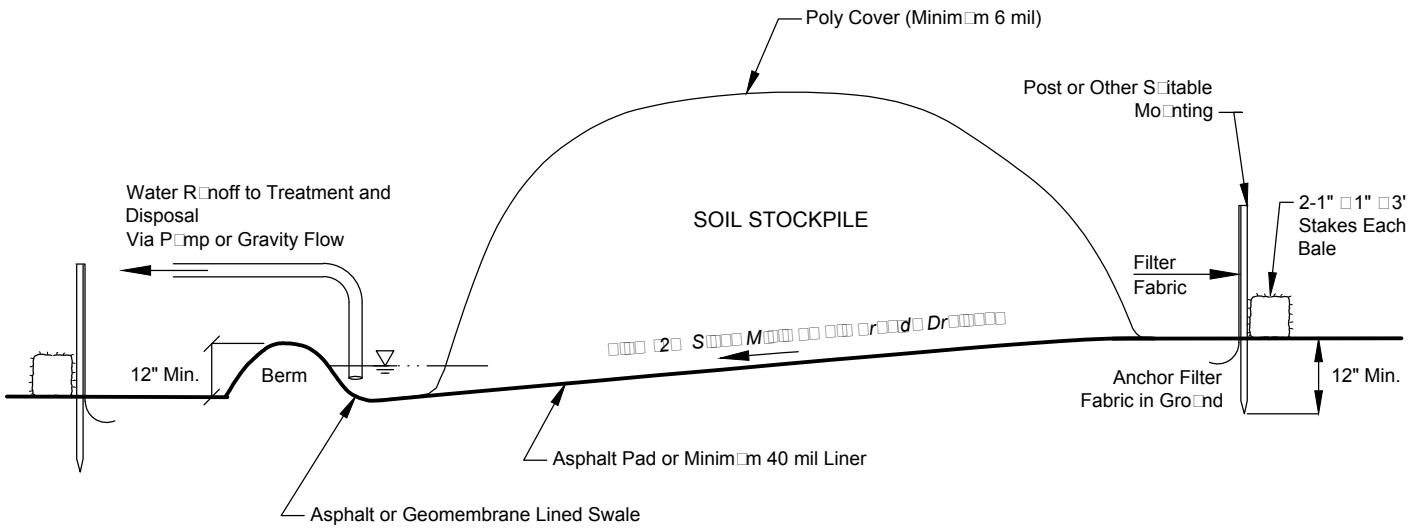
SITE MANAGEMENT DETAIL □ONSHORE



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1/7

NOT TO SCALE

□□D□N□ □E□:

1. SOIL/DEBRIS STOCKPILE PAD DESIGN IS CONCEPTUAL. FINAL DESIGN WILL MEET THE INTENT OF THE CONCEPT AND BE APPROVED BY ENGINEER.
2. COLLECT ALL STORMWATER/RUNOFF WATER FROM THE SOIL/DEBRIS PADS.
3. PLACE STOCKPILE PAD COMPLETELY BEYOND THE LIMITS OF SHW.

NAN-2012-00975
Page 8 of 8

APPLICANT:	ORANGE & ROCKLAND UTILITIES, INC.
WATERWAY:	HUDSON RIVER
LAT/LONG:	41.091706/ -73.914719
TOWNSHIP:	VILLAGE OF NYACK
COUNTY:	ROCKLAND COUNTY
NO. OF SHEET:	7 OF 7
DATE:	6/7/13

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PERMIT

Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
ORANGE & ROCKLAND UTILITIES INC
1 BLUE HILL PLZ
PEARL RIVER, NY 10965-3104
(845) 577-3534

PRESIDENTIAL LIFE INSURANCE COMPANY
FOUNDATION INC
69 LYDECKER ST
NYACK, NY 10960
(845) 358-2300

Facility:
NYACK FORMER MGP SITE
55 GEDNEY ST
NYACK, NY 10960

Facility Location: in ORANGETOWN in ROCKLAND COUNTY **Village:** Nyack
Facility Principal Reference Point: NYTM-E: 591 NYTM-N: 4549.4
Latitude: 41°05'26.8" Longitude: 73°54'59.4"
Project Location: 55 Gedney Street (Site #344046)- Western Shore of the Hudson River (Class B)
Authorized Activity: This permit authorizes the remediation of Site No. 344046 in accordance with NYS DEC Record of Decision dated March 2011, plans and narrative referenced in Natural Resources Condition No. 1, and as conditioned in this permit. Authorized activities include the following to be conducted within the banks of the Hudson River (Class B):

- Remove existing bulkhead and oil pipe;
- Install sheet piling at approximate MHW along the eastern edge of the site;
- Remove contaminated soil from behind the sheet piling;
- Stabilize soils behind the sheet piling using "in-situ solidification";
- Dredge contaminated sediment from the bed of the Hudson River adjacent to the site to a depth up to minus 7 feet (-7');
- Restoration of dredged areas to approximate pre-existing depths by filling with clean soils or Hudson River sediments; and
- Removal of sheet piling and installation of a sloping riprap shoreline along the western bank of the Hudson River.

Permit Authorizations

Water Quality Certification - Under Section 401 - Clean Water Act
Permit ID 3-3924-00461/00001
New Permit Effective Date: 6/12/2013 Expiration Date: 12/31/2016

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: R SCOTT BALLARD, Deputy Regional Permit Administrator
Address: NYSDEC REGION 3 HEADQUARTERS
21 SOUTH PUTT CORNERS RD
NEW PALTZ, NY 12561 -1620

Authorized Signature: R. Scott Ballard Date 6/12/13

Distribution List

M. McCormick - O & R Utilities, Inc.
D. Barnes, Pres. - Presidential Life Ins. Co.
J. Finn, PE - GEI Consultants, Inc.
Nyack Boat Club
E. Lukowski (ecc)
L. Wilson (ecc)

Permit Components

NATURAL RESOURCE PERMIT CONDITIONS

WATER QUALITY CERTIFICATION SPECIFIC CONDITION

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Permit Attachments

Permit Sign

NATURAL RESOURCE PERMIT CONDITIONS - Apply to the Following Permits: WATER QUALITY CERTIFICATION

1. **Conformance With Plans** All activities authorized by this permit must be in strict conformance with the approved plans submitted by the applicant or applicant's agent as part of the permit application. Such approved plans were prepared by GEI Consultants, Inc., dated 11/16/12, entitled "Operable Unit No. 2, Nyack Former MGP Site, Village of Nyack, NY" including Narrative (8 pages) and Sheet Nos. 1 through 17 (17 sheets) for the remediation of Site No. 344046.

2. **Silt Curtain Required Prior to Commencement** Prior to commencement of dredging, a silt curtain weighted at the bottom, with floats at the top, and extending the full depth of the water column at MHW, shall be deployed around the work area. The silt curtain shall be constructed of material having a pore size sufficient to prevent silt and/or sediments from migrating from the work area. The silt curtain shall be continuously maintained throughout the entire period of dredging operations conducted during remediation of Site No. 344046.

3. **Dewatering of Spoils** All materials excavated during dredging operations shall be dewatered as described in the Approved Narrative referenced in Natural Resources Condition No. 1, which includes the dewatering of spoils by means of a temporary Sediment Stockpile Pad. All decanted liquids from dewatering operations shall be directed to the off-shore silt curtain-enclosed work area prior to release to the Hudson River.

4. **Treatment and Disposal of Contaminated Soils** All contaminated materials excavated from Site No. 344046 shall be appropriately handled, treated and disposed of in accordance with the Record of Decision dated March 2011 for Site No. 344046 and the approved narrative referenced in Natural Resources Condition No.1.

5. **Concrete Restriction** During construction of the *In Situ Solidification* portion of the remedial action, no wet or fresh concrete or concrete leachate shall be allowed to escape into the Hudson River or other waters of New York State.

6. **DEC Notification Required** The permittee must provide notification to the Department at least 48 hours prior to the start of construction activities affecting the Hudson River at Site No. 344046. Such notification shall be provided via electronic mail to Larry Wilson of the Division of Fish Wildlife and Marine Resources at this web address: lrwilson@gw.dec.state.ny.us.

7. **Precautions Against Contamination of Waters** All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project.

8. **Remove All Debris & Excess Materials** Any debris or excess materials from construction of this project shall be immediately and completely removed from the bed and banks of the Hudson River to an appropriate upland area for disposal.

9. **State Not Liable for Damage** The State of New York shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the State for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.

10. **State May Order Removal or Alteration of Work** If future operations by the State of New York require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Department of Environmental Conservation it shall cause unreasonable obstruction to the free navigation of said waters or flood flows or endanger the health, safety or welfare of the people of the State, or cause loss or destruction of the natural resources of the State, the owner may be ordered by the Department to remove or alter the structural work, obstructions, or hazards caused thereby without expense to the State, and if, upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the owners, shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may require, remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable and flood capacity of the watercourse. No claim shall be made against the State of New York on account of any such removal or alteration.

11. **State May Require Site Restoration** If upon the expiration or revocation of this permit, the project hereby authorized has not been completed, the applicant shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may lawfully require, remove all or any portion of the uncompleted structure or fill and restore the site to its former condition. No claim shall be made against the State of New York on account of any such removal or alteration.

WATER QUALITY CERTIFICATION SPECIFIC CONDITIONS

1. **Water Quality Certification** The NYS Department of Environmental Conservation hereby certifies that the subject project will not contravene effluent limitations or other limitations or standards under Sections 301, 302, 303, 306 and 307 of the Clean Water Act of 1977 (PL 95-217) provided that all of the conditions listed herein are met.

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. **Facility Inspection by The Department** The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. **Relationship of this Permit to Other Department Orders and Determinations** Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. **Applications For Permit Renewals, Modifications or Transfers** The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Regional Permit Administrator
NYSDEC REGION 3 HEADQUARTERS
21 SOUTH PUTT CORNERS RD
NEW PALTZ, NY12561 -1620

4. **Submission of Renewal Application** The permittee must submit a renewal application at least 30 days before permit expiration for the following permit authorizations: Water Quality Certification.

5. **Permit Modifications, Suspensions and Revocations by the Department** The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

a. materially false or inaccurate statements in the permit application or supporting papers;

b. failure by the permittee to comply with any terms or conditions of the permit;

c. exceeding the scope of the project as described in the permit application;

d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;

e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

6. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification
The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit
The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights
This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

Item E: SEQR Type II Action Under the State Environmental Quality Review Act (SEQR), this project has been determined to be a Type II Action and therefore is not subject to further procedures under this law.

New York State
Department of Environmental Conservation

NOTICE

The Department of Environmental Conservation (DEC) has issued permit(s) pursuant to the Environmental Conservation Law for work being conducted at this site. For further information regarding the nature and extent of work approved and any Department conditions on it, contact the DEC at 845/256-3054. Please refer to the permit number shown when contacting the DEC.

Permittee: O+R Utilities, Inc. Permit No. 3- 3924-00461/1

Effective Date: 6/12/13 Expiration date: 12/31/16

❑ Applicable if checked. No instream work allowed between October 1 & April 30

NOTE: This notice is **NOT** a permit.

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 3
21 South Putt Corners Road, New Paltz, New York 12561-1620
FAX: (845) 255-4659
Website: www.dec.ny.gov

IMPORTANT NOTICE TO ALL PERMITTEES

The permit you requested is enclosed. Please read it carefully and note the conditions that are included in it. The permit is valid for only that activity expressly authorized therein; work beyond the scope of the permit may be considered a violation of law and be subject to appropriate enforcement action. Granting of this permit does not relieve the permittee of the responsibility of obtaining any other permission, consent or approval from any other federal, state, or local government which may be required.

Please note the expiration date of the permit. Applications for permit renewal should be made well in advance of the expiration date (minimum of 30 days) and submitted to the Regional Permit Administrator at the above address. For SPDES, Solid Waste and Hazardous Waste Permits, renewals must be made at least 180 days prior to the expiration date.

☐ Applicable only if checked. Please note all work authorized under this permit is prohibited during trout spawning season commencing October 1 and ending April 30.

The DEC permit number & program ID number noted on page 1 under "Permit Authorization" of the permit are important and should be retained for your records. These numbers should be referenced on all correspondence related to the permit, and on any future applications for permits associated with this facility/project area.

If a permit notice sign is enclosed, you must post it at the work site with appropriate weather protection, as well as a copy of the permit per General Condition 1.

If the permit is associated with a project that will entail construction of new water pollution control facilities or modifications to existing facilities, plan approval for the system design will be required from the appropriate Department's regional Division of Water or delegated local Health Department, as specified in the State Pollutant Discharge Elimination System (SPDES) permit.

If you have any questions on the extent of work authorized or your obligations under the permit, please contact the staff person indicated below or the Division of Environmental Permits at the above address.

SB
Scott Ballard
Deputy Regional Permit Administrator, Region 3
Telephone (845) 256-2250

☐ Applicable Only if Checked for **STORMWATER SPDES INFORMATION**: We have determined that your project qualifies for coverage under the General Stormwater SPDES Permit. You must now file a Notice of Intent to obtain coverage under the General Permit. This form can be downloaded at: http://www.dec.ny.gov/chemical/43133.html

☐ Applicable Only if Checked **MS4 Areas**: This site is within an MS4 area (Municipal Separate Storm Sewer System), therefore the SWPPP must be reviewed and accepted by the municipality. The MS-4 Acceptance Form must be submitted in addition to the Notice of Intent.

Send the completed form(s) to: NYS DEC, Stormwater Permitting, Division of Water, 625 Broadway, Albany, New York 12233-3505

In addition, DEC requests that you provide one electronic copy of the approved SWPPP directly to Natalie Browne at NYS DEC, 100 Hillside Avenue - Suite 1W, White Plains, NY 10603-2860.

STATE OF NEW YORK
DEPARTMENT OF STATE
ONE COMMERCE PLAZA
99 WASHINGTON AVENUE
ALBANY, NY 12231-0001

ANDREW M. CUOMO
GOVERNOR

CESAR A. PERALES
SECRETARY OF STATE

January 02, 2013

Mr. John T. Finn, P.E.
GEI Consultants, Inc., P.C.
Senior Engineer
1301 Trumansburg Road
Ithaca, NY 14850

RE: F-2012-0999
U.S. Army Corps of Engineers/New York District Permit Application - DEC Site #3-44-046 Orange and Rockland Utilities, Inc. - Remediation of Operable Unit 2 of the Nyack Former manufacturing Gas Plant site.
Hudson River, Village of Nyack, Rockland County
No Review Necessary

Dear Mr. John T. Finn, P.E.:

The Department of State received your Federal Consistency Assessment Form and supporting information on December 4, 2012. From the information provided, it appears that the proposed action may be authorized by the Army Corps of Engineers under a Nationwide Permit #38, with which the Department of State has already concurred and as such, further review by the Department of State is not required.

Should the Army Corps determine that the proposed project may not be conducted under the Nationwide Permit program or if the project is modified, please contact the Department of State to determine if further review is required.

This is without prejudice to and does not obviate the need to obtain all other applicable licenses, permits, other forms of authorization or approval that may be required pursuant to existing State statutes.

Sincerely,

Jeffrey Zappieri
Supervisor, Consistency Review Unit
Division of Coastal Resources

JZ
cc: COE/New York District – Jun Yan (NAN-2012-0975-EYA)
DEC/Region 3 – Margaret Duke

Appendix F

Daily and Monthly Reports (CD)

Appendix G

Project Photo Log (CD)

Appendix H

Soil/Waste Characterization Documentation (CD)

Appendix I

CAMP Field Data Sheets and Air Monitoring Data (CD)

Appendix J

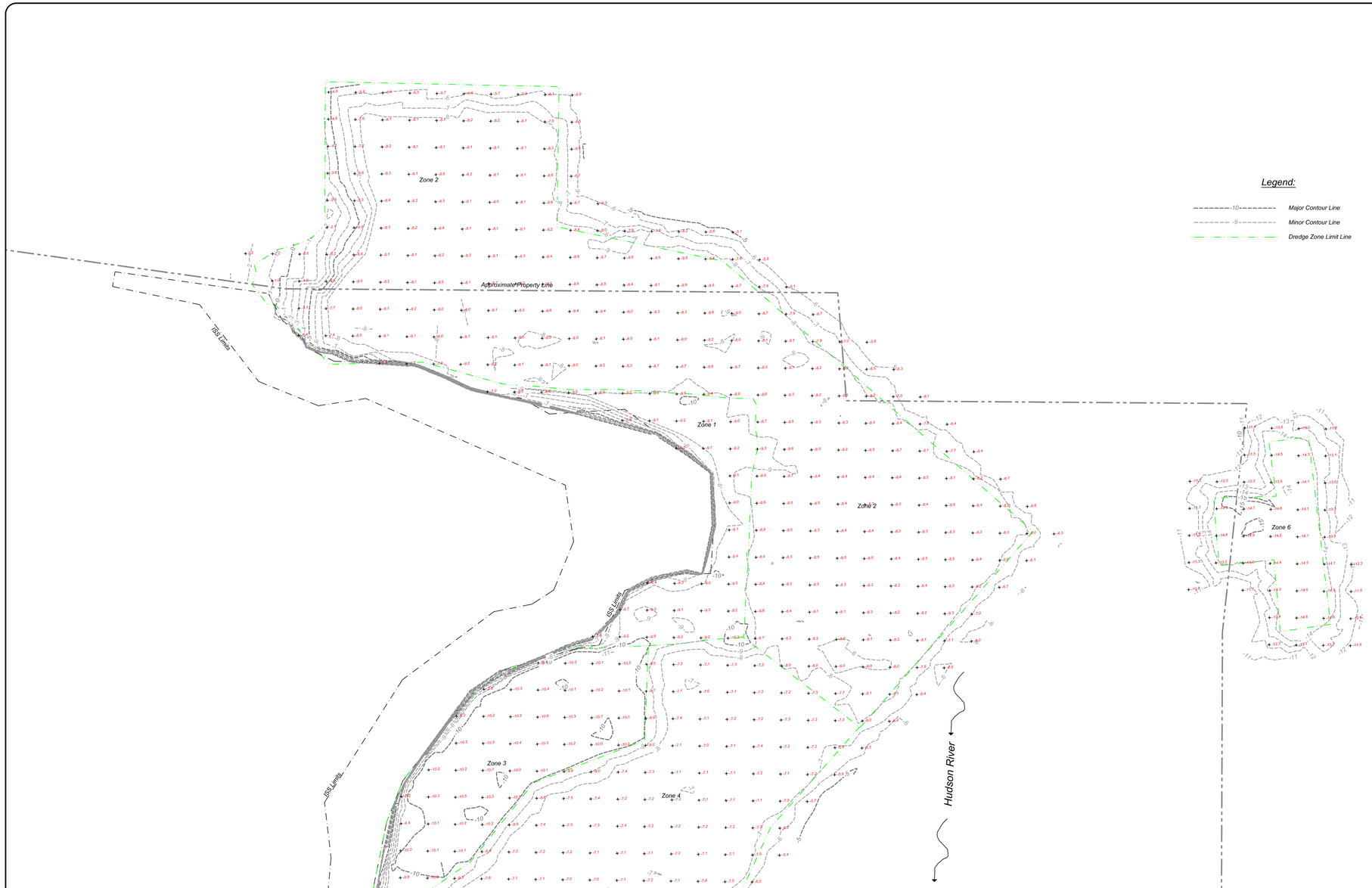
Raw Analytical Laboratory Data (CD)

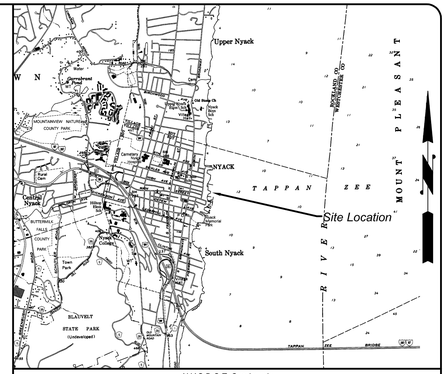
Appendix K

DUSRs for All Endpoint Samples [Not Applicable]

Appendix L

As-Built Drawings and Documentation





N.Y.S.D.O.T. Quadrangle
Nyack, New York

Legend:

- Major Contour Line
- Minor Contour Line
- Dredge Zone Limit Line

General Notes:

1. *This survey is referenced horizontally to the North American Datum of 1983, 2007 adjustment (NAD83/2007) and projected on the New York State Plane Coordinate System (East Zone) and vertically to the North American Vertical Datum of 1988 (NAVD88-Geoid09).*
2. *North arrow as shown indicates Grid North referenced to NAD83 and projected on the New York State Plane Coordinate System (East Zone).*
3. *The reference horizontal and vertical control station is distinguished as "NYVH" (PID DI0624). NYVH was established by the new York State Department of Transportation in July 2006 and adjusted by the National Geodetic Survey in July 2007. Elevation 309.25 feet.*
4. *Location of spot elevation is indicated by the tick "+" mark located adjacent to the elevation.*
5. *Elevations and contours shown reference the North American Vertical Datum of 1988 (NAVD88-Geoid09).*
6. *Contours shown hereon were generated from a Digital Terrain Model utilizing AutoCAD Civil 3D Surveying and Engineering software.*
7. *The bathymetric information shown hereon is based on an acoustical survey completed on December 10, 2014.*

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

	The Battery (Station 8518750)	Tarrytown (Station 8518919)
Reference Datum	NAVD88	NAVD88
Mean Higher-High Water	2.27	1.59
Mean High Water	1.95	1.37
NAVD88	0.00	0.00
Mean Sea Level	-0.21	-0.15
Mean Low Water	-2.58	-1.81
Mean Lower-Low Water	-2.78	-1.95

The Battery (Station 8518750) is the referenced harmonic tide gauge station for the subordinate tide gauge station Tarrytown (Station 8518919). The heights at The Battery are multiplied by 0.70 to obtain the tide gauge elevations at Tarrytown.

Drawing No. 1

REV	DESCRIPTION	DATE
1	Added Additional NBC Dredge Data	12/22/2014

PROJECT NUMBER: CK3523-02-14

DRAWN:
CHECKED:
SCALE: 1" = 20'
DATE: 12/17/14

Map Showing
Post-Dredge Bathyemtric Conditions
Former Manufactured Gas Plant
Orange and Rockland Utilities

Village of Nyack
County of Rockland
State of New York

Thew Associates LAND SURVEYORS
www.ThewAssociates.com
P.O. Box 463
6431 US Highway 11
Canton, New York 13617
T: 315/386-2776
F: 315/386-1012
9478 River Road
Marcy, New York 13403
T: 315/733-7278
F: 315/797-1957

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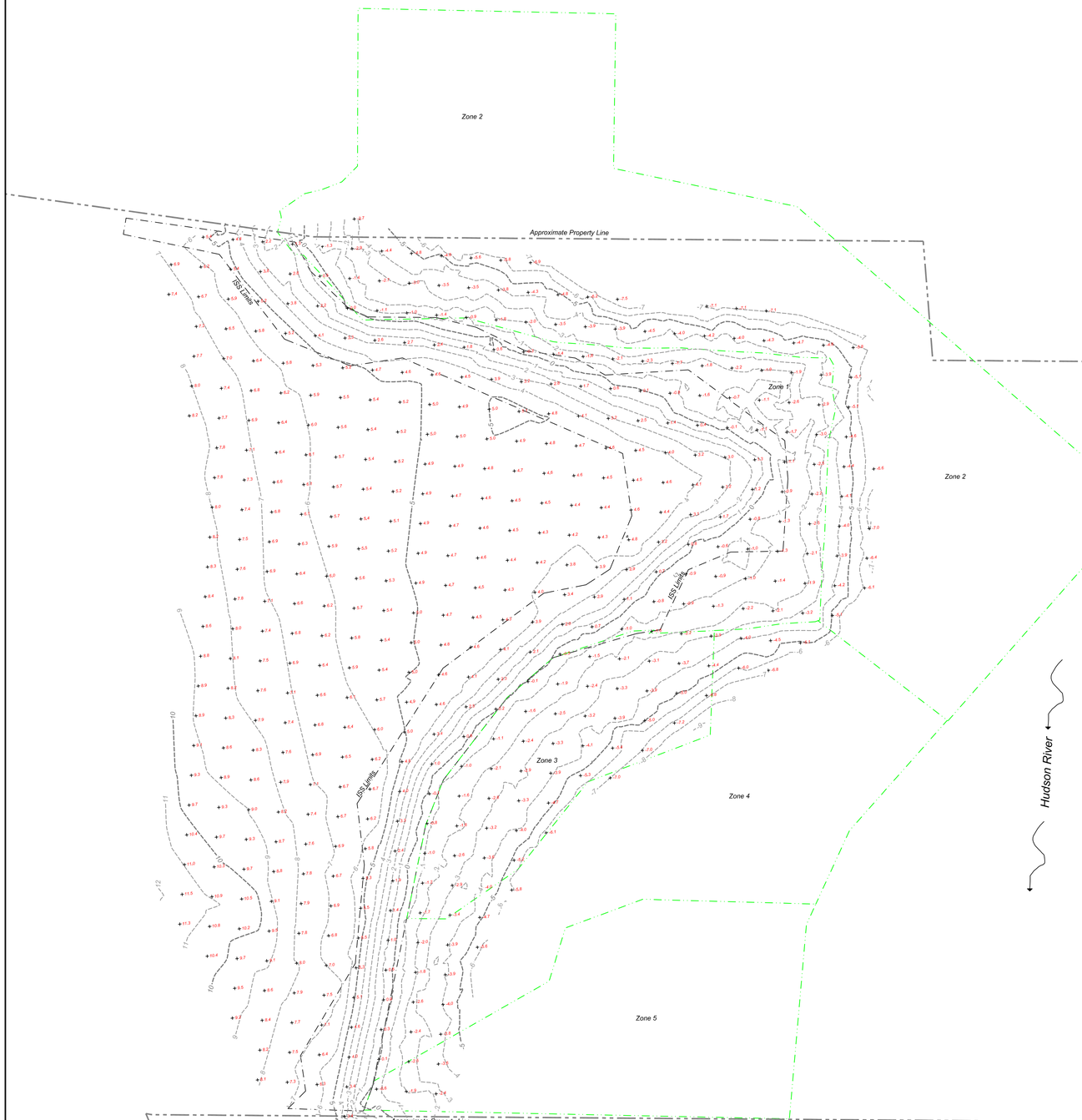
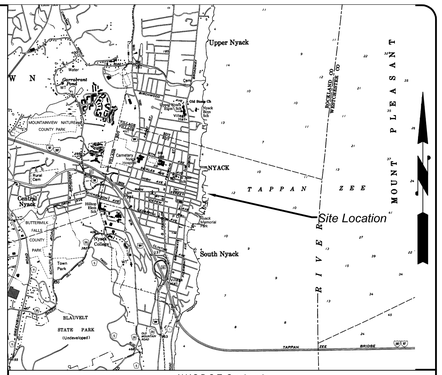




Legend:

- Approximate Property Line
- Major Contour Line
- Minor Contour Line
- Dredge Zone Limit
- ISS Limit

General Notes:

1. This survey is referenced horizontally to the North American Datum of 1983, 2007 adjustment (NAD83/2007) and projected on the New York State Plane Coordinate System (East Zone) and vertically to the North American Vertical Datum of 1988 (NAVD88-Geoid09).
2. North arrow as shown indicates Grid North referenced to NAD83 and projected on the New York State Plane Coordinate System (East Zone).
3. The reference horizontal and vertical control station is distinguished as "NYVH" (PID DI0624). NYVH was established by the New York State Department of Transportation in July 2006 and adjusted by the National Geodetic Survey in July 2007. Elevation 309.25 feet.
4. Location of spot elevation is indicated by the tick "+" mark located adjacent to the elevation.
5. Elevations and contours shown reference the North American Vertical Datum of 1988 (NAVD88-Geoid09).
6. Contours shown hereon were generated from a Digital Terrain Model utilizing AutoCAD Civil 3D Surveying and Engineering software.
7. The information shown hereon is based on as-built measurements obtained by representatives of D.A. Collins Environmental Services, LLC utilizing RTK GPS surveying techniques on April 23, 2015.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

	The Battery (Station 8518750)	Tarrytown (Station 8518919)
Reference Datum	NAVD88	NAVD88
Mean Higher-High Water	2.27	1.59
Mean High Water	1.95	1.37
NAVD88	0.00	0.00
Mean Sea Level	-0.21	-0.15
Mean Low Water	-2.58	-1.81
Mean Lower-Low Water	-2.78	-1.95

"The Battery" (Station 8518750) is the reference harmonic tide gauge station for the subordinate tide gauge station "Tarrytown" (Station 8518919). The heights at "The Battery" are multiplied by 0.70 to obtain the tide gauge elevation at "Tarrytown".

Unauthorized alteration or addition to a survey map bearing a licensed land surveyors seal is a violation of Section 7209, Subdivision 2 of the New York State Education Law.

Only copies from the original of this survey marked with an original of the surveyor's inked seal or his embossed seal shall be considered to be valid and true copies.

Drawing No. 2

REV	DESCRIPTION	DATE

PROJECT NUMBER: CK3523-02-14

DRAWN:

CHECKED:

SCALE: 1" = 20'

DATE: 5/1/2015

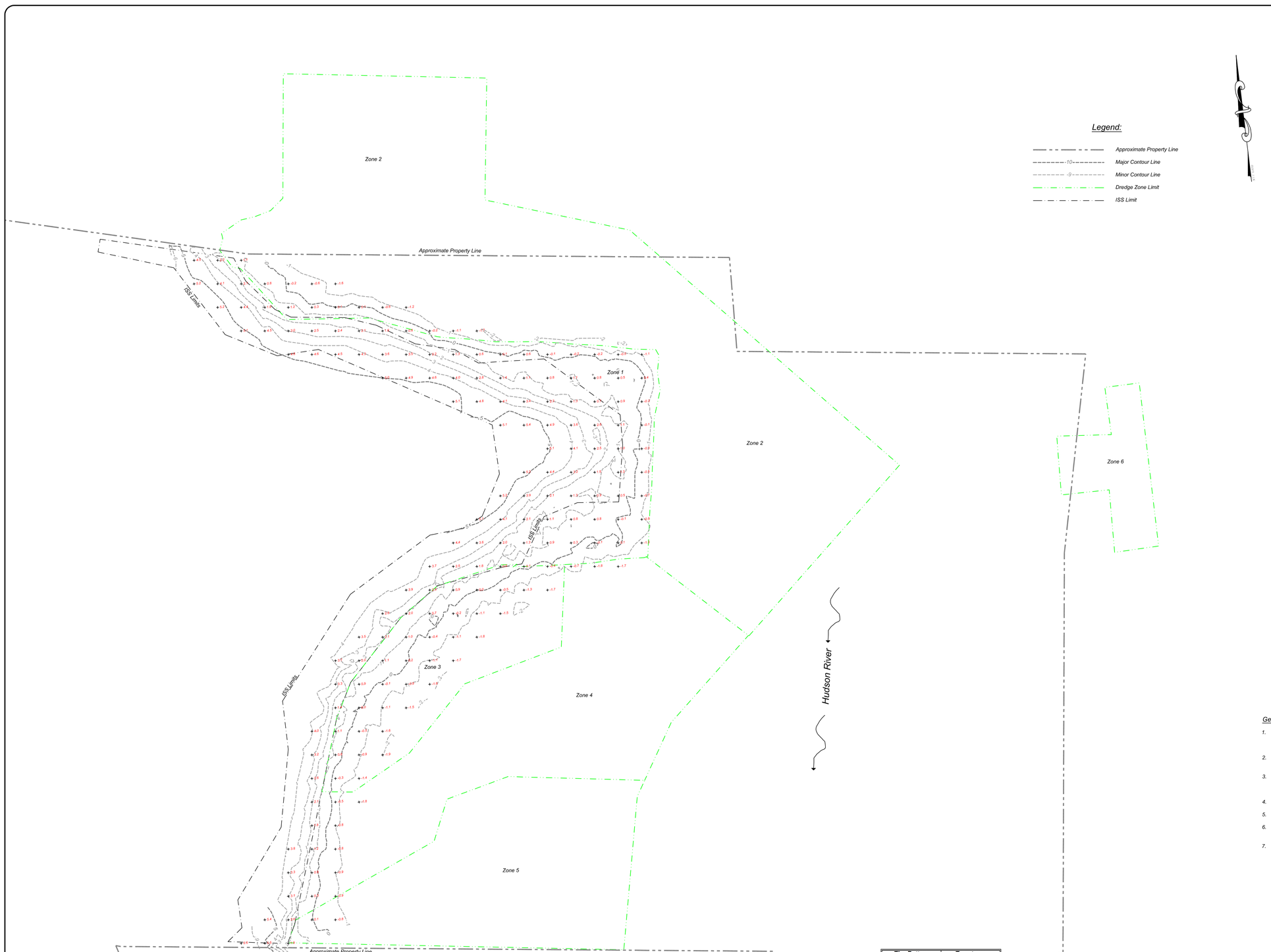
Map Showing
Aquatic Sand Backfill Placement Topography
Former Manufactured Gas Plant
Orange and Rockland Utilities

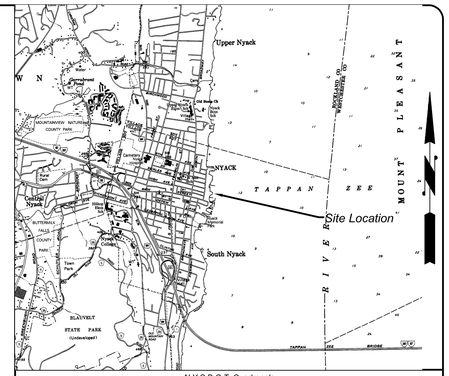
Village of Nyack
County of Rockland
State of New York

P.O. Box 463
6431 US Highway 11
Canton, New York 13617
T: 315/386-2776
F: 315/386-1012

Thew Associates LAND SURVEYORS
www.ThewAssociates.com

9478 River Road
Marcy, New York 13403
T: 315/733-7278
F: 315/797-1907





Legend:

- Approximate Property Line
- Major Contour Line
- Minor Contour Line
- Dredge Zone Limit
- ISS Limit

	The Battery (Station 8518750)	Tarrytown (Station 8518919)
Reference Datum	NAVD88	NAVD88
Mean Higher-High Water	2.27	1.59
Mean High Water	1.95	1.37
NAVD88	0.00	0.00
Mean Sea Level	-0.21	-0.15
Mean Low Water	-2.58	-1.81
Mean Lower-Low Water	-2.78	-1.95

"The Battery" (Station 8518750) is the reference harmonic tide gauge station for the subordinate tide gauge station "Tarrytown" (Station 8518919). The heights at "The Battery" are multiplied by 0.70 to obtain the tide gauge elevation at "Tarrytown".

General Notes:

1. This survey is referenced horizontally to the North American Datum of 1983, 2007 adjustment (NAD83/2007) and projected on the New York State Plane Coordinate System (East Zone) and vertically to the North American Vertical Datum of 1988 (NAVD88-Geoid09).
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5. Elevations and contours shown reference the North American Vertical Datum of 1988 (NAVD88-Geoid09).
6. Contours shown hereon were generated from a Digital Terrain Model utilizing AutoCAD Civil 3D Surveying and Engineering software.
7. The information shown hereon is based on as-built measurements obtained by representatives of D.A. Collins Environmental Services, LLC utilizing RTK GPS surveying techniques on April 24, 2015.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

Drawing No. 3

REV	DESCRIPTION	DATE

PROJECT NUMBER: CK3523-02-14

DRAWN:

CHECKED:

SCALE: 1" = 20'

DATE: 5/1/2015

Map Showing
Armor Layer Placement Topography
Former Manufactured Gas Plant
Orange and Rockland Utilities

Village of Nyack
County of Rockland
State of New York

P.O. Box 463
6431 US Highway 11
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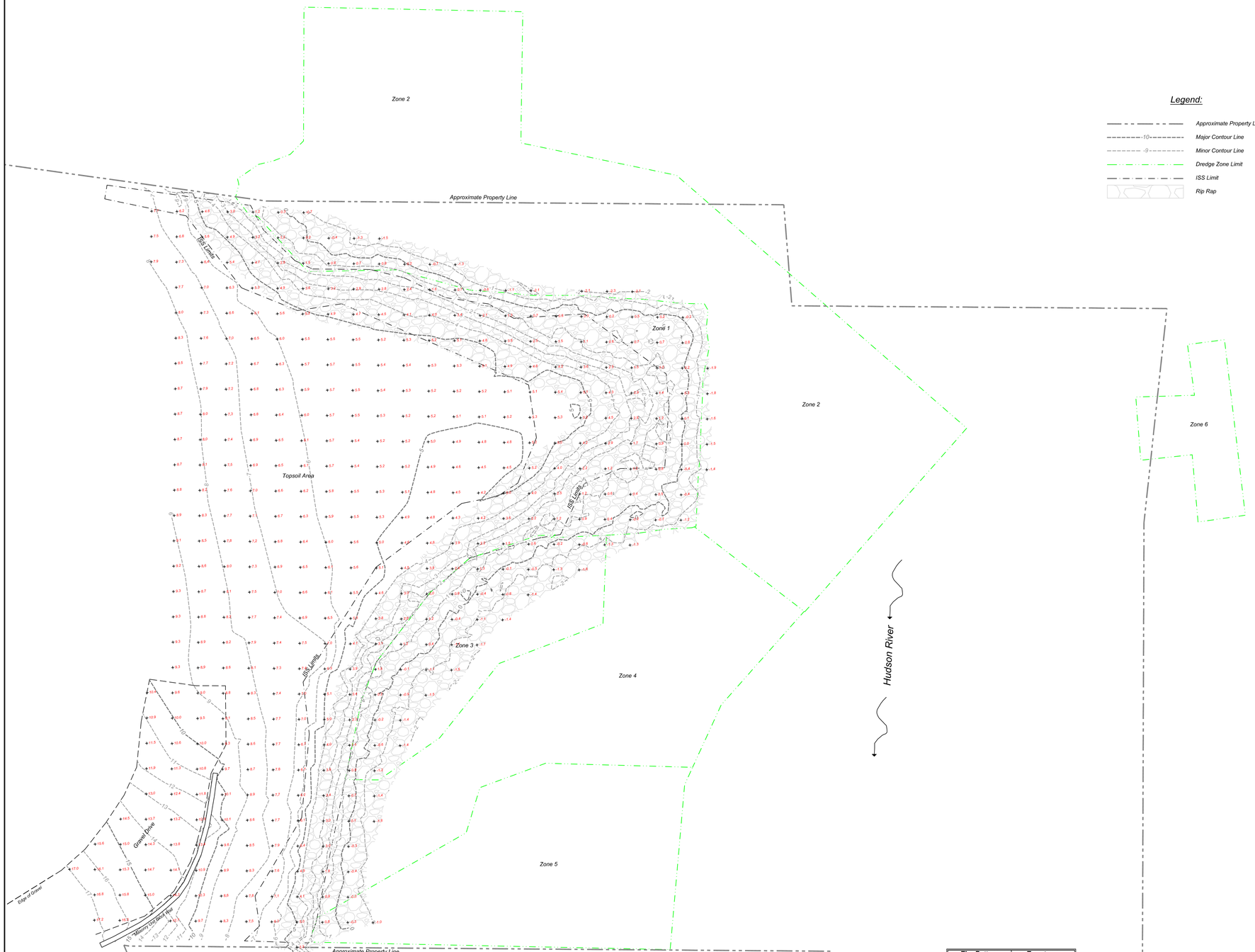

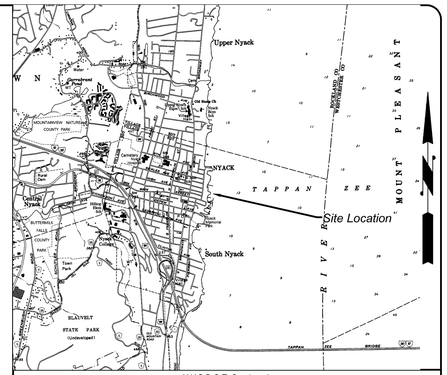

N.Y.S.D.O.T. Quadrangle
Nyack, New York

Legend:

- Approximate Property Line
- Major Contour Line
- Minor Contour Line
- Dredge Zone Limit
- ISS Limit
- Rip Rap

General Notes:

1. This survey is referenced horizontally to the North American Datum of 1983, 2007 adjustment (NAD83/2007) and projected on the New York State Plane Coordinate System (East Zone) and vertically to the North American Vertical Datum of 1988 (NAVD88-Geoid09).
2. North arrow as shown indicates Grid North referenced to NAD83 and projected on the New York State Plane Coordinate System (East Zone).
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4. Location of spot elevation is indicated by the tick "+" mark located adjacent to the elevation.
5. Elevations and contours shown reference the North American Vertical Datum of 1988 (NAVD88-Geoid09).
6. Contours shown hereon were generated from a Digital Terrain Model utilizing AutoCAD Civil 3D Surveying and Engineering software.
7. The information shown hereon is based on as-built measurements obtained by representatives of D.A. Collins Environmental Services, LLC utilizing RTK GPS surveying techniques on April 27, 2015.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

	The Battery (Station 8518750)	Tarrytown (Station 8518919)
Reference Datum	NAVD88	NAVD88
Mean Higher-High Water	2.27	1.59
Mean High Water	1.95	1.37
NAVD88	0.00	0.00
Mean Sea Level	-0.21	-0.15
Mean Low Water	-2.58	-1.81
Mean Lower-Low Water	-2.78	-1.95

"The Battery" (Station 8518750) is the reference harmonic tide gauge station for the subordinate tide gauge station "Tarrytown" (Station 8518919). The heights at "The Battery" are multiplied by 0.70 to obtain the tide gauge elevation at "Tarrytown".

Drawing No. 4

REV	DESCRIPTION	DATE

PROJECT NUMBER: CK3523-02-14

DRAWN:
CHECKED:
SCALE: 1" = 20'
DATE: 5/1/2015

Map Showing
Final As-Built Conditions
Former Manufactured Gas Plant
Orange and Rockland Utilities

Village of Nyack
County of Rockland
State of New York

P.O. Box 463
6431 US Highway 11
Canton, New York 13617
T: 315/386-2776
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Thew Associates LAND SURVEYORS
www.ThewAssociates.com

9478 River Road
Marcy, New York 13403
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F: 315/797-1907

Appendix M

Imported Materials Documentation

SUBMITTAL REVIEW COMMENTS

Date: 11/14/2014	**Project:** Nyack Former MGP Site, OU2 Remediation
Submittal No.: 010C	**Proect No.:** 20373253-0002
Spec Section / page: Section 02315	
Description: Borrow Source Evaluation Rev 3	
Reviewer Name: John Finn, P.E.	**Reviewer Company:** GEI Consultants, Inc., P.C.

SUBMITTAL TYPE: ☐**SHOP DRAWING** ☐**SAMPLE** ☐**INFORMATION**

☒	1. No Exceptions Taken	☐	3. Revise and Resubmit
☐	2. Furnish as Corrected	☐	4. Rejected

NO.	COMMENT	RELATED SPEC PARA./ DRAWING #
1	Material is acceptable pending concurrence by the NYSDEC on the analytical data.	

By: John T. Finn, P.E. Company Name: GEI Consultants, Inc., P.C.

John T. Finn

SUBMITTAL REVIEW COMMENTS

CH2MHILL

Date: 1/9/2015	**Project:** Nyack Former MGP Site, OU2 Remediation
Submittal No.: 010D	**Proect No.:** 20373253-0002
Spec Section / page: Section 02315	
Description: Borrow Source Evaluation Rev 4	
Reviewer Name: Chris Pray, P.E.	**Reviewer Company:** GEI Consultants, Inc., P.C.

SUBMITTAL TYPE: ☐ **SHOP DRAWING** ☐ **SAMPLE** ☐ **INFORMATION**

☒	1. No Exceptions Taken	☐	3. Revise and Resubmit
☐	2. Furnish as Corrected	☐	4. Rejected

NO.	COMMENT	RELATED SPEC PARA./ DRAWING #
1	Sand fill material is acceptable pending concurrence by the NYSDEC on the analytical data.	
2	The riprap material is acceptable based in part on the following materials received subsequent to the initial submittal: • Letter from Tilcon clarifying the soundness test results. • Photos of the material stockpile.	

By: Chris Pray, P.E

Company Name: GEI Consultants, Inc., P.C.

SUBMITTAL REVIEW COMMENTS

CH2MHILL

Date: 4/24/2015	**Project:** Nyack Former MGP Site, OU2 Remediation
Submittal No.: 010e	**Proect No.:** 20373253-0002
Spec Section / page: Section 02315	
Description: Borrow Source Evaluation-Upper Terrace Topsoil	
Reviewer Name: Chris Pray, P.E.	**Reviewer Company:** GEI Consultants, Inc., P.C.

SUBMITTAL TYPE:	☐**SHOP DRAWING**	☐**SAMPLE**	☐**INFORMATION**

☒	1. No Exceptions Taken	☐	3. Revise and Resubmit
☐	2. Furnish as Corrected	☐	4. Rejected

NO.	COMMENT	RELATED SPEC PARA./ DRAWING #
1	Topsoil is acceptable pending concurrence by the NYSDEC on the analytical data.	

By: Chris Pray, P.E

Company Name: GEI Consultants, Inc., P.C.

SUBMITTAL FOR:

ORANGE AND ROCKLAND UTILITIES, INC.

PROJECT NO.
NYACK FORMER MGP SITE
SOURCE AREA EXCAVATION

NYACK, NY

BORROW SOURCE EVALUATION

SUBMITTAL NO.
010 (REV 4)

SUBMITTED BY:

D.A. COLLINS ENVIRONMENTAL SERVICES
269 Ballard Road
Wilton, NY 12831
Ph. 518-664-9855 / Fax 518-664-0925

A Proud Member of the D.A. Collins Companies

JANUARY 6, 2014

Table of Contents

1.0 Borrow Source

DAC is proposing to use the following for import fill materials:

Remaining Aquatic Fill Supply:

Tilcon New York Inc.
66 Scratchup Road
Haverstraw, NY 10927
Office: (800) 872-7762
Fax: (845) 818-3726
http://www.tilconny.com/

Rip Rap Supply:

Tilcon New York Inc.
162 Old Mill Road
West Nyack, NY 10994
Office: (800) 872-7762
Fax: (845) 818-3726
http://www.tilconny.com/

Material	Approximate Quantity	Material Use
Sand Fill	2820 cyds	Aquatic and Upland Backfill
Rip Rap	1000 cyds	Shoreline Armor

See Exhibit 1 for Sand Fill gradation and analytical information as required by specification 02315 – Excavation and Fill.

See Exhibit 2 for Certification of Clean Fill Letter

See Exhibit 3 for Rip Rap Soundness Results and Documentation.

EXHIBIT 1

Borrow Source Evaluation Documents

TILCON
an Oldcastle company

Gradation Test Report

Plant 00201-Haverstraw Aggregates
Product 006-Washed Sand
Specification TNY

Sample Information

Sample No 1798545325
Date Sampled 10/22/2014 08:06
Sampled By Dalton Therogene
Type Shipping
Method Loader Bucket
Location Sand Plant
Process
Ledge
Other
Weather
Temp

Split Sample ☐
Resample ☐
Lot / Sublot
Quad / Quantity

Sequence
Code

Test Note

Gradation Results

Date Completed 10/22/2014 08:06

Tested By Dalton Therogene

Unit	Moist Mass	Dry Mass	Wash Mass	Moisture %	Wash Loss %	Procedure
g	805.90	714.50	699.80	12.8	2.1	

Sieve	Mass Retained	Cum Mass Retained	Ind % Retained	% Retained	% Passing	Target	Specification	Comment
1/4" (6.3mm)	27.1	27.1	3.8	3.8	96.2			
#4 (4.75mm)	81.7	108.8	11.4	15.2	84.8			
#8 (2.36mm)	270.2	379.0	37.8	53.0	47.0			
#16 (1.18mm)	134.6	513.6	18.8	71.9	28.1			
#30 (0.6mm)	75.9	589.5	10.6	82.5	17.5			
#50 (0.3mm)	47.4	636.9	6.6	89.1	10.9			
#100 (0.15mm)	34.1	671.0	4.8	93.9	6.1			
#200 (75um)	21.7	692.7	3.04	96.95	3.05	5	0-5	
Pan	7.1	699.8	3.05	100.00	0.00			

NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU
COARSE AGGREGATE ANALYSIS FOR 703-02 PHYSICAL REQUIREMENTS

SOURCE #: **8- 10R** TEST #: **13AR 94** BR3a SERIAL #: **187806** SM LAB #: **13065659**

Tilcon New York Inc
Haverstraw, NY

On 11/20/13 results of tests on material represented by sample 187806 were evaluated

Material meets specifications for Item 703-02. Consult friction aggregate requirements for approved use.

REMARKS:

NYSDOT Sizes	No. 2	No. 1	No. 1A
10 Cycle $MgSO_4$			
25 Cycle 3% freeze -thaw			

% Non-carbonate	100	Percent non-carbonate and percent insoluble residue values represent this sample only. When designing mixes, follow procedures in the appropriate Materials Method.
% Insoluble residue		
L.A. Abrasion		

Bulk Specific Gravity SSD	2.90	Gravity and Absorption values represent this sample only. They may not be appropriate for designing mixes
Bulk Specific Gravity	2.871	
Apparent Specific Gravity	2.952	
Absorption	0.9	

COMPOSITION (Size No.)	%	COMPOSITION (Size No. 1)	%
		Trap Rock	100

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG Comments

January 06, 2015

SDG I.D.: GBH59074

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

BH59074 - Client provided soil jar for volatile analysis. Phoenix prepared sample per method 5035.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Draft Progress Report

January 06, 2015

FOR: Attn: Mr. Montague
DA Collins Environmental Svcs
269 Ballard Road
Wilton, NY 12831

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/31/14	7:00
Location Code:	DACOLLIN	Received by:	LB	01/03/15	12:37
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBH59074
Phoenix ID: BH59074

Project ID: NYACK FORMER MGP 2014501
Client ID: HAVERSTRAW AQUATIC

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference	
Silver	< 0.32	0.32	mg/Kg	01/06/15	LK	SW6010	
Arsenic	< 0.6	0.6	mg/Kg	01/06/15	LK	SW6010	
Barium	9.72	0.32	mg/Kg	01/06/15	LK	SW6010	
Cadmium	< 0.32	0.32	mg/Kg	01/06/15	LK	SW6010	
Chromium	2.34	0.32	mg/Kg	01/06/15	LK	SW6010	
Mercury	< 0.07	0.07	mg/Kg	01/06/15	RS	SW-7471	
Lead	2.06	0.32	mg/Kg	01/06/15	LK	SW6010	
Selenium	< 1.3	1.3	mg/Kg	01/06/15	LK	SW6010	
Trivalent Chromium	2.34	0.32	mg/kg			Calculation	
Percent Solid	96		%	01/05/15	I	SW846	
Chromium, Hexavalent	< 0.42	0.42	mg/Kg	01/06/15	KDB	SW3060/7196	
pH - Soil	9.65	0.10	pH Units	01/05/15 19:30	DH/KDB	4500-H B/9045	1
Redox Potential	100	1.0	mV	01/05/15	DH/KDB	SM2580B	1
Soil Extraction for PCB	Completed			01/05/15	CC/H	SW3545	
Soil Extraction for SVOA	Completed			01/05/15	JJ/VH	SW3545	
Mercury Digestion	Completed			01/06/15	I/I	SW7471	
Total Metals Digest	Completed			01/05/15	CB/T	SW846 - 3050	
Polychlorinated Biphenyls							
PCB-1016	ND	340	ug/Kg	01/06/15	AW	SW 8082	
PCB-1221	ND	340	ug/Kg	01/06/15	AW	SW 8082	
PCB-1232	ND	340	ug/Kg	01/06/15	AW	SW 8082	
PCB-1242	ND	340	ug/Kg	01/06/15	AW	SW 8082	
PCB-1248	ND	340	ug/Kg	01/06/15	AW	SW 8082	
PCB-1254	ND	340	ug/Kg	01/06/15	AW	SW 8082	
PCB-1260	ND	340	ug/Kg	01/06/15	AW	SW 8082	
PCB-1262	ND	340	ug/Kg	01/06/15	AW	SW 8082	
PCB-1268	ND	340	ug/Kg	01/06/15	AW	SW 8082	

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference	
QA/QC Surrogates							
% DCBP	101		%	01/06/15	AW	30 - 150 %	
% TCMX	90		%	01/06/15	AW	30 - 150 %	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,1,1-Trichloroethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,1,2,2-Tetrachloroethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,1,2-Trichloroethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,1-Dichloroethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,1-Dichloroethene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,1-Dichloropropene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,2,3-Trichlorobenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,2,3-Trichloropropane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,2,4-Trichlorobenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,2,4-Trimethylbenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,2-Dibromo-3-chloropropane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,2-Dibromoethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,2-Dichlorobenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,2-Dichloroethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,2-Dichloropropane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,3,5-Trimethylbenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,3-Dichlorobenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,3-Dichloropropane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
1,4-Dichlorobenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
2,2-Dichloropropane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
2-Chlorotoluene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
2-Hexanone	ND	26	ug/Kg	01/05/15	HM	SW8260	
2-Isopropyltoluene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	1
4-Chlorotoluene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
4-Methyl-2-pentanone	ND	26	ug/Kg	01/05/15	HM	SW8260	
Acetone	ND	26	ug/Kg	01/05/15	HM	SW8260	
Acrylonitrile	ND	10	ug/Kg	01/05/15	HM	SW8260	
Benzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Bromobenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Bromochloromethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Bromodichloromethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Bromoform	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Bromomethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Carbon Disulfide	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Carbon tetrachloride	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Chlorobenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Chloroethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Chloroform	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Chloromethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
cis-1,2-Dichloroethene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
cis-1,3-Dichloropropene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Dibromochloromethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Dibromomethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Dichlorodifluoromethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference	
Ethylbenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Hexachlorobutadiene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Isopropylbenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
m&p-Xylene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Methyl Ethyl Ketone	ND	26	ug/Kg	01/05/15	HM	SW8260	
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	01/05/15	HM	SW8260	
Methylene chloride	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Naphthalene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
n-Butylbenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
n-Propylbenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
o-Xylene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
p-Isopropyltoluene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
sec-Butylbenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Styrene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
tert-Butylbenzene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Tetrachloroethene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Tetrahydrofuran (THF)	ND	10	ug/Kg	01/05/15	HM	SW8260	1
Toluene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Total Xylenes	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
trans-1,2-Dichloroethene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
trans-1,3-Dichloropropene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	01/05/15	HM	SW8260	
Trichloroethene	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Trichlorofluoromethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Trichlorotrifluoroethane	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
Vinyl chloride	ND	5.2	ug/Kg	01/05/15	HM	SW8260	
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	01/05/15	HM	70 - 130 %	
% Bromofluorobenzene	95		%	01/05/15	HM	70 - 130 %	
% Dibromofluoromethane	101		%	01/05/15	HM	70 - 130 %	
% Toluene-d8	99		%	01/05/15	HM	70 - 130 %	
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
1,2,4-Trichlorobenzene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
1,2-Dichlorobenzene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
1,2-Diphenylhydrazine	ND	340	ug/Kg	01/05/15	DD	SW 8270	
1,3-Dichlorobenzene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
1,4-Dichlorobenzene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
2,4,5-Trichlorophenol	ND	240	ug/Kg	01/05/15	DD	SW 8270	
2,4,6-Trichlorophenol	ND	240	ug/Kg	01/05/15	DD	SW 8270	
2,4-Dichlorophenol	ND	240	ug/Kg	01/05/15	DD	SW 8270	
2,4-Dimethylphenol	ND	240	ug/Kg	01/05/15	DD	SW 8270	
2,4-Dinitrophenol	ND	550	ug/Kg	01/05/15	DD	SW 8270	
2,4-Dinitrotoluene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
2,6-Dinitrotoluene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
2-Chloronaphthalene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
2-Chlorophenol	ND	240	ug/Kg	01/05/15	DD	SW 8270	
2-Methylnaphthalene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
2-Methylphenol (o-cresol)	ND	240	ug/Kg	01/05/15	DD	SW 8270	

Project ID: NYACK FORMER MGP 2014501
Client ID: HAVERSTRAW AQUATIC

Phoenix I.D.: BH59074

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference	
2-Nitroaniline	ND	550	ug/Kg	01/05/15	DD	SW 8270	
2-Nitrophenol	ND	240	ug/Kg	01/05/15	DD	SW 8270	
3&4-Methylphenol (m&p-cresol)	ND	340	ug/Kg	01/05/15	DD	SW 8270	
3,3'-Dichlorobenzidine	ND	240	ug/Kg	01/05/15	DD	SW 8270	
3-Nitroaniline	ND	550	ug/Kg	01/05/15	DD	SW 8270	
4,6-Dinitro-2-methylphenol	ND	1000	ug/Kg	01/05/15	DD	SW 8270	
4-Bromophenyl phenyl ether	ND	340	ug/Kg	01/05/15	DD	SW 8270	
4-Chloro-3-methylphenol	ND	240	ug/Kg	01/05/15	DD	SW 8270	
4-Chloroaniline	ND	240	ug/Kg	01/05/15	DD	SW 8270	
4-Chlorophenyl phenyl ether	ND	240	ug/Kg	01/05/15	DD	SW 8270	
4-Nitroaniline	ND	550	ug/Kg	01/05/15	DD	SW 8270	
4-Nitrophenol	ND	1000	ug/Kg	01/05/15	DD	SW 8270	
Acenaphthene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Acenaphthylene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Acetophenone	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Aniline	ND	1000	ug/Kg	01/05/15	DD	SW 8270	
Anthracene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Benz(a)anthracene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Benzidine	ND	410	ug/Kg	01/05/15	DD	SW 8270	
Benzo(a)pyrene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Benzo(b)fluoranthene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Benzo(ghi)perylene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Benzo(k)fluoranthene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Benzoic acid	ND	1000	ug/Kg	01/05/15	DD	SW 8270	1
Benzyl butyl phthalate	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Bis(2-chloroethoxy)methane	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Bis(2-chloroethyl)ether	ND	340	ug/Kg	01/05/15	DD	SW 8270	
Bis(2-chloroisopropyl)ether	ND	240	ug/Kg	01/05/15	DD	SW 8270	1
Bis(2-ethylhexyl)phthalate	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Carbazole	ND	520	ug/Kg	01/05/15	DD	SW 8270	
Chrysene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Dibenz(a,h)anthracene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Dibenzofuran	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Diethyl phthalate	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Dimethylphthalate	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Di-n-butylphthalate	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Di-n-octylphthalate	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Fluoranthene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Fluorene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Hexachlorobenzene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Hexachlorobutadiene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Hexachlorocyclopentadiene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Hexachloroethane	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Indeno(1,2,3-cd)pyrene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Isophorone	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Naphthalene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
Nitrobenzene	ND	240	ug/Kg	01/05/15	DD	SW 8270	
N-Nitrosodimethylamine	ND	340	ug/Kg	01/05/15	DD	SW 8270	
N-Nitrosodi-n-propylamine	ND	240	ug/Kg	01/05/15	DD	SW 8270	

Project ID: NYACK FORMER MGP 2014501 Phoenix I.D.: BH59074
Client ID: HAVERSTRAW AQUATIC

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
N-Nitrosodiphenylamine	ND	340	ug/Kg	01/05/15	DD	SW 8270
Pentachloronitrobenzene	ND	340	ug/Kg	01/05/15	DD	SW 8270
Pentachlorophenol	ND	340	ug/Kg	01/05/15	DD	SW 8270
Phenanthrene	ND	240	ug/Kg	01/05/15	DD	SW 8270
Phenol	ND	240	ug/Kg	01/05/15	DD	SW 8270
Pyrene	ND	240	ug/Kg	01/05/15	DD	SW 8270
Pyridine	ND	340	ug/Kg	01/05/15	DD	SW 8270
QA/QC Surrogates						
% 2,4,6-Tribromophenol	95		%	01/05/15	DD	30 - 130 %
% 2-Fluorobiphenyl	82		%	01/05/15	DD	30 - 130 %
% 2-Fluorophenol	76		%	01/05/15	DD	30 - 130 %
% Nitrobenzene-d5	77		%	01/05/15	DD	30 - 130 %
% Phenol-d5	78		%	01/05/15	DD	30 - 130 %
% Terphenyl-d14	93		%	01/05/15	DD	30 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quanitation) ND=Not Detected
BRL=Below Reporting Level

Comments:

This sample was not collected in accordance with EPA method 5035. NELAC requires the laboratory to qualify the volatile soil data as biased low.

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

Hexavalent Chromium:
This sample is in a reducing state.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

PLEASE NOTE: THIS PROGRESS REPORT IS CONSIDERED PRELIMINARY DATA. THE RESULTS ENTERED HAVE NOT BEEN EXAMINED BY OUR QA/QC DEPARTMENT.

Phyllis Shiller, Laboratory Director
January 06, 2015

Sample Criteria Exceedences Report

GBH59074 - DACOLLIN

Criteria: None

State: NY

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

WC + IP

NY/NJ CHAIN OF CUSTODY RECORD

Temp 5° Pg of

PHOENIX *Environmental Laboratories, Inc.*

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery:
☐ Fax #: 518-664-0925
☒ Email: rmontague@dacollins.com

Customer: D.A. Collins
Address: 269 Ballard Rd.
Wilton, NY 12831

Project: Nyack Former MGP (2014501)
Report to: R. Montague
Invoice to: R. Montague

Project P.O: 2014-501
Phone #: 518 664 9855
Fax #: 518 664 0925

Client Sample - Information - Identification

Sampler's Signature: [signature] Date: 1/2/15

Matrix Code:
DW=drinking water **WW**=wastewater **S**=soil/solid **O**=oil
GW=groundwater **SL**=sludge **A**=air **X**=other

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	RCRA 8 Metals	PCB's 8082	VOC 8260	SVOC 8270C	Hex Chrome	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H2O	GL Soil container ( ) oz	GL Soil container (4) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] As is [ ] H2SO4	PL H2SO4 [ ] 250ml [ ] 1000ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
59074	Haverstraw - Aquatic	S	12/31/14	7 AM	X	X	X	X		X			5						

Relinquished by: R. Montague
Accepted by: K Dellabella
Date: 1/3/15
Time: 12:37

Comments, Special Requirements or Regulations:
We would like to run total chromium and hex chrome to calculate tri chrome.

Turnaround:
☒ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ 5 Days
☐ 10 Days
☐ Other
* SURCHARGE APPLIES

NJ
☐ Res. Criteria
☐ Non-Res. Criteria
☐ Impact to GW Soil Cleanup Criteria
☐ GW Criteria

NY
☐ TOGS GA GW
☐ CP-51 Soil
☐ NY375 Unrestricted Soil
☐ NY375 Residential Soil
☐ NY375 Restricted Non-Residential Soil

State where samples were collected: N.Y.

Data Format
☐ Phoenix Std Report
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ NJ Hazsite EDD
☐ NY EZ EDD (ASP)
☐ Other

Data Package
☐ NJ Reduced Deliv. *
☐ NY Enhanced (ASP B) *
☐ Other

EXHIBIT 2

Certified Clean Fill Letter

TILCON
an Oldcastle company

TILCON NEW YORK INC.
CORP. OFFICES 162 OLD MILL ROAD WEST NYACK, NY 10994
845-358-4500 www.tilconny.com

As it is produced by our Haverstraw Quarry, Washed Manufactured Sand is processed to meet New York State Department of Transportation (NYSDOT) Standard Specifications.

Our Haverstraw source, 8-10R supplies 100% virgin trap rock (diabase) that is quarried and processed to finished sizes. Material shipped from our Haverstraw source is clean and free of contaminants prior to loading.

Our Haverstraw source was approved by the NYSDOT under test number 132AR94. That test result indicating source quality is attached. Also attached, please find gradation history from November 1, 2014 which will be typical for Washed Manufactured Sand from Haverstraw quarry. If you have any questions or require additional information, please contact me at clafleur@oldcastlematerials.com .

Very truly yours;
TILCON NEW YORK, INC.

Cindy LaFleur
Director, Quality Control

EXHIBIT 3

Rip Rap Soundness Results and Documentation

ATLANTIC TESTING LABORATORIES

Albany
22 Corporate Drive
Clifton Park, NY 12065
518/383-9144 (T)
518/383-9166 (F)

January 6, 2014

Callanan Industries, Inc.
1245 Kings Road
Schenectady, New York 12303

Attn: Ms. Cindy LaFleur E/mail: clafleur@callanan.com

Re: Laboratory Test Results
Aggregate Testing
West Nyack Sample
ATL Report No. AT066SL-116-11-13(revised)

Ladies/Gentlemen:

Between November and December, 2013, your representative delivered a sample of crushed stone, (ATL Sample No. AT066S116), from the West Nyack Quarry, to our Clifton Park, New York, facility for testing. A 10 cycle Magnesium Sulfate Soundness in accordance with NYS DOT 703-07P,G, a Los Angeles Abrasion in accordance with ASTM C 131, a Lightweight Particles in Aggregate in accordance with ASTM C 123, a Clay Lumps and Friable Particles in Aggregates in accordance with ASTM C 142 and a Freeze Thaw of Aggregates in accordance with NYS DOT Method 703-8P,G were performed on this sample. The laboratory test results follow.

LOS ANGELES ABRASION
ASTM C 131
West Nyack

ATL Sample No.	Source	Type	Nominal Maximum Size (inch)	Grading	Percent Loss (%)	NYS DOT Specification (%)
AT066S116	West Nyack	Crushed Stone	1	B	18.3	≤45

LIGHTWEIGHT PARTICLES IN AGGREGATE
ASTM C 123
West Nyack

ATL Sample No.	Nominal Maximum Size (inch)	Mass of Sample (g)	Heavy Liquid Used	Specific Gravity of Liquid	Lightweight Particles (%)
AT066S116	1.5	5427	Zinc Chloride	2.0	0.0

CLAY LUMPS AND FRIABLE PARTICLES IN AGGREGATE
ASTM C 142
West Nyack

ATL Sample No.	Particle Size Range Tested (inch)	Clay Lumps and Friable Particles (%)	ASTM C 33 Specification (%)
AT066S116	1 ½ - ¾	0	≤ 3.0
AT066S116	¾ - 3/8	0	≤ 3.0
AT066S116	3/8 - #4	0	≤ 3.0

25-CYCLE RESISTANCE of COARSE AGGREGATES to FREEZING and THAWING
NYSDOT 703-08 P, G
West Nyack

ATL Sample No.	Sieve Fraction	Initial Weight (g)	Final Weight (g)	Fractional Loss (%)
AT066S116	1" – 3/4"	1504.8	1468.1	2.4
	3/4" – 1/2"	1011.0	1001.3	1.0
	Totals:	2515.8	2469.4	-----
NYSDOT Specification: <20%		**Total Loss: 1.8%**		

10 CYCLE MAGNESIUM SULFATE SOUNDNESS
NYSDOT 703-07 P,G
West Nyack

ATL Sample No.	Sieve Fraction	Initial Weight (g)	Final Weight (g)
AT066S116	1" – 3/4"	1506.5	1489.7
	3/4" – 1/2"	1011.9	1000.1
	Totals:	2518.4	2489.8
NYSDOT Specification: <18%		**Loss: 1.1%**	

This report has been revised to include the 25 cycle Freeze Thaw and the 10 cycle Magnesium Sulfate Soundness tests.

Please contact our office should you have any questions or if we may be of further service.

Respectfully,
ATLANTIC TESTING LABORATORIES, Limited

Robert E. Field
Laboratory Manager
bfield@atlantictesting.com

REF/rf

Cc: Michael Kalinowski, Tilcon New York mkalinowski@tilcon.com

NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU
COARSE AGGREGATE ANALYSIS FOR 703-02 PHYSICAL REQUIREMENTS

SOURCE #: **8- 9R** TEST #: **12AR 24** BR3a SERIAL #: **188255** SM LAB #: **12005253**

New York Trap Rock Corporation
Clinton Point, NY

On 08/01/12 results of tests on material represented by sample 188255 were evaluated

Material meets specifications for Item 703-02. Consult friction aggregate requirements for approved use.

REMARKS:

NYSDOT Sizes	No. 2	No. 1	No. 1A
10 Cycle $MgSO_4$			
25 Cycle 3% freeze -thaw		0.8	

% Non-carbonate	0	Percent non-carbonate and percent insoluble residue values represent this sample only. When designing mixes, follow procedures in the appropriate Materials Method.
% Insoluble residue		
L.A. Abrasion		

Bulk Specific Gravity SSD	2.81	Gravity and Absorption values represent this sample only. They may not be appropriate for designing mixes
Bulk Specific Gravity	2.802	
Apparent Specific Gravity	2.838	
Absorption	0.4	

COMPOSITION (Size No.)	%

COMPOSITION (Size No. 1)	%
Dolostone	69
Dolomite (Light Grey)	17
Dolomite (Dark Gray)	11
Dolomite (Tan)	<1
Dolomite (Calcareous)	2

CH2MHILL.

TRANSMITTAL OF CONTRACTOR'S SUBMITTAL

(ATTACH TO EACH SUBMITTAL)

DATE: NOVEMBER 6, 2014

TO: John Finn
GEI Consultants, INC
1301 Trumansburg Road, Suite N
Ithaca, NY 14850

FROM: D.A. Collins Environmental, LLC.
Contractor

Submittal No.: 010 – Borrow Source Evaluation (rev 3)

☐ New Submittal ☒ Resubmittal

Project: OU-2 Nyack Former MGP Site

Project No.: 20373253-0002

Specification Section No.: 02315
(Cover only one section with each transmittal)

Schedule Date of Submittal: November 6, 2014

SUBMITTAL TYPE: ☐ Shop Drawing ☐ Sample ☒ Informational

The following items are hereby submitted:

Number of Copies	Description of Item Submitted (Type, Size, Model Number, Etc.)	Spec. and Para. No.	Drawing or Brochure Number	Contains Variation to Contract	
				No	Yes
1	Borrow Source Evaluation (Aquatic fill Material)	02315, 1.2, B		X	
1	Modified Proctor for Material	02315, 2.2,A,2		X	
1	Clean Fill Letter of Certification				

CONTRACTOR hereby certifies that (i) CONTRACTOR has complied with the requirements of Contract Documents in preparation, review, and submission of designated Submittal and (ii) the Submittal is complete and in accordance with the Contract Documents and requirements of laws and regulations and governing agencies.

By: _____

CONTRACTOR (Authorized Signature)

SUBMITTAL FOR:

ORANGE AND ROCKLAND UTILITIES, INC.

PROJECT NO.
NYACK FORMER MGP SITE
SOURCE AREA EXCAVATION

NYACK, NY

BORROW SOURCE EVALUATION

SUBMITTAL NO.
010 (REV 3)

SUBMITTED BY:

D.A. COLLINS ENVIRONMENTAL SERVICES
269 Ballard Road
Wilton, NY 12831
Ph. 518-664-9855 / Fax 518-664-0925

A Proud Member of the D.A. Collins Companies

NOVEMBER 6, 2014

Table of Contents

1.0 Borrow Source

DAC is proposing to use the following for import fill materials:

Tilcon New York Inc.
162 Old Mill Road
West Nyack, NY 10994
Office: (800) 872-7762
Fax: (845) 818-3726
http://www.tilconny.com/

Borrow source evaluation documents, which were provided by Tilcon New York Inc., are attached in Exhibit 1.

Material	Approximate Quantity	Material Use
Sand Fill	2820 cyds	Aquatic and Upland Backfill

See Exhibit 1 for Sand Fill gradation and analytical information as required by specification 02315 – Excavation and Fill.

See Exhibit 2 for Modified Proctor Results.

See Exhibit 3 for Certification of Clean Fill Letter

EXHIBIT 1

Borrow Source Evaluation Documents

PHOENIX
Environmental Laboratories, Inc.

Tuesday, June 17, 2014

Attn: Mr. R. Montague
DA Collins Environmental Svcs
269 Ballard Road
Wilton, NY 12831

Project ID: NYACK FORMER MGP
Sample ID#s: BG55419 - BG55420

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

June 17, 2014

SDG I.D.: GBG55419

Please be advised that the NY unrestricted soil criteria for chromium is based on hexavalent chromium and trivalent chromium.

BG55419 - Client provided soil jar for volatile analysis. Phoenix prepared sample per method 5035.

BG55420 - Client provided soil jar for volatile analysis. Phoenix prepared sample per method 5035.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Analysis Report

June 17, 2014

FOR: Attn: Mr. R. Montague
DA Collins Environmental Svcs
269 Ballard Road
Wilton, NY 12831

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		06/05/14	13:00
Location Code:	DACOLLIN	Received by:	LPB	06/10/14	21:15
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	2014-501				

Laboratory Data

SDG ID: GBG55419
Phoenix ID: BG55419

Project ID: NYACK FORMER MGP
Client ID: TILCON AQUATIC

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Silver	< 0.35	0.35	mg/Kg	06/12/14	LK	SW6010
Arsenic	< 0.7	0.7	mg/Kg	06/12/14	LK	SW6010
Barium	13.3	0.35	mg/Kg	06/12/14	LK	SW6010
Cadmium	< 0.35	0.35	mg/Kg	06/12/14	LK	SW6010
Chromium	3.45	0.35	mg/Kg	06/12/14	LK	SW6010
Mercury	< 0.06	0.06	mg/Kg	06/11/14	RS	SW-7471
Lead	5.23	0.35	mg/Kg	06/12/14	LK	SW6010
Selenium	< 1.4	1.4	mg/Kg	06/12/14	LK	SW6010
Percent Solid	99		%	06/10/14	I	E160.3
Soil Extraction for PCB	Completed			06/11/14	BB/V	SW3545
Soil Extraction for SVOA	Completed			06/11/14	BJ/FV	SW3545
Mercury Digestion	Completed			06/11/14	I/I	SW7471
Total Metals Digest	Completed			06/11/14	CB/AG	SW846 - 3050
Polychlorinated Biphenyls						
PCB-1016	ND	330	ug/Kg	06/12/14	AW	SW 8082
PCB-1221	ND	330	ug/Kg	06/12/14	AW	SW 8082
PCB-1232	ND	330	ug/Kg	06/12/14	AW	SW 8082
PCB-1242	ND	330	ug/Kg	06/12/14	AW	SW 8082
PCB-1248	ND	330	ug/Kg	06/12/14	AW	SW 8082
PCB-1254	ND	330	ug/Kg	06/12/14	AW	SW 8082
PCB-1260	ND	330	ug/Kg	06/12/14	AW	SW 8082
PCB-1262	ND	330	ug/Kg	06/12/14	AW	SW 8082
PCB-1268	ND	330	ug/Kg	06/12/14	AW	SW 8082
QA/QC Surrogates						
% DCBP	113		%	06/12/14	AW	30 - 150 %
% TCMX	106		%	06/12/14	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,1,1-Trichloroethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,1,2,2-Tetrachloroethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,1,2-Trichloroethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,1-Dichloroethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,1-Dichloroethene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,1-Dichloropropene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,2,3-Trichlorobenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,2,3-Trichloropropane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,2,4-Trichlorobenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,2,4-Trimethylbenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,2-Dibromo-3-chloropropane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,2-Dibromoethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,2-Dichlorobenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,2-Dichloroethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,2-Dichloropropane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,3,5-Trimethylbenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,3-Dichlorobenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,3-Dichloropropane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
1,4-Dichlorobenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
2,2-Dichloropropane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
2-Chlorotoluene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
2-Hexanone	ND	25	ug/Kg	06/16/14	JLI	SW8260	
2-Isopropyltoluene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	1
4-Chlorotoluene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
4-Methyl-2-pentanone	ND	25	ug/Kg	06/16/14	JLI	SW8260	
Acetone	ND	25	ug/Kg	06/16/14	JLI	SW8260	
Acrylonitrile	ND	10	ug/Kg	06/16/14	JLI	SW8260	
Benzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Bromobenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Bromochloromethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Bromodichloromethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Bromoform	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Bromomethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Carbon Disulfide	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Carbon tetrachloride	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Chlorobenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Chloroethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Chloroform	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Chloromethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
cis-1,2-Dichloroethene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
cis-1,3-Dichloropropene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Dibromochloromethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Dibromomethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Dichlorodifluoromethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Ethylbenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Hexachlorobutadiene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Isopropylbenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference	
m&p-Xylene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Methyl Ethyl Ketone	ND	25	ug/Kg	06/16/14	JLI	SW8260	
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	06/16/14	JLI	SW8260	
Methylene chloride	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Naphthalene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
n-Butylbenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
n-Propylbenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
o-Xylene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
p-Isopropyltoluene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
sec-Butylbenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Styrene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
tert-Butylbenzene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Tetrachloroethene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Tetrahydrofuran (THF)	ND	10	ug/Kg	06/16/14	JLI	SW8260	1
Toluene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Total Xylenes	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
trans-1,2-Dichloroethene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
trans-1,3-Dichloropropene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	06/16/14	JLI	SW8260	
Trichloroethene	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Trichlorofluoromethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Trichlorotrifluoroethane	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
Vinyl chloride	ND	5.1	ug/Kg	06/16/14	JLI	SW8260	
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	06/16/14	JLI	70 - 130 %	
% Bromofluorobenzene	97		%	06/16/14	JLI	70 - 130 %	
% Dibromofluoromethane	96		%	06/16/14	JLI	70 - 130 %	
% Toluene-d8	103		%	06/16/14	JLI	70 - 130 %	
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
1,2,4-Trichlorobenzene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
1,2-Dichlorobenzene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
1,2-Diphenylhydrazine	ND	340	ug/Kg	06/12/14	DD	SW 8270	
1,3-Dichlorobenzene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
1,4-Dichlorobenzene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
2,4,5-Trichlorophenol	ND	230	ug/Kg	06/12/14	DD	SW 8270	
2,4,6-Trichlorophenol	ND	230	ug/Kg	06/12/14	DD	SW 8270	
2,4-Dichlorophenol	ND	230	ug/Kg	06/12/14	DD	SW 8270	
2,4-Dimethylphenol	ND	230	ug/Kg	06/12/14	DD	SW 8270	
2,4-Dinitrophenol	ND	540	ug/Kg	06/12/14	DD	SW 8270	
2,4-Dinitrotoluene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
2,6-Dinitrotoluene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
2-Chloronaphthalene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
2-Chlorophenol	ND	230	ug/Kg	06/12/14	DD	SW 8270	
2-Methylnaphthalene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
2-Methylphenol (o-cresol)	ND	230	ug/Kg	06/12/14	DD	SW 8270	
2-Nitroaniline	ND	540	ug/Kg	06/12/14	DD	SW 8270	
2-Nitrophenol	ND	230	ug/Kg	06/12/14	DD	SW 8270	
3&4-Methylphenol (m&p-cresol)	ND	340	ug/Kg	06/12/14	DD	SW 8270	

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference	
3,3'-Dichlorobenzidine	ND	230	ug/Kg	06/12/14	DD	SW 8270	
3-Nitroaniline	ND	540	ug/Kg	06/12/14	DD	SW 8270	
4,6-Dinitro-2-methylphenol	ND	970	ug/Kg	06/12/14	DD	SW 8270	
4-Bromophenyl phenyl ether	ND	340	ug/Kg	06/12/14	DD	SW 8270	
4-Chloro-3-methylphenol	ND	230	ug/Kg	06/12/14	DD	SW 8270	
4-Chloroaniline	ND	230	ug/Kg	06/12/14	DD	SW 8270	
4-Chlorophenyl phenyl ether	ND	230	ug/Kg	06/12/14	DD	SW 8270	
4-Nitroaniline	ND	540	ug/Kg	06/12/14	DD	SW 8270	
4-Nitrophenol	ND	970	ug/Kg	06/12/14	DD	SW 8270	
Acenaphthene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Acenaphthylene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Acetophenone	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Aniline	ND	970	ug/Kg	06/12/14	DD	SW 8270	
Anthracene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Benz(a)anthracene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Benzidine	ND	400	ug/Kg	06/12/14	DD	SW 8270	
Benzo(a)pyrene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Benzo(b)fluoranthene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Benzo(ghi)perylene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Benzo(k)fluoranthene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Benzoic acid	ND	970	ug/Kg	06/12/14	DD	SW 8270	1
Benzyl butyl phthalate	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Bis(2-chloroethoxy)methane	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Bis(2-chloroethyl)ether	ND	340	ug/Kg	06/12/14	DD	SW 8270	
Bis(2-chloroisopropyl)ether	ND	230	ug/Kg	06/12/14	DD	SW 8270	1
Bis(2-ethylhexyl)phthalate	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Carbazole	ND	500	ug/Kg	06/12/14	DD	SW 8270	
Chrysene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Dibenz(a,h)anthracene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Dibenzofuran	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Diethyl phthalate	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Dimethylphthalate	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Di-n-butylphthalate	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Di-n-octylphthalate	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Fluoranthene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Fluorene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Hexachlorobenzene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Hexachlorobutadiene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Hexachlorocyclopentadiene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Hexachloroethane	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Indeno(1,2,3-cd)pyrene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Isophorone	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Naphthalene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
Nitrobenzene	ND	230	ug/Kg	06/12/14	DD	SW 8270	
N-Nitrosodimethylamine	ND	340	ug/Kg	06/12/14	DD	SW 8270	
N-Nitrosodi-n-propylamine	ND	230	ug/Kg	06/12/14	DD	SW 8270	
N-Nitrosodiphenylamine	ND	340	ug/Kg	06/12/14	DD	SW 8270	
Pentachloronitrobenzene	ND	340	ug/Kg	06/12/14	DD	SW 8270	
Pentachlorophenol	ND	340	ug/Kg	06/12/14	DD	SW 8270	

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Phenanthrene	ND	230	ug/Kg	06/12/14	DD	SW 8270
Phenol	ND	230	ug/Kg	06/12/14	DD	SW 8270
Pyrene	ND	230	ug/Kg	06/12/14	DD	SW 8270
Pyridine	ND	340	ug/Kg	06/12/14	DD	SW 8270
QA/QC Surrogates						
% 2,4,6-Tribromophenol	98		%	06/12/14	DD	30 - 130 %
% 2-Fluorobiphenyl	84		%	06/12/14	DD	30 - 130 %
% 2-Fluorophenol	93		%	06/12/14	DD	30 - 130 %
% Nitrobenzene-d5	86		%	06/12/14	DD	30 - 130 %
% Phenol-d5	91		%	06/12/14	DD	30 - 130 %
% Terphenyl-d14	97		%	06/12/14	DD	30 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quanitation) ND=Not Detected
BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Please be advised that the NY unrestricted soil criteria for chromium is based on hexavalent chromium and trivalent chromium.

This sample was not collected in accordance with EPA method 5035. NELAC requires the laboratory to qualify the volatile soil data as biased low.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

Phyllis Shiller, Laboratory Director
June 17, 2014
Reviewed and Released by: Bobbi Aloisa, Vice President

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

June 17, 2014

QA/QC Data

SDG I.D.: GBG55419

Parameter	Blank	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 276660, QC Sample No: BG54789 (BG55419, BG55420)													
Mercury - Soil	BRL	<0.08	<0.08	NC	102	96.4	5.6	106	105	0.9	70 - 130	30	
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%.													
QA/QC Batch 276726, QC Sample No: BG55420 (BG55419, BG55420)													
ICP Metals - Soil													
Arsenic	BRL	<0.7	2.56	NC	93.4	96.7	3.5	90.6	93.0	2.6	75 - 125	30	
Barium	BRL	23.1	21.4	7.60	99.3	106	6.5	94.7	95.4	0.7	75 - 125	30	
Cadmium	BRL	<0.33	<0.30	NC	92.3	98.9	6.9	87.5	89.4	2.1	75 - 125	30	
Chromium	BRL	5.04	5.31	5.20	99.3	105	5.6	96.2	98.2	2.1	75 - 125	30	
Lead	BRL	5.19	3.29	44.8	94.8	98.6	3.9	89.7	90.5	0.9	75 - 125	30	r
Selenium	BRL	<1.3	<1.2	NC	81.0	86.0	6.0	83.3	85.2	2.3	75 - 125	30	
Silver	BRL	<0.33	<0.30	NC	93.0	99.2	6.5	99.6	102	2.4	75 - 125	30	

r = This parameter is outside laboratory rpd specified recovery limits.

PHOENIX

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

June 17, 2014

QA/QC Data

SDG I.D.: GBG55419

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 276698, QC Sample No: BG55449 (BG55419, BG55420)										
Semivolatiles - Soil										
1,2,4,5-Tetrachlorobenzene	ND	85	92	7.9	99	103	4.0	30 - 130	30	
1,2,4-Trichlorobenzene	ND	83	88	5.8	95	97	2.1	30 - 130	30	
1,2-Dichlorobenzene	ND	78	84	7.4	90	96	6.5	30 - 130	30	
1,2-Diphenylhydrazine	ND	98	105	6.9	110	118	7.0	30 - 130	30	
1,3-Dichlorobenzene	ND	76	82	7.6	87	92	5.6	30 - 130	30	
1,4-Dichlorobenzene	ND	77	82	6.3	88	93	5.5	30 - 130	30	
2,4,5-Trichlorophenol	ND	84	93	10.2	100	110	9.5	30 - 130	30	
2,4,6-Trichlorophenol	ND	85	92	7.9	100	107	6.8	30 - 130	30	
2,4-Dichlorophenol	ND	90	97	7.5	106	114	7.3	30 - 130	30	
2,4-Dimethylphenol	ND	53	57	7.3	63	68	7.6	30 - 130	30	
2,4-Dinitrophenol	ND	<10	11	NC	10	12	18.2	30 - 130	30	l,m
2,4-Dinitrotoluene	ND	93	100	7.3	101	106	4.8	30 - 130	30	
2,6-Dinitrotoluene	ND	89	97	8.6	98	102	4.0	30 - 130	30	
2-Chloronaphthalene	ND	85	92	7.9	98	103	5.0	30 - 130	30	
2-Chlorophenol	ND	81	87	7.1	96	104	8.0	30 - 130	30	
2-Methylnaphthalene	ND	87	94	7.7	102	109	6.6	30 - 130	30	
2-Methylphenol (o-cresol)	ND	74	82	10.3	91	105	14.3	30 - 130	30	
2-Nitroaniline	ND	152	169	10.6	161	161	0.0	30 - 130	30	l,m
2-Nitrophenol	ND	83	93	11.4	99	99	0.0	30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	79	86	8.5	98	104	5.9	30 - 130	30	
3,3'-Dichlorobenzidine	ND	168	181	7.4	105	110	4.7	30 - 130	30	l
3-Nitroaniline	ND	127	136	6.8	120	117	2.5	30 - 130	30	l
4,6-Dinitro-2-methylphenol	ND	60	77	24.8	55	47	15.7	30 - 130	30	
4-Bromophenyl phenyl ether	ND	87	95	8.8	100	107	6.8	30 - 130	30	
4-Chloro-3-methylphenol	ND	93	100	7.3	108	116	7.1	30 - 130	30	
4-Chloroaniline	ND	80	82	2.5	53	55	3.7	30 - 130	30	
4-Chlorophenyl phenyl ether	ND	106	114	7.3	120	127	5.7	30 - 130	30	
4-Nitroaniline	ND	89	96	7.6	100	105	4.9	30 - 130	30	
4-Nitrophenol	ND	86	94	8.9	100	111	10.4	30 - 130	30	
Acenaphthene	ND	82	90	9.3	97	103	6.0	30 - 130	30	
Acenaphthylene	ND	84	89	5.8	97	104	7.0	30 - 130	30	
Acetophenone	ND	83	89	7.0	99	105	5.9	30 - 130	30	
Aniline	ND	84	87	3.5	71	68	4.3	30 - 130	30	
Anthracene	ND	88	95	7.7	111	112	0.9	30 - 130	30	
Benz(a)anthracene	ND	96	101	5.1	106	113	6.4	30 - 130	30	
Benzidine	ND	>200	>200	NC	<10	<10	NC	30 - 130	30	l,m
Benzo(a)pyrene	ND	78	85	8.6	88	97	9.7	30 - 130	30	
Benzo(b)fluoranthene	ND	87	93	6.7	104	127	19.9	30 - 130	30	
Benzo(ghi)perylene	ND	87	93	6.7	71	53	29.0	30 - 130	30	
Benzo(k)fluoranthene	ND	89	95	6.5	102	108	5.7	30 - 130	30	
Benzyl butyl phthalate	ND	85	90	5.7	93	101	8.2	30 - 130	30	

QA/QC Data

SDG I.D.: GBG55419

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Bis(2-chloroethoxy)methane	ND	81	88	8.3	92	100	8.3	30 - 130	30	
Bis(2-chloroethyl)ether	ND	72	79	9.3	87	100	13.9	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	76	81	6.4	89	98	9.6	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	96	102	6.1	102	110	7.5	30 - 130	30	
Carbazole	ND	156	173	10.3	195	>200	NC	30 - 130	30	l,m
Chrysene	ND	89	95	6.5	105	107	1.9	30 - 130	30	
Dibenz(a,h)anthracene	ND	92	97	5.3	79	67	16.4	30 - 130	30	
Dibenzofuran	ND	93	102	9.2	108	116	7.1	30 - 130	30	
Diethyl phthalate	ND	102	111	8.5	111	117	5.3	30 - 130	30	
Dimethylphthalate	ND	84	91	8.0	93	99	6.3	30 - 130	30	
Di-n-butylphthalate	ND	88	97	9.7	101	107	5.8	30 - 130	30	
Di-n-octylphthalate	ND	88	96	8.7	102	108	5.7	30 - 130	30	
Fluoranthene	ND	84	97	14.4	111	117	5.3	30 - 130	30	
Fluorene	ND	107	116	8.1	124	132	6.3	30 - 130	30	m
Hexachlorobenzene	ND	82	89	8.2	89	95	6.5	30 - 130	30	
Hexachlorobutadiene	ND	83	90	8.1	95	99	4.1	30 - 130	30	
Hexachlorocyclopentadiene	ND	70	77	9.5	42	37	12.7	30 - 130	30	
Hexachloroethane	ND	75	81	7.7	79	72	9.3	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	91	96	5.3	77	62	21.6	30 - 130	30	
Isophorone	ND	86	93	7.8	96	104	8.0	30 - 130	30	
Naphthalene	ND	84	92	9.1	100	106	5.8	30 - 130	30	
Nitrobenzene	ND	79	85	7.3	91	98	7.4	30 - 130	30	
N-Nitrosodimethylamine	ND	73	77	5.3	80	89	10.7	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	88	93	5.5	101	111	9.4	30 - 130	30	
N-Nitrosodiphenylamine	ND	119	131	9.6	132	143	8.0	30 - 130	30	l,m
Pentachloronitrobenzene	ND	85	91	6.8	88	87	1.1	30 - 130	30	
Pentachlorophenol	ND	68	78	13.7	122	123	0.8	30 - 130	30	
Phenanthrene	ND	88	97	9.7	107	116	8.1	30 - 130	30	
Phenol	ND	86	91	5.6	101	112	10.3	30 - 130	30	
Pyrene	ND	71	98	32.0	114	120	5.1	30 - 130	30	r
Pyridine	ND	64	72	11.8	68	67	1.5	30 - 130	30	
% 2,4,6-Tribromophenol	84	88	92	4.4	95	104	9.0	30 - 130	30	
% 2-Fluorobiphenyl	74	78	80	2.5	81	89	9.4	30 - 130	30	
% 2-Fluorophenol	79	80	84	4.9	90	100	10.5	30 - 130	30	
% Nitrobenzene-d5	78	78	82	5.0	84	91	8.0	30 - 130	30	
% Phenol-d5	79	82	84	2.4	90	99	9.5	30 - 130	30	
% Terphenyl-d14	90	73	97	28.2	100	105	4.9	30 - 130	30	

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 276700, QC Sample No: BG55590 (BG55419, BG55420)

Polychlorinated Biphenyls - Soil

PCB-1016	ND	89	90	1.1	100	97	3.0	40 - 140	30	
PCB-1221	ND							40 - 140	30	
PCB-1232	ND							40 - 140	30	
PCB-1242	ND							40 - 140	30	
PCB-1248	ND							40 - 140	30	
PCB-1254	ND							40 - 140	30	
PCB-1260	ND	100	101	1.0	114	109	4.5	40 - 140	30	
PCB-1262	ND							40 - 140	30	
PCB-1268	ND							40 - 140	30	
% DCBP (Surrogate Rec)	92	98	97	1.0	108	107	0.9	30 - 150	30	

QA/QC Data

SDG I.D.: GBG55419

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
% TCMX (Surrogate Rec)	91	92	93	1.1	102	99	3.0	30 - 150	30	
QA/QC Batch 277226, QC Sample No: BG55873 (BG55419, BG55420 (50, 1X))										
Volatiles - Soil										
1,1,1,2-Tetrachloroethane	ND	120	116	3.4	109	112	2.7	70 - 130	30	
1,1,1-Trichloroethane	ND	119	115	3.4	107	110	2.8	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	121	119	1.7	105	103	1.9	70 - 130	30	
1,1,2-Trichloroethane	ND	115	111	3.5	108	105	2.8	70 - 130	30	
1,1-Dichloroethane	ND	113	111	1.8	107	107	0.0	70 - 130	30	
1,1-Dichloroethene	ND	111	109	1.8	99	104	4.9	70 - 130	30	
1,1-Dichloropropene	ND	117	114	2.6	109	110	0.9	70 - 130	30	
1,2,3-Trichlorobenzene	ND	113	110	2.7	91	88	3.4	70 - 130	30	
1,2,3-Trichloropropane	ND	108	105	2.8	97	96	1.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	114	110	3.6	92	89	3.3	70 - 130	30	
1,2,4-Trimethylbenzene	ND	110	106	3.7	102	100	2.0	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	117	117	0.0	105	101	3.9	70 - 130	30	
1,2-Dibromoethane	ND	117	115	1.7	107	104	2.8	70 - 130	30	
1,2-Dichlorobenzene	ND	113	109	3.6	100	99	1.0	70 - 130	30	
1,2-Dichloroethane	ND	111	109	1.8	104	102	1.9	70 - 130	30	
1,2-Dichloropropane	ND	115	112	2.6	106	106	0.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	114	110	3.6	104	104	0.0	70 - 130	30	
1,3-Dichlorobenzene	ND	113	109	3.6	100	100	0.0	70 - 130	30	
1,3-Dichloropropane	ND	111	109	1.8	103	102	1.0	70 - 130	30	
1,4-Dichlorobenzene	ND	112	108	3.6	100	100	0.0	70 - 130	30	
2,2-Dichloropropane	ND	117	113	3.5	104	106	1.9	70 - 130	30	
2-Chlorotoluene	ND	112	107	4.6	101	103	2.0	70 - 130	30	
2-Hexanone	ND	92	91	1.1	84	80	4.9	70 - 130	30	
2-Isopropyltoluene	ND	106	102	3.8	97	99	2.0	70 - 130	30	
4-Chlorotoluene	ND	111	106	4.6	102	101	1.0	70 - 130	30	
4-Methyl-2-pentanone	ND	100	99	1.0	95	90	5.4	70 - 130	30	
Acetone	ND	86	86	0.0	74	63	16.1	70 - 130	30	m
Acrylonitrile	ND	106	106	0.0	95	89	6.5	70 - 130	30	
Benzene	ND	116	113	2.6	107	107	0.0	70 - 130	30	
Bromobenzene	ND	112	109	2.7	101	102	1.0	70 - 130	30	
Bromochloromethane	ND	117	116	0.9	106	108	1.9	70 - 130	30	
Bromodichloromethane	ND	122	121	0.8	110	110	0.0	70 - 130	30	
Bromoform	ND	122	119	2.5	107	106	0.9	70 - 130	30	
Bromomethane	ND	129	130	0.8	131	128	2.3	70 - 130	30	m
Carbon Disulfide	ND	112	110	1.8	91	94	3.2	70 - 130	30	
Carbon tetrachloride	ND	118	115	2.6	109	112	2.7	70 - 130	30	
Chlorobenzene	ND	113	109	3.6	103	105	1.9	70 - 130	30	
Chloroethane	ND	117	114	2.6	107	111	3.7	70 - 130	30	
Chloroform	ND	119	115	3.4	108	110	1.8	70 - 130	30	
Chloromethane	ND	105	101	3.9	94	98	4.2	70 - 130	30	
cis-1,2-Dichloroethene	ND	118	115	2.6	110	110	0.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	120	117	2.5	108	106	1.9	70 - 130	30	
Dibromochloromethane	ND	122	119	2.5	109	110	0.9	70 - 130	30	
Dibromomethane	ND	115	112	2.6	106	102	3.8	70 - 130	30	
Dichlorodifluoromethane	ND	94	91	3.2	92	95	3.2	70 - 130	30	
Ethylbenzene	ND	116	112	3.5	103	106	2.9	70 - 130	30	
Hexachlorobutadiene	ND	115	111	3.5	98	93	5.2	70 - 130	30	
Isopropylbenzene	ND	111	106	4.6	103	104	1.0	70 - 130	30	
m&p-Xylene	ND	114	110	3.6	103	103	0.0	70 - 130	30	

QA/QC Data

SDG I.D.: GBG55419

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Methyl ethyl ketone	ND	92	91	1.1	83	75	10.1	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	110	108	1.8	83	82	1.2	70 - 130	30
Methylene chloride	ND	98	95	3.1	83	83	0.0	70 - 130	30
Naphthalene	ND	114	113	0.9	83	72	14.2	70 - 130	30
n-Butylbenzene	ND	115	110	4.4	103	100	3.0	70 - 130	30
n-Propylbenzene	ND	106	101	4.8	101	101	0.0	70 - 130	30
o-Xylene	ND	113	110	2.7	104	106	1.9	70 - 130	30
p-Isopropyltoluene	ND	114	110	3.6	102	99	3.0	70 - 130	30
sec-Butylbenzene	ND	117	112	4.4	104	104	0.0	70 - 130	30
Styrene	ND	115	113	1.8	104	103	1.0	70 - 130	30
tert-Butylbenzene	ND	112	108	3.6	105	107	1.9	70 - 130	30
Tetrachloroethene	ND	114	110	3.6	104	107	2.8	70 - 130	30
Tetrahydrofuran (THF)	ND	102	103	1.0	92	87	5.6	70 - 130	30
Toluene	ND	116	112	3.5	105	106	0.9	70 - 130	30
trans-1,2-Dichloroethene	ND	119	116	2.6	103	103	0.0	70 - 130	30
trans-1,3-Dichloropropene	ND	121	121	0.0	108	105	2.8	70 - 130	30
trans-1,4-dichloro-2-butene	ND	116	114	1.7	97	96	1.0	70 - 130	30
Trichloroethene	ND	117	113	3.5	108	108	0.0	70 - 130	30
Trichlorofluoromethane	ND	117	114	2.6	105	107	1.9	70 - 130	30
Trichlorotrifluoroethane	ND	105	103	1.9	95	97	2.1	70 - 130	30
Vinyl chloride	ND	114	110	3.6	104	105	1.0	70 - 130	30
% 1,2-dichlorobenzene-d4	100	101	101	0.0	99	100	1.0	70 - 130	30
% Bromofluorobenzene	99	99	100	1.0	100	99	1.0	70 - 130	30
% Dibromofluoromethane	97	102	107	4.8	101	100	1.0	70 - 130	30
% Toluene-d8	104	101	101	0.0	102	101	1.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

l = This parameter is outside laboratory lcs/lcsd specified recovery limits.
m = This parameter is outside laboratory ms/msd specified recovery limits.
r = This parameter is outside laboratory rpd specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
June 17, 2014

Sample Criteria Exceedences Report

GBG55419 - DACOLLIN

Criteria: None

State: NY

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

NY Temperature Narration

June 17, 2014

SDG I.D.: GBG55419

The samples in this delivery group were received at 4°C.
(Note acceptance criteria is above freezing up to 6°C)

NY/NJ CHAIN OF CUSTODY RECORD

Temp ↓ 4°C Pg 1 of 1

PHOENIX
Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery:
☐ Fax #: 518-664-0925
☐ Email: rmontague@dacollins.com

Customer: D.A. COLLINS
Address: 269 BALLARD RD.
WILTON NY 12831

Project: NYACK FORMER MGP 2014501
Report to: R. MONTAGUE
Invoice to: R. MONTAGUE

Project P.O: 2014-501
Phone #: 664-9855
Fax #: 664-0925

Sampler's Signature: [signature] Date: 6/5/14

Client Sample - Information - Identification

Matrix Code:
DW=drinking water **WW**=wastewater **S**=soil/solid **O**=oil
GW=groundwater **SL**=sludge **A**=air **X**=other

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	RCRA 8 Metals	TCL's	VOC 8260	SVOC 8270C	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H2O	GL Soil container ( ) oz	GL Soil container (4) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] As is [ ] HCl	PL H2SO4 [ ] 250ml [ ] 500ml [ ] 1000ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
55419	TILCON - AQUATIC	S	6/5/14	1 PM	X	X	X	X			4							
55420	TILCON - POND FINES	S	6/5/14	1 PM	X	X	X	X			4							

Relinquished by:	Accepted by:	Date:	Time:
ROB MONTAGUE [signature]	[signature]	6/10/14	1500
[signature]	[signature]	6/10/14	2115

Comments, Special Requirements or Regulations:

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ 5 Days
☐ 10 Days
☐ Other
* SURCHARGE APPLIES

NJ
☐ Res. Criteria
☐ Non-Res. Criteria
☐ Impact to GW Soil Cleanup Criteria
☐ GW Criteria

NY
☐ TOGS GA GW
☐ CP-51 Soil
☐ NY375 Unrestricted Soil
☐ NY375 Residential Soil
☐ NY375 Restricted Non-Residential Soil

Data Format
☐ Phoenix Std Report
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ NJ Hazsite EDD
☐ NY EZ EDD (ASP)
☐ Other

Data Package
☐ NJ Reduced Deliv. *
☐ NY Enhanced (ASP B) *
☐ Other

State where samples were collected: NY

EXHIBIT 2

Modified Proctor for Proposed Aquatic Fill

CONSTRUCTION TECHNOLOGY

INSPECTION & TESTING DIVISION, P.D.& T.S., INC.
4 William Street, Ballston Lake, New York 12019
Phone: (518) 399-1848 Fax: (518) 399-1913

CLIENT: **D. A. COLLINS ENVIRONMENTAL, INC.**
269 BALLARD ROAD
WILTON, NEW YORK 12831

REPORT DATE: 07/17/14
SAMPLE NUMBER: 15005
OUR FILE NUMBER: 245.001
LAB TECHNICIAN: BRYAN CASAW

ATT'N: ROBERT MONTAGUE
PROJECT: **DAC PROJECT 2014-501: NYACK PROJECT**

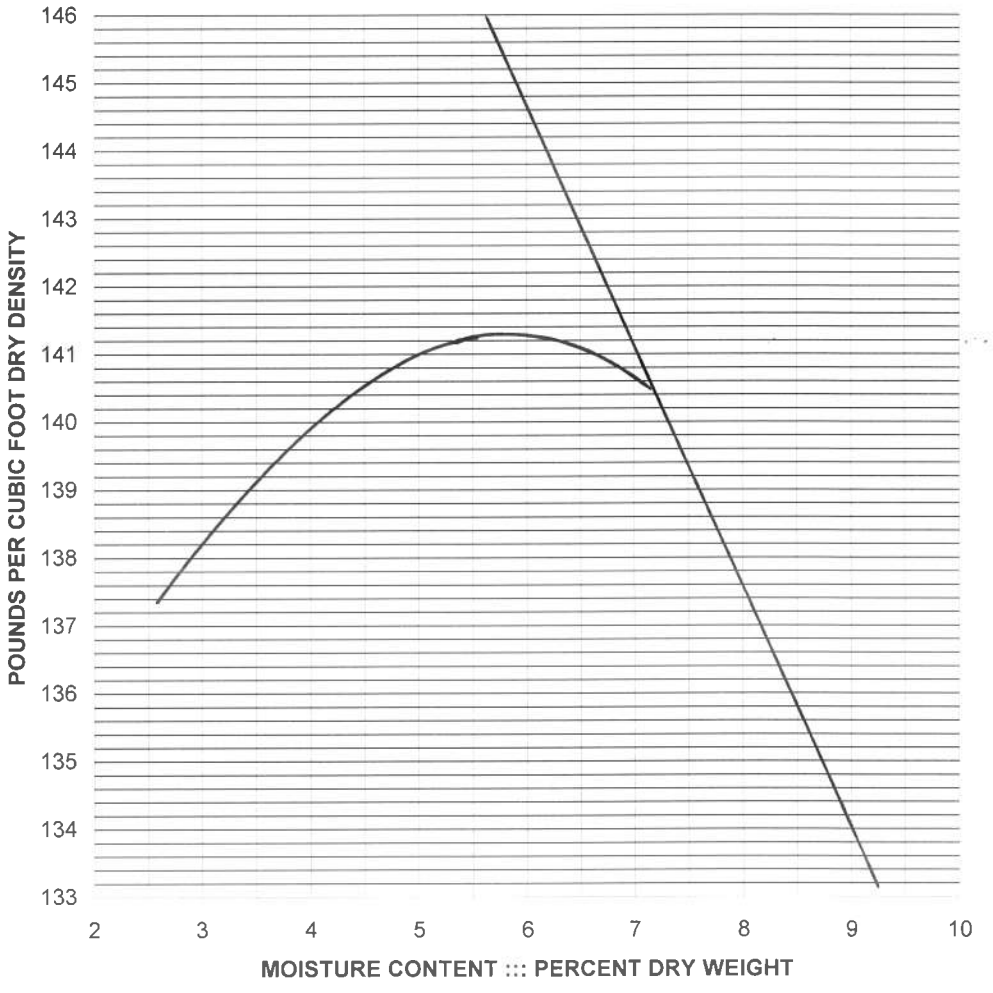
REPORT OF MOISTURE / DENSITY RELATION OF SOILS ::: PROCTOR

MATERIAL SOURCE: **CLIENT ID: CRUSHED STONE / AQUA FILL**
MATERIAL DESCRIPTION: CRUSHED STONE sized as: SAND, medium/coarse; and fine Gravel; trace Silt/Clay
PROCTOR METHOD: ASTM D-1557: MODIFIED EFFORT
GRADATION METHOD: ASTM D-1140 / D-422: WASHED

MAXIMUM DENSITY **141.3** PCF
OPTIMUM MOISTURE **5.8** %

GRADATION		
SIEVE SIZE	PERCENT PASSING	SPECIFICATION ALLOWANCE
4"		
3"		
2 1/2"		
2"		
1 1/2"		
1"		
3/4"	100.0	
1/2"	97.3	
3/8"	70.2	
1/4"	59.0	
#4	58.5	
1/8"		
#8	43.7	
#10		
#16	31.8	
#20		
#30	23.2	
#40	18.9	
#50	14.4	
#60		
#80		
#100	7.7	
#140		
#200	3.8	

ZERO AIR VOIDS CURVE: 2.69 SPECIFIC GRAVITY



REPORT DISTRIBUTION:
1:
2:
3:
4:
5:

GENERAL NOTES:

Respectfully,
CONSTRUCTION TECHNOLOGY

Tom Joslin

TOM JOSLIN, S.E.T., (NICET)
MANAGER TECHNICAL SERVICES

EXHIBIT 3

Certified Clean Fill Letter

TILCON NEW YORK INC.
CORP. OFFICES 162 OLD MILL ROAD WEST NYACK, NY 10994
845-358-4500 www.tilconny.com

October 28, 2014

D.A. Collins Environmental Services

Gentlemen:

As it is produced by our Haverstraw operation, Manufactured Screenings is manufactured to meet New York State Department of Transportation (NYSDOT) Standard Specifications. Our Haverstraw Quarry, supplies 100% virgin trap rock (diabase) that is quarried and processed to finished sizes. Material shipped from our Haverstraw facility is clean and free of contaminants prior to loading.

Our Haverstraw Quarry, (# 8-10R) was approved by the NYSDOT under test number 13AR94. That test result indicating source quality is attached. Also attached, please find a typical gradation for Manufactured Screenings.

If you have any questions or require additional information, please contact me at 518-374-2222 or at cvanpatten@callanan.com.

Very truly yours,
TILCON NEW YORK, INC.
Colleen VanPatten
QC Department

Plant: Haverstraw
Date Created: 02/26/2014
Date Modified: 02/26/2014
Name: Sand Fill MGP Site
Description:

Sieve/Test	Spec	Result	006-Washed Sand	NYSDOT # 1-3/8"
Bin				
Price		0	0	0
% Product		100	70	30
TPH		0	0	0
% Gate			0	0
4" (100mm)		100.0	100.0	100.0
3" (75mm)		100.0	100.0	100.0
2" (50mm)		100.0	100.0	100.0
1 1/2" (37.5mm)		100.0	100.0	100.0
1" (25mm)		100.0	100.0	100.0
3/4" (19mm)		100.0	100.0	100.0
1/2" (12.5mm)		98.2	100.0	94.1
3/8" (9.5mm)		86.5	100.0	55.0
1/4" (6.3mm)		74.3	100.0	14.3
#4 (4.75mm)		70.5	99.7	2.3
#10 (2mm)		51.4	73.0	1.0
#20 (0.85mm)		32.8	46.4	1.0
#40 (0.425mm)		22.2	31.3	1.0
#60 (0.25mm)		15.7	22.0	1.0
#100 (0.15mm)		9.8	13.5	1.0
#200 (75um)		4.6	6.20	1.0

NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU

COARSE AGGREGATE ANALYSIS FOR 703-02 PHYSICAL REQUIREMENTS

SOURCE #: **8- 10R** TEST #: **13AR 94** BR3a SERIAL #: **187806** SM LAB #: **13065659**

Tilcon New York Inc
Haverstraw, NY

On 11/20/13 results of tests on material represented by sample 187806 were evaluated

Material meets specifications for Item 703-02. Consult friction aggregate requirements for approved use.

REMARKS:

NYSDOT Sizes	No. 2	No. 1	No. 1A
10 Cycle $MgSO_4$			
25 Cycle 3% freeze -thaw			

% Non-carbonate	100	Percent non-carbonate and percent insoluble residue values represent this sample only. When designing mixes, follow procedures in the appropriate Materials Method.
% Insoluble residue		
L.A. Abrasion		

Bulk Specific Gravity SSD	2.90	Gravity and Absorption values represent this sample only. They may not be appropriate for designing mixes
Bulk Specific Gravity	2.871	
Apparent Specific Gravity	2.952	
Absorption	0.9	

COMPOSITION (Size No.)	%	COMPOSITION (Size No. 1)	%
		Trap Rock	100

TILCON NEW YORK INC.
CORP. OFFICES 162 OLD MILL ROAD WEST NYACK, NY 10994
845-358-4500 www.tilconny.com

January 8, 2015

DA Collins
269 Ballard Road
Wilton, NY 12831

Attn: Rob Montague

Dear Mr. Montague,

As it is produced by our West Nyack facility, Medium Stone Fill is manufactured to meet all applicable New York State Department of Transportation Standard Specifications. Per section 620-2.02, of the New York State Department of Transportation Standard Specifications, acceptance of this Item is based on visual examination and we would request you contact to arrange for this visual inspection at our West Nyack facility prior to shipment. Please contact our Sales Representative, Mr. Tom Hurley at 914.261.6560 to arrange for this inspection.

Our West Nyack location, 8-8R is approved by the N.Y.S.D.O.T. under test 14AR45 and the result confirming source quality is attached. Also attached, please find independent third party lab (Atlantic Testing) results confirming the quality of this source.

The results from both the recent N.Y.S.D.O.T. test and the test provided by Atlantic Testing indicate this source is sound and resistant to weathering as evidenced by low loss values on Magnesium Sulfate Soundness test. This test is generally run in the laboratory on the small fractions of material for practicality of handling/testing. The soundness results on smaller fractions are generally accepted by Industry to be representative of the performance of stone fill sizes.

If you have any questions or require additional information, please contact me at clafleur@oldcastlematerials.com.

Very truly yours;
TILCON NEW YORK, INC.

Cindy LaFleur
Director, Quality Control

NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU
COARSE AGGREGATE ANALYSIS FOR 703-02 PHYSICAL REQUIREMENTS

SOURCE #: **8- 8R** TEST #: **14AR 45** BR3a SERIAL #: **181161** SM LAB #: **14020803**

Tilcon New York, Inc.
West Nyack, NY

On 10/09/14 results of tests on material represented by sample 181161 were evaluated

Material meets specifications for Item 703-02. Consult friction aggregate requirements for approved use.

REMARKS:

NYSDOT Sizes	No. 2	No. 1	No. 1A
10 Cycle $MgSO_4$		1.1	
25 Cycle 3% freeze -thaw			

% Non-carbonate	100	Percent non-carbonate and percent insoluble residue values represent this sample only. When designing mixes, follow procedures in the appropriate Materials Method.
% Insoluble residue		
L.A. Abrasion		

Bulk Specific Gravity SSD	2.91	Gravity and Absorption values represent this sample only. They may not be appropriate for designing mixes
Bulk Specific Gravity	2.885	
Apparent Specific Gravity	2.969	
Absorption	1.0	

COMPOSITION (Size No.)	%

COMPOSITION (Size No. 1)	%
Trap Rock	99.6
Trap Rock (W/Pink Feldspar)	0.4

ATLANTIC TESTING LABORATORIES

Albany
22 Corporate Drive
Clifton Park, NY 12065
518/383-9144 (T)
518/383-9166 (F)

January 6, 2014

Callanan Industries, Inc.
1245 Kings Road
Schenectady, New York 12303

Attn: Ms. Cindy LaFleur E/mail: clafleur@callanan.com

Re: Laboratory Test Results
Aggregate Testing
West Nyack Sample
ATL Report No. AT066SL-116-11-13(revised)

Ladies/Gentlemen:

Between November and December, 2013, your representative delivered a sample of crushed stone, (ATL Sample No. AT066S116), from the West Nyack Quarry, to our Clifton Park, New York, facility for testing. A 10 cycle Magnesium Sulfate Soundness in accordance with NYS DOT 703-07P,G, a Los Angeles Abrasion in accordance with ASTM C 131, a Lightweight Particles in Aggregate in accordance with ASTM C 123, a Clay Lumps and Friable Particles in Aggregates in accordance with ASTM C 142 and a Freeze Thaw of Aggregates in accordance with NYS DOT Method 703-8P,G were performed on this sample. The laboratory test results follow.

LOS ANGELES ABRASION
ASTM C 131
West Nyack

ATL Sample No.	Source	Type	Nominal Maximum Size (inch)	Grading	Percent Loss (%)	NYS DOT Specification (%)
AT066S116	West Nyack	Crushed Stone	1	B	18.3	≤45

LIGHTWEIGHT PARTICLES IN AGGREGATE
ASTM C 123
West Nyack

ATL Sample No.	Nominal Maximum Size (inch)	Mass of Sample (g)	Heavy Liquid Used	Specific Gravity of Liquid	Lightweight Particles (%)
AT066S116	1.5	5427	Zinc Chloride	2.0	0.0

CLAY LUMPS AND FRIABLE PARTICLES IN AGGREGATE
ASTM C 142
West Nyack

ATL Sample No.	Particle Size Range Tested (inch)	Clay Lumps and Friable Particles (%)	ASTM C 33 Specification (%)
AT066S116	1 ½ - ¾	0	≤ 3.0
AT066S116	¾ - 3/8	0	≤ 3.0
AT066S116	3/8 - #4	0	≤ 3.0

25-CYCLE RESISTANCE of COARSE AGGREGATES to FREEZING and THAWING
NYSDOT 703-08 P, G
West Nyack

ATL Sample No.	Sieve Fraction	Initial Weight (g)	Final Weight (g)	Fractional Loss (%)
AT066S116	1" – 3/4"	1504.8	1468.1	2.4
	3/4" – 1/2"	1011.0	1001.3	1.0
	Totals:	2515.8	2469.4	-----
NYSDOT Specification: <20%		**Total Loss: 1.8%**		

10 CYCLE MAGNESIUM SULFATE SOUNDNESS
NYSDOT 703-07 P,G
West Nyack

ATL Sample No.	Sieve Fraction	Initial Weight (g)	Final Weight (g)
AT066S116	1" – 3/4"	1506.5	1489.7
	3/4" – 1/2"	1011.9	1000.1
	Totals:	2518.4	2489.8
NYSDOT Specification: <18%		**Loss: 1.1%**	

This report has been revised to include the 25 cycle Freeze Thaw and the 10 cycle Magnesium Sulfate Soundness tests.

Please contact our office should you have any questions or if we may be of further service.

Respectfully,
ATLANTIC TESTING LABORATORIES, Limited

Robert E. Field
Laboratory Manager
bfield@atlantictesting.com

REF/rf

Cc: Michael Kalinowski, Tilcon New York mkalinowski@tilcon.com

CH2MHILL.

TRANSMITTAL OF CONTRACTOR'S SUBMITTAL

(ATTACH TO EACH SUBMITTAL)

DATE: APRIL 24, 2015

TO: John Finn
GEI Consultants, INC
1301 Trumansburg Road, Suite N
Ithaca, NY 14850

Submittal No.: 003 – TEP Section M – Site Restoration (rev. 3) amendment

☐ New Submittal ☒ Resubmittal

Project: OU-2 Nyack Former MGP Site

Project No.: 20373253-0002

Specification Section No.: 01330
(Cover only one section with each transmittal)

FROM: D.A. Collins Environmental, LLC.
Contractor

Upper Terrace Topsoil Reports.

This information should be added to TEP – Section M (rev. 3) Exhibit 2.

Schedule Date of Submittal: April 24, 2015

SUBMITTAL TYPE: ☐ Shop Drawing ☐ Sample ☒ Informational

The following items are hereby submitted:

Number of Copies	Description of Item Submitted (Type, Size, Model Number, Etc.)	Spec. and Para. No.	Drawing or Brochure Number	Contains Variation to Contract	
				No	Yes
1	Upper Terrace Topsoil Sampling Results to be added to TEP – Section M – Site Restoration (rev 3) Exhibit 2.	01330, 1.4, G		X	

CONTRACTOR hereby certifies that (i) CONTRACTOR has complied with the requirements of Contract Documents in preparation, review, and submission of designated Submittal and (ii) the Submittal is complete and in accordance with the Contract Documents and requirements of laws and regulations and governing agencies.

By: _____
CONTRACTOR (Authorized Signature)

REPORT OF ORGANIC MATTER OF SOIL

ASTM-D2974

CLIENT:	D.A. Collins Construction Co., Inc.	**DATE SAMPLED:**	April 14, 2015
PROJECT:	14-2038 Nyack - OU-2 Former MGP Site	**DATE TESTED:**	April 21, 2015
SAMPLE NUMBER:	14-2038-S-04	**TESTED BY:**	Chris Sotanski
SAMPLE DESCRIPTION:	Top Soil - from Upper Terrace		
ITEM NO.:	N/A		

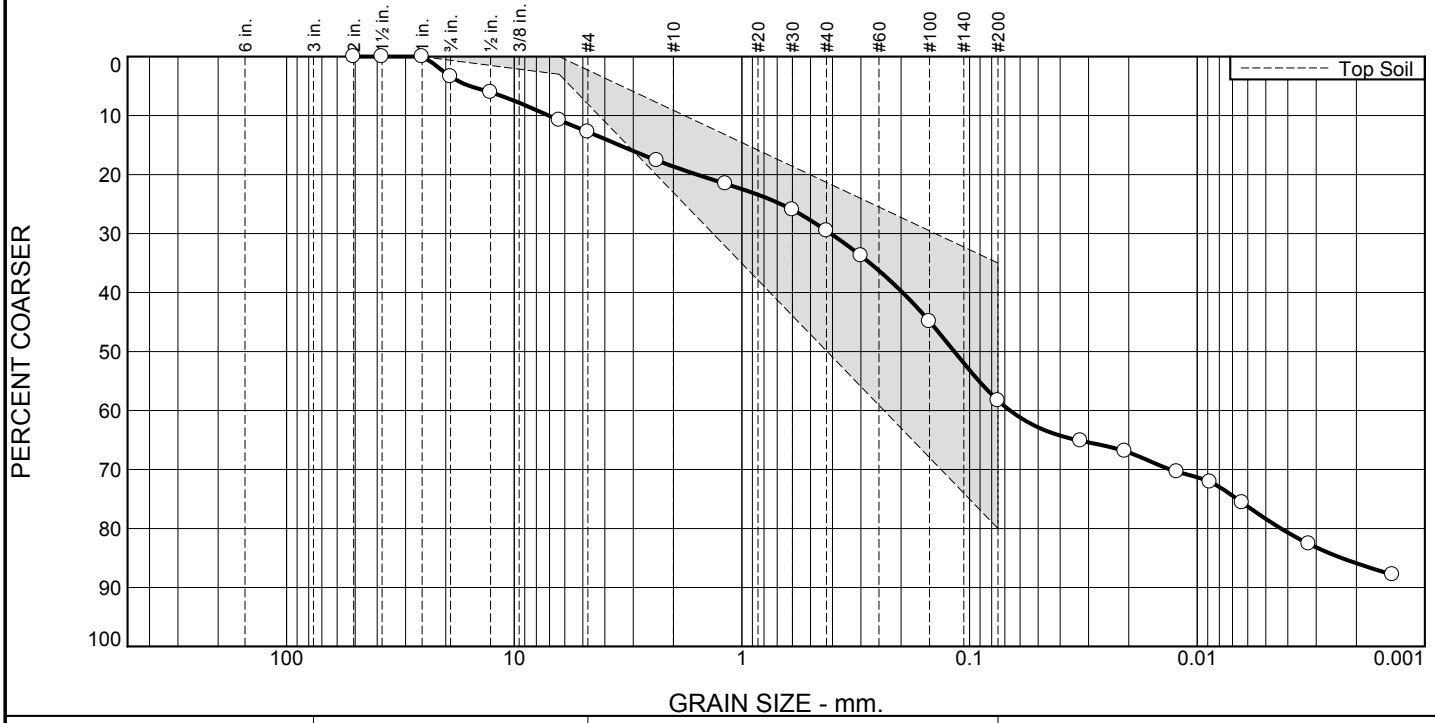
Specimen Number	Porcelain Dish Number	M_P (grams)	M_{PDS} (grams)	M_{PA} (grams)	M_D (grams) [M_{PDS}-M_P]	M_A (grams) [M_{PA}-M_P]	M_O (grams) [M_D-M_A]	OM (%) ([(M_D-M_A)x100]/M_D)
1	1	83.6	112.3	110.3	28.7	26.7	2	7.0
2	2	84.8	105.5	104.2	20.7	19.4	1.3	6.3
3	3	83.8	112.6	110.5	28.8	26.7	2.1	7.3
4	4	80.9	118.8	115.3	37.9	34.4	3.5	9.2
5	5	82.8	113.7	111.7	30.9	28.9	2	6.5
6	6	76.4	98.8	97.6	22.4	21.2	1.2	5.4
7	7	90.5	117.1	115.7	26.6	25.2	1.4	5.3
							Average OM (%):	6.7

Remarks:
pH of soil tested is 7.6.

Reviewed by: John R. Balison, P.E. - Interim Laboratory Manager

M_P	: Mass of empty dish
M_{PDS}	: Mass of dish and dry soil
M_{PA}	: Mass of dish and burned soil
M_D	: Mass of dry soil
M_A	: Mass of burned soil
M_O	: Mass of organic matter
OM	: Organic matter

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	3.4	9.4	5.8	10.9	28.8	20.1	21.6

Test Results (ASTM C 136/ ASTM D 422 & ASTM C 117)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
2	100.0		
1.5	100.0		
1	100.0	100.0	
.75	96.6		
.5	93.9		
.25	89.2	97.0 - 100.0	X
#4	87.2		
#8	82.4		
#16	78.4		
#30	74.0		
#40	70.5		
#50	66.2		
#100	55.1		
#200	41.7	20.0 - 65.0	
0.0325 mm.	34.9		
0.0208 mm.	33.1		
0.0123 mm.	29.6		
0.0088 mm.	27.9		
0.0063 mm.	24.4		
0.0032 mm.	17.4		
0.0014 mm.	12.2		

* Top Soil

Material Description

Top Soil

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= 7.0599 D_{85}= 3.4581 D_{60}= 0.1969
D_{50}= 0.1167 D_{30}= 0.0131 D_{15}= 0.0023
D_{10}= C_u= C_c=

Remarks

Material sampled On Site from upper terrace location 4/14/15 by HVEA Staff. Material finer than the #200 sieve was tested in accordance with ASTM D422.

Date Received: 4/14/15 **Date Tested:** 4/22/15

Tested By: Chris Sotanski

Checked By: John Balison, P.E. John R Balison

Title: Laboratory Manager

Source of Sample: On Site **Depth:** ---

Sample Number: 14-2038-S-04

Date Sampled: 4/14/15

HVEA Engineers

Beacon, NY

Client: D.A. Collins

Project: OU-2 Nyack Former MGP Site

Project No: 14-2038 **Figure**

PHOENIX
Environmental Laboratories, Inc.

Wednesday, April 22, 2015

Attn: Mr. Rob Montague
DA Collins Environmental Svcs
269 Ballard Road
Wilton, NY 12831

Project ID: ORANGE & ROCKLAND
Sample ID#s: BJ04258 - BJ04262

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG Comments

April 22, 2015

SDG I.D.: GBJ04258

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

BJ04258 - Client provided soil jar for volatile analysis. Phoenix prepared sample per method 5035.

BJ04259 - Client provided soil jar for volatile analysis. Phoenix prepared sample per method 5035.

BJ04260 - Client provided soil jar for volatile analysis. Phoenix prepared sample per method 5035.

BJ04261 - Client provided soil jar for volatile analysis. Phoenix prepared sample per method 5035.

BJ04262 - Client provided soil jar for volatile analysis. Phoenix prepared sample per method 5035.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 22, 2015

FOR: Attn: Mr. Rob Montague
DA Collins Environmental Svcs
269 Ballard Road
Wilton, NY 12831

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		04/17/15	10:15
Location Code:	DACOLLIN	Received by:	LB	04/17/15	16:22
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ04258
Phoenix ID: BJ04258

Project ID: ORANGE & ROCKLAND
Client ID: S-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.38	0.38	mg/Kg	1	04/18/15	LK	SW6010C	
Arsenic	4.6	0.8	mg/Kg	1	04/18/15	LK	SW6010C	
Barium	70.0	0.38	mg/Kg	1	04/18/15	LK	SW6010C	
Cadmium	< 0.38	0.38	mg/Kg	1	04/18/15	LK	SW6010C	
Chromium	16.2	0.38	mg/Kg	1	04/18/15	LK	SW6010C	
Mercury	0.09	0.03	mg/Kg	1	04/20/15	RS	SW7471B	
Lead	25.6	0.38	mg/Kg	1	04/18/15	LK	SW6010C	
Selenium	< 1.5	1.5	mg/Kg	1	04/18/15	LK	SW6010C	
Percent Solid	83		%		04/17/15	I	SW846-%Solid	
pH - Soil	7.56	0.10	pH Units	1	04/18/15 23:45	O/EG	SW9045	1
Soil Extraction for PCB	Completed				04/17/15	BC/H	SW3545A	
Soil Extraction for SVOA	Completed				04/17/15	JJ/VH	SW3545A	
Mercury Digestion	Completed				04/20/15	I/I	SW7471B	
Total Metals Digest	Completed				04/17/15	CB/AG	SW3050B	
Polychlorinated Biphenyls								
PCB-1016	ND	400	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1221	ND	400	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1232	ND	400	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1242	ND	400	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1248	ND	400	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1254	ND	400	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1260	ND	400	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1262	ND	400	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1268	ND	400	ug/Kg	10	04/18/15	AW	SW8082A	
QA/QC Surrogates								
% DCBP	62		%	10	04/18/15	AW	30 - 150 %	
% TCMX	76		%	10	04/18/15	AW	30 - 150 %	

Project ID: ORANGE & ROCKLAND
Client ID: S-1

Phoenix I.D.: BJ04258

Volatiles

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
1,1,1,2-Tetrachloroethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,1-Trichloroethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,2,2-Tetrachloroethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,2-Trichloroethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloroethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloroethene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloropropene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,3-Trichlorobenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,3-Trichloropropane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,4-Trichlorobenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,4-Trimethylbenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dibromo-3-chloropropane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dibromoethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dichlorobenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dichloroethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dichloropropane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,3,5-Trimethylbenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,3-Dichlorobenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,3-Dichloropropane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
1,4-Dichlorobenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
2,2-Dichloropropane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
2-Chlorotoluene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
2-Hexanone	ND	30	ug/Kg	1	04/17/15	JLI	SW8260C	
2-Isopropyltoluene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	1
4-Chlorotoluene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
4-Methyl-2-pentanone	ND	30	ug/Kg	1	04/17/15	JLI	SW8260C	
Acetone	ND	30	ug/Kg	1	04/17/15	JLI	SW8260C	
Acrylonitrile	ND	12	ug/Kg	1	04/17/15	JLI	SW8260C	
Benzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromobenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromochloromethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromodichloromethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromoform	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromomethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Carbon Disulfide	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Carbon tetrachloride	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Chlorobenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloroethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloroform	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloromethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
cis-1,2-Dichloroethene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
cis-1,3-Dichloropropene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Dibromochloromethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Dibromomethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Dichlorodifluoromethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Ethylbenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Hexachlorobutadiene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Isopropylbenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
m&p-Xylene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Methyl Ethyl Ketone	ND	30	ug/Kg	1	04/17/15	JLI	SW8260C	
Methyl t-butyl ether (MTBE)	ND	12	ug/Kg	1	04/17/15	JLI	SW8260C	
Methylene chloride	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Naphthalene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
n-Butylbenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
n-Propylbenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
o-Xylene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
p-Isopropyltoluene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
sec-Butylbenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Styrene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
tert-Butylbenzene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Tetrachloroethene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Tetrahydrofuran (THF)	ND	12	ug/Kg	1	04/17/15	JLI	SW8260C	1
Toluene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Total Xylenes	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,2-Dichloroethene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,3-Dichloropropene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,4-dichloro-2-butene	ND	12	ug/Kg	1	04/17/15	JLI	SW8260C	
Trichloroethene	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Trichlorofluoromethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Trichlorotrifluoroethane	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
Vinyl chloride	ND	6.0	ug/Kg	1	04/17/15	JLI	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	92		%	1	04/17/15	JLI	70 - 130 %	
% Bromofluorobenzene	79		%	1	04/17/15	JLI	70 - 130 %	
% Dibromofluoromethane	107		%	1	04/17/15	JLI	70 - 130 %	
% Toluene-d8	89		%	1	04/17/15	JLI	70 - 130 %	
Semivolatiles								
1,2,4,5-Tetrachlorobenzene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
1,2,4-Trichlorobenzene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
1,2-Dichlorobenzene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
1,2-Diphenylhydrazine	ND	400	ug/Kg	1	04/19/15	DD	SW8270D	
1,3-Dichlorobenzene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
1,4-Dichlorobenzene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2,4,5-Trichlorophenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2,4,6-Trichlorophenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dichlorophenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dimethylphenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dinitrophenol	ND	640	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dinitrotoluene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2,6-Dinitrotoluene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2-Chloronaphthalene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2-Chlorophenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2-Methylnaphthalene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2-Methylphenol (o-cresol)	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2-Nitroaniline	ND	640	ug/Kg	1	04/19/15	DD	SW8270D	
2-Nitrophenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)	ND	400	ug/Kg	1	04/19/15	DD	SW8270D	

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Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
3,3'-Dichlorobenzidine	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
3-Nitroaniline	ND	640	ug/Kg	1	04/19/15	DD	SW8270D	
4,6-Dinitro-2-methylphenol	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
4-Bromophenyl phenyl ether	ND	400	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chloro-3-methylphenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chloroaniline	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chlorophenyl phenyl ether	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
4-Nitroaniline	ND	640	ug/Kg	1	04/19/15	DD	SW8270D	
4-Nitrophenol	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
Acenaphthene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Acenaphthylene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Acetophenone	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Aniline	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
Anthracene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Benz(a)anthracene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Benzidine	ND	480	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(a)pyrene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(b)fluoranthene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(ghi)perylene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(k)fluoranthene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Benzoic acid	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	1
Benzyl butyl phthalate	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroethyl)ether	ND	400	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroisopropyl)ether	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	1
Bis(2-ethylhexyl)phthalate	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Carbazole	ND	600	ug/Kg	1	04/19/15	DD	SW8270D	
Chrysene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Dibenz(a,h)anthracene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Dibenzofuran	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Diethyl phthalate	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Dimethylphthalate	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Di-n-butylphthalate	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Di-n-octylphthalate	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Fluoranthene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Fluorene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorobenzene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorobutadiene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorocyclopentadiene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachloroethane	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Indeno(1,2,3-cd)pyrene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Isophorone	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Naphthalene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Nitrobenzene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodimethylamine	ND	400	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodi-n-propylamine	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodiphenylamine	ND	400	ug/Kg	1	04/19/15	DD	SW8270D	
Pentachloronitrobenzene	ND	400	ug/Kg	1	04/19/15	DD	SW8270D	
Pentachlorophenol	ND	400	ug/Kg	1	04/19/15	DD	SW8270D	

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Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phenanthrene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D
Phenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D
Pyrene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D
Pyridine	ND	400	ug/Kg	1	04/19/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	31		%	1	04/19/15	DD	30 - 130 %
% 2-Fluorobiphenyl	33		%	1	04/19/15	DD	30 - 130 %
% 2-Fluorophenol	35		%	1	04/19/15	DD	30 - 130 %
% Nitrobenzene-d5	36		%	1	04/19/15	DD	30 - 130 %
% Phenol-d5	36		%	1	04/19/15	DD	30 - 130 %
% Terphenyl-d14	42		%	1	04/19/15	DD	30 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quanitation) ND=Not Detected
BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

This sample was not collected in accordance with EPA method 5035. NELAC requires the laboratory to qualify the volatile soil data as biased low.

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

Phyllis Shiller, Laboratory Director
April 22, 2015
Reviewed and Released by: Bobbi Aloisa, Vice President

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 22, 2015

FOR: Attn: Mr. Rob Montague
DA Collins Environmental Svcs
269 Ballard Road
Wilton, NY 12831

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		04/17/15	10:15
Location Code:	DACOLLIN	Received by:	LB	04/17/15	16:22
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ04258
Phoenix ID: BJ04259

Project ID: ORANGE & ROCKLAND
Client ID: S-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.41	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Arsenic	5.3	0.8	mg/Kg	1	04/18/15	LK	SW6010C	
Barium	105	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Cadmium	< 0.41	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Chromium	17.4	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Mercury	0.05	0.03	mg/Kg	1	04/20/15	RS	SW7471B	
Lead	33.2	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Selenium	< 1.6	1.6	mg/Kg	1	04/18/15	LK	SW6010C	
Percent Solid	80		%		04/17/15	I	SW846-%Solid	
pH - Soil	7.45	0.10	pH Units	1	04/18/15 23:45	O/EG	SW9045	1
Soil Extraction for PCB	Completed				04/17/15	BC/H	SW3545A	
Soil Extraction for SVOA	Completed				04/17/15	BJ/VH	SW3545A	
Mercury Digestion	Completed				04/20/15	I/I	SW7471B	
Total Metals Digest	Completed				04/17/15	CB/AG	SW3050B	
Polychlorinated Biphenyls								
PCB-1016	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1221	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1232	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1242	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1248	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1254	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1260	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1262	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1268	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
QA/QC Surrogates								
% DCBP	50		%	10	04/18/15	AW	30 - 150 %	
% TCMX	79		%	10	04/18/15	AW	30 - 150 %	

Project ID: ORANGE & ROCKLAND
Client ID: S-2

Phoenix I.D.: BJ04259

Volatiles

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
1,1,1,2-Tetrachloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,1-Trichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,2,2-Tetrachloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,2-Trichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloropropene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,3-Trichlorobenzene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
1,2,3-Trichloropropane	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
1,2,4-Trichlorobenzene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
1,2,4-Trimethylbenzene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
1,2-Dibromo-3-chloropropane	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
1,2-Dibromoethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dichlorobenzene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
1,2-Dichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,3,5-Trimethylbenzene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
1,3-Dichlorobenzene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
1,3-Dichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,4-Dichlorobenzene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
2,2-Dichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
2-Chlorotoluene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
2-Hexanone	ND	31	ug/Kg	1	04/17/15	JLI	SW8260C	
2-Isopropyltoluene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	1
4-Chlorotoluene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
4-Methyl-2-pentanone	ND	31	ug/Kg	1	04/17/15	JLI	SW8260C	
Acetone	ND	31	ug/Kg	1	04/17/15	JLI	SW8260C	
Acrylonitrile	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	
Benzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromobenzene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
Bromochloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromodichloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromoform	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromomethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Carbon Disulfide	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Carbon tetrachloride	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloroform	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
cis-1,2-Dichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
cis-1,3-Dichloropropene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Dibromochloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Dibromomethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Dichlorodifluoromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Ethylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Hexachlorobutadiene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
Isopropylbenzene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
m&p-Xylene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Methyl Ethyl Ketone	ND	31	ug/Kg	1	04/17/15	JLI	SW8260C	
Methyl t-butyl ether (MTBE)	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	
Methylene chloride	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Naphthalene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
n-Butylbenzene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
n-Propylbenzene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
o-Xylene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
p-Isopropyltoluene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
sec-Butylbenzene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
Styrene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
tert-Butylbenzene	ND	310	ug/Kg	50	04/17/15	JLI	SW8260C	
Tetrachloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Tetrahydrofuran (THF)	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	1
Toluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Total Xylenes	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,2-Dichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,3-Dichloropropene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,4-dichloro-2-butene	ND	630	ug/Kg	50	04/17/15	JLI	SW8260C	
Trichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Trichlorofluoromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Trichlorotrifluoroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Vinyl chloride	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	50	04/17/15	JLI	70 - 130 %	
% Bromofluorobenzene	101		%	50	04/17/15	JLI	70 - 130 %	
% Dibromofluoromethane	113		%	1	04/17/15	JLI	70 - 130 %	
% Toluene-d8	91		%	1	04/17/15	JLI	70 - 130 %	
Semivolatiles								
1,2,4,5-Tetrachlorobenzene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
1,2,4-Trichlorobenzene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
1,2-Dichlorobenzene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
1,2-Diphenylhydrazine	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
1,3-Dichlorobenzene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
1,4-Dichlorobenzene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2,4,5-Trichlorophenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2,4,6-Trichlorophenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dichlorophenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dimethylphenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dinitrophenol	ND	650	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dinitrotoluene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2,6-Dinitrotoluene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2-Chloronaphthalene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2-Chlorophenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2-Methylnaphthalene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2-Methylphenol (o-cresol)	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
2-Nitroaniline	ND	650	ug/Kg	1	04/19/15	DD	SW8270D	
2-Nitrophenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	

Project ID: ORANGE & ROCKLAND
Client ID: S-2

Phoenix I.D.: BJ04259

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
3,3'-Dichlorobenzidine	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
3-Nitroaniline	ND	650	ug/Kg	1	04/19/15	DD	SW8270D	
4,6-Dinitro-2-methylphenol	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
4-Bromophenyl phenyl ether	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chloro-3-methylphenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chloroaniline	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chlorophenyl phenyl ether	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
4-Nitroaniline	ND	650	ug/Kg	1	04/19/15	DD	SW8270D	
4-Nitrophenol	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
Acenaphthene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Acenaphthylene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Acetophenone	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Aniline	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
Anthracene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Benz(a)anthracene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Benzidine	ND	490	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(a)pyrene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(b)fluoranthene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(ghi)perylene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(k)fluoranthene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Benzoic acid	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	1
Benzyl butyl phthalate	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroethyl)ether	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroisopropyl)ether	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	1
Bis(2-ethylhexyl)phthalate	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Carbazole	ND	610	ug/Kg	1	04/19/15	DD	SW8270D	
Chrysene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Dibenz(a,h)anthracene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Dibenzofuran	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Diethyl phthalate	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Dimethylphthalate	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Di-n-butylphthalate	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Di-n-octylphthalate	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Fluoranthene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Fluorene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorobenzene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorobutadiene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorocyclopentadiene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachloroethane	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Indeno(1,2,3-cd)pyrene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Isophorone	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Naphthalene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
Nitrobenzene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodimethylamine	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodi-n-propylamine	ND	280	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodiphenylamine	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
Pentachloronitrobenzene	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
Pentachlorophenol	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phenanthrene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D
Phenol	ND	280	ug/Kg	1	04/19/15	DD	SW8270D
Pyrene	ND	280	ug/Kg	1	04/19/15	DD	SW8270D
Pyridine	ND	410	ug/Kg	1	04/19/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	82		%	1	04/19/15	DD	30 - 130 %
% 2-Fluorobiphenyl	72		%	1	04/19/15	DD	30 - 130 %
% 2-Fluorophenol	72		%	1	04/19/15	DD	30 - 130 %
% Nitrobenzene-d5	78		%	1	04/19/15	DD	30 - 130 %
% Phenol-d5	79		%	1	04/19/15	DD	30 - 130 %
% Terphenyl-d14	80		%	1	04/19/15	DD	30 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quanitation) ND=Not Detected
BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

This sample was not collected in accordance with EPA method 5035. NELAC requires the laboratory to qualify the volatile soil data as biased low.

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Volatile Comment:
There was a suppression of the last internal standard in the low level analysis, all affected compounds are reported from the methanol preserved high level analysis which did not exhibit this interference.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

Phyllis Shiller, Laboratory Director
April 22, 2015
Reviewed and Released by: Bobbi Aloisa, Vice President

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 22, 2015

FOR: Attn: Mr. Rob Montague
DA Collins Environmental Svcs
269 Ballard Road
Wilton, NY 12831

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		04/17/15	10:15
Location Code:	DACOLLIN	Received by:	LB	04/17/15	16:22
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ04258
Phoenix ID: BJ04260

Project ID: ORANGE & ROCKLAND
Client ID: S-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.42	0.42	mg/Kg	1	04/18/15	LK	SW6010C	
Arsenic	4.0	0.8	mg/Kg	1	04/18/15	LK	SW6010C	
Barium	74.7	0.42	mg/Kg	1	04/18/15	LK	SW6010C	
Cadmium	< 0.42	0.42	mg/Kg	1	04/18/15	LK	SW6010C	
Chromium	16.1	0.42	mg/Kg	1	04/18/15	LK	SW6010C	
Mercury	0.07	0.03	mg/Kg	1	04/20/15	RS	SW7471B	
Lead	25.8	0.42	mg/Kg	1	04/18/15	LK	SW6010C	
Selenium	< 1.7	1.7	mg/Kg	1	04/18/15	LK	SW6010C	
Percent Solid	80		%		04/17/15	I	SW846-%Solid	
pH - Soil	7.34	0.10	pH Units	1	04/18/15 23:45	O/EG	SW9045	1
Soil Extraction for PCB	Completed				04/17/15	BC/H	SW3545A	
Soil Extraction for SVOA	Completed				04/17/15	BJ/VH	SW3545A	
Mercury Digestion	Completed				04/20/15	I/I	SW7471B	
Total Metals Digest	Completed				04/17/15	CB/AG	SW3050B	
Polychlorinated Biphenyls								
PCB-1016	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1221	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1232	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1242	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1248	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1254	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1260	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1262	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1268	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
QA/QC Surrogates								
% DCBP	53		%	10	04/18/15	AW	30 - 150 %	
% TCMX	67		%	10	04/18/15	AW	30 - 150 %	

Project ID: ORANGE & ROCKLAND
Client ID: S-3

Phoenix I.D.: BJ04260

Volatiles

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
1,1,1,2-Tetrachloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,1-Trichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,2,2-Tetrachloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,2-Trichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloropropene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,3-Trichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,3-Trichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,4-Trichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,4-Trimethylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dibromo-3-chloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dibromoethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,3,5-Trimethylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,3-Dichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,3-Dichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,4-Dichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
2,2-Dichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
2-Chlorotoluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
2-Hexanone	ND	31	ug/Kg	1	04/17/15	JLI	SW8260C	
2-Isopropyltoluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	1
4-Chlorotoluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
4-Methyl-2-pentanone	ND	31	ug/Kg	1	04/17/15	JLI	SW8260C	
Acetone	ND	31	ug/Kg	1	04/17/15	JLI	SW8260C	
Acrylonitrile	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	
Benzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromochloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromodichloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromoform	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromomethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Carbon Disulfide	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Carbon tetrachloride	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloroform	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
cis-1,2-Dichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
cis-1,3-Dichloropropene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Dibromochloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Dibromomethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Dichlorodifluoromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Ethylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Hexachlorobutadiene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Isopropylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
m&p-Xylene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Methyl Ethyl Ketone	ND	31	ug/Kg	1	04/17/15	JLI	SW8260C	
Methyl t-butyl ether (MTBE)	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	
Methylene chloride	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Naphthalene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
n-Butylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
n-Propylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
o-Xylene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
p-Isopropyltoluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
sec-Butylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Styrene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
tert-Butylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Tetrachloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Tetrahydrofuran (THF)	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	1
Toluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Total Xylenes	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,2-Dichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,3-Dichloropropene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,4-dichloro-2-butene	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	
Trichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Trichlorofluoromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Trichlorotrifluoroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Vinyl chloride	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	85		%	1	04/17/15	JLI	70 - 130 %	
% Bromofluorobenzene	79		%	1	04/17/15	JLI	70 - 130 %	
% Dibromofluoromethane	106		%	1	04/17/15	JLI	70 - 130 %	
% Toluene-d8	90		%	1	04/17/15	JLI	70 - 130 %	
Semivolatiles								
1,2,4,5-Tetrachlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
1,2,4-Trichlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
1,2-Dichlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
1,2-Diphenylhydrazine	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
1,3-Dichlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
1,4-Dichlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4,5-Trichlorophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4,6-Trichlorophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dichlorophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dimethylphenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dinitrophenol	ND	660	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dinitrotoluene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,6-Dinitrotoluene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Chloronaphthalene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Chlorophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Methylnaphthalene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Methylphenol (o-cresol)	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Nitroaniline	ND	660	ug/Kg	1	04/19/15	DD	SW8270D	
2-Nitrophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	

Project ID: ORANGE & ROCKLAND
Client ID: S-3

Phoenix I.D.: BJ04260

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
3,3'-Dichlorobenzidine	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
3-Nitroaniline	ND	660	ug/Kg	1	04/19/15	DD	SW8270D	
4,6-Dinitro-2-methylphenol	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
4-Bromophenyl phenyl ether	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chloro-3-methylphenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chloroaniline	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chlorophenyl phenyl ether	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
4-Nitroaniline	ND	660	ug/Kg	1	04/19/15	DD	SW8270D	
4-Nitrophenol	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
Acenaphthene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Acenaphthylene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Acetophenone	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Aniline	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
Anthracene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benz(a)anthracene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzidine	ND	490	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(a)pyrene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(b)fluoranthene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(ghi)perylene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(k)fluoranthene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzoic acid	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	1
Benzyl butyl phthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroethyl)ether	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroisopropyl)ether	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	1
Bis(2-ethylhexyl)phthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Carbazole	ND	620	ug/Kg	1	04/19/15	DD	SW8270D	
Chrysene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Dibenz(a,h)anthracene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Dibenzofuran	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Diethyl phthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Dimethylphthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Di-n-butylphthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Di-n-octylphthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Fluoranthene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Fluorene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorobutadiene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorocyclopentadiene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachloroethane	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Indeno(1,2,3-cd)pyrene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Isophorone	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Naphthalene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Nitrobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodimethylamine	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodi-n-propylamine	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodiphenylamine	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
Pentachloronitrobenzene	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
Pentachlorophenol	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	

Project ID: ORANGE & ROCKLAND
Client ID: S-3

Phoenix I.D.: BJ04260

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phenanthrene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D
Phenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D
Pyrene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D
Pyridine	ND	410	ug/Kg	1	04/19/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	96		%	1	04/19/15	DD	30 - 130 %
% 2-Fluorobiphenyl	84		%	1	04/19/15	DD	30 - 130 %
% 2-Fluorophenol	74		%	1	04/19/15	DD	30 - 130 %
% Nitrobenzene-d5	89		%	1	04/19/15	DD	30 - 130 %
% Phenol-d5	80		%	1	04/19/15	DD	30 - 130 %
% Terphenyl-d14	124		%	1	04/19/15	DD	30 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quanitation) ND=Not Detected
BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

This sample was not collected in accordance with EPA method 5035. NELAC requires the laboratory to qualify the volatile soil data as biased low.

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

Phyllis Shiller, Laboratory Director
April 22, 2015
Reviewed and Released by: Bobbi Aloisa, Vice President

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 22, 2015

FOR: Attn: Mr. Rob Montague
DA Collins Environmental Svcs
269 Ballard Road
Wilton, NY 12831

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		04/17/15	10:15
Location Code:	DACOLLIN	Received by:	LB	04/17/15	16:22
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ04258
Phoenix ID: BJ04261

Project ID: ORANGE & ROCKLAND
Client ID: S-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.41	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Arsenic	5.6	0.8	mg/Kg	1	04/18/15	LK	SW6010C	
Barium	85.2	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Cadmium	< 0.41	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Chromium	17.8	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Mercury	0.08	0.03	mg/Kg	1	04/20/15	RS	SW7471B	
Lead	30.6	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Selenium	< 1.6	1.6	mg/Kg	1	04/18/15	LK	SW6010C	
Percent Solid	79		%		04/17/15	I	SW846-%Solid	
pH - Soil	7.25	0.10	pH Units	1	04/18/15 23:45	O/EG	SW9045	1
Soil Extraction for PCB	Completed				04/17/15	BC/H	SW3545A	
Soil Extraction for SVOA	Completed				04/17/15	BJ/VH	SW3545A	
Mercury Digestion	Completed				04/20/15	I/I	SW7471B	
Total Metals Digest	Completed				04/17/15	CB/AG	SW3050B	
Polychlorinated Biphenyls								
PCB-1016	ND	420	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1221	ND	420	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1232	ND	420	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1242	ND	420	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1248	ND	420	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1254	ND	420	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1260	ND	420	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1262	ND	420	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1268	ND	420	ug/Kg	10	04/18/15	AW	SW8082A	
QA/QC Surrogates								
% DCBP	60		%	10	04/18/15	AW	30 - 150 %	
% TCMX	73		%	10	04/18/15	AW	30 - 150 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Volatiles								
1,1,1,2-Tetrachloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,1-Trichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,2,2-Tetrachloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,2-Trichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloropropene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,3-Trichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,3-Trichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,4-Trichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,4-Trimethylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dibromo-3-chloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dibromoethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,3,5-Trimethylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,3-Dichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,3-Dichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,4-Dichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
2,2-Dichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
2-Chlorotoluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
2-Hexanone	ND	32	ug/Kg	1	04/17/15	JLI	SW8260C	
2-Isopropyltoluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	1
4-Chlorotoluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
4-Methyl-2-pentanone	ND	32	ug/Kg	1	04/17/15	JLI	SW8260C	
Acetone	ND	32	ug/Kg	1	04/17/15	JLI	SW8260C	
Acrylonitrile	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	
Benzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromochloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromodichloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromoform	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromomethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Carbon Disulfide	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Carbon tetrachloride	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloroform	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
cis-1,2-Dichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
cis-1,3-Dichloropropene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Dibromochloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Dibromomethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Dichlorodifluoromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Ethylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Hexachlorobutadiene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Isopropylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
m&p-Xylene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Methyl Ethyl Ketone	ND	32	ug/Kg	1	04/17/15	JLI	SW8260C	
Methyl t-butyl ether (MTBE)	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	
Methylene chloride	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Naphthalene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
n-Butylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
n-Propylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
o-Xylene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
p-Isopropyltoluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
sec-Butylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Styrene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
tert-Butylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Tetrachloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Tetrahydrofuran (THF)	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	1
Toluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Total Xylenes	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,2-Dichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,3-Dichloropropene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,4-dichloro-2-butene	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	
Trichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Trichlorofluoromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Trichlorotrifluoroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Vinyl chloride	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	92		%	1	04/17/15	JLI	70 - 130 %	
% Bromofluorobenzene	78		%	1	04/17/15	JLI	70 - 130 %	
% Dibromofluoromethane	111		%	1	04/17/15	JLI	70 - 130 %	
% Toluene-d8	90		%	1	04/17/15	JLI	70 - 130 %	
Semivolatiles								
1,2,4,5-Tetrachlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
1,2,4-Trichlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
1,2-Dichlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
1,2-Diphenylhydrazine	ND	420	ug/Kg	1	04/19/15	DD	SW8270D	
1,3-Dichlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
1,4-Dichlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4,5-Trichlorophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4,6-Trichlorophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dichlorophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dimethylphenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dinitrophenol	ND	670	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dinitrotoluene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,6-Dinitrotoluene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Chloronaphthalene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Chlorophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Methylnaphthalene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Methylphenol (o-cresol)	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Nitroaniline	ND	670	ug/Kg	1	04/19/15	DD	SW8270D	
2-Nitrophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)	ND	420	ug/Kg	1	04/19/15	DD	SW8270D	

Project ID: ORANGE & ROCKLAND
Client ID: S-4

Phoenix I.D.: BJ04261

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
3,3'-Dichlorobenzidine	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
3-Nitroaniline	ND	670	ug/Kg	1	04/19/15	DD	SW8270D	
4,6-Dinitro-2-methylphenol	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
4-Bromophenyl phenyl ether	ND	420	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chloro-3-methylphenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chloroaniline	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chlorophenyl phenyl ether	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
4-Nitroaniline	ND	670	ug/Kg	1	04/19/15	DD	SW8270D	
4-Nitrophenol	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
Acenaphthene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Acenaphthylene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Acetophenone	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Aniline	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
Anthracene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benz(a)anthracene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzidine	ND	510	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(a)pyrene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(b)fluoranthene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(ghi)perylene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(k)fluoranthene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzoic acid	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	1
Benzyl butyl phthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroethyl)ether	ND	420	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroisopropyl)ether	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	1
Bis(2-ethylhexyl)phthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Carbazole	ND	630	ug/Kg	1	04/19/15	DD	SW8270D	
Chrysene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Dibenz(a,h)anthracene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Dibenzofuran	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Diethyl phthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Dimethylphthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Di-n-butylphthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Di-n-octylphthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Fluoranthene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Fluorene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorobutadiene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorocyclopentadiene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachloroethane	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Indeno(1,2,3-cd)pyrene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Isophorone	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Naphthalene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Nitrobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodimethylamine	ND	420	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodi-n-propylamine	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodiphenylamine	ND	420	ug/Kg	1	04/19/15	DD	SW8270D	
Pentachloronitrobenzene	ND	420	ug/Kg	1	04/19/15	DD	SW8270D	
Pentachlorophenol	ND	420	ug/Kg	1	04/19/15	DD	SW8270D	

Project ID: ORANGE & ROCKLAND
Client ID: S-4

Phoenix I.D.: BJ04261

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phenanthrene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D
Phenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D
Pyrene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D
Pyridine	ND	420	ug/Kg	1	04/19/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	75		%	1	04/19/15	DD	30 - 130 %
% 2-Fluorobiphenyl	62		%	1	04/19/15	DD	30 - 130 %
% 2-Fluorophenol	59		%	1	04/19/15	DD	30 - 130 %
% Nitrobenzene-d5	65		%	1	04/19/15	DD	30 - 130 %
% Phenol-d5	75		%	1	04/19/15	DD	30 - 130 %
% Terphenyl-d14	78		%	1	04/19/15	DD	30 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quanitation) ND=Not Detected
BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

This sample was not collected in accordance with EPA method 5035. NELAC requires the laboratory to qualify the volatile soil data as biased low.

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

Phyllis Shiller, Laboratory Director
April 22, 2015
Reviewed and Released by: Bobbi Aloisa, Vice President

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 22, 2015

FOR: Attn: Mr. Rob Montague
DA Collins Environmental Svcs
269 Ballard Road
Wilton, NY 12831

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		04/17/15	10:15
Location Code:	DACOLLIN	Received by:	LB	04/17/15	16:22
Rush Request:	24 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ04258
Phoenix ID: BJ04262

Project ID: ORANGE & ROCKLAND
Client ID: S-5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.41	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Arsenic	6.4	0.8	mg/Kg	1	04/18/15	LK	SW6010C	
Barium	87.5	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Cadmium	< 0.41	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Chromium	19.4	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Mercury	0.05	0.03	mg/Kg	1	04/20/15	RS	SW7471B	
Lead	32.9	0.41	mg/Kg	1	04/18/15	LK	SW6010C	
Selenium	< 1.6	1.6	mg/Kg	1	04/18/15	LK	SW6010C	
Percent Solid	79		%		04/17/15	I	SW846-%Solid	
pH - Soil	7.37	0.10	pH Units	1	04/18/15 23:45	O/EG	SW9045	1
Soil Extraction for PCB	Completed				04/17/15	BC/H	SW3545A	
Soil Extraction for SVOA	Completed				04/17/15	BJ/VH	SW3545A	
Mercury Digestion	Completed				04/20/15	I/I	SW7471B	
Total Metals Digest	Completed				04/17/15	CB/AG	SW3050B	
Polychlorinated Biphenyls								
PCB-1016	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1221	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1232	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1242	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1248	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1254	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1260	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1262	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
PCB-1268	ND	410	ug/Kg	10	04/18/15	AW	SW8082A	
QA/QC Surrogates								
% DCBP	67		%	10	04/18/15	AW	30 - 150 %	
% TCMX	82		%	10	04/18/15	AW	30 - 150 %	

Project ID: ORANGE & ROCKLAND
Client ID: S-5

Phoenix I.D.: BJ04262

Volatiles

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
1,1,1,2-Tetrachloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,1-Trichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,2,2-Tetrachloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1,2-Trichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,1-Dichloropropene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,3-Trichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,3-Trichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,4-Trichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2,4-Trimethylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dibromo-3-chloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dibromoethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dichloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,2-Dichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,3,5-Trimethylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,3-Dichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,3-Dichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
1,4-Dichlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
2,2-Dichloropropane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
2-Chlorotoluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
2-Hexanone	ND	32	ug/Kg	1	04/17/15	JLI	SW8260C	
2-Isopropyltoluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	1
4-Chlorotoluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
4-Methyl-2-pentanone	ND	32	ug/Kg	1	04/17/15	JLI	SW8260C	
Acetone	ND	32	ug/Kg	1	04/17/15	JLI	SW8260C	
Acrylonitrile	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	
Benzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromochloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromodichloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromoform	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Bromomethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Carbon Disulfide	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Carbon tetrachloride	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chlorobenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloroform	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Chloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
cis-1,2-Dichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
cis-1,3-Dichloropropene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Dibromochloromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Dibromomethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Dichlorodifluoromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Ethylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Hexachlorobutadiene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Isopropylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
m&p-Xylene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Methyl Ethyl Ketone	ND	32	ug/Kg	1	04/17/15	JLI	SW8260C	
Methyl t-butyl ether (MTBE)	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	
Methylene chloride	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Naphthalene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
n-Butylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
n-Propylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
o-Xylene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
p-Isopropyltoluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
sec-Butylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Styrene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
tert-Butylbenzene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Tetrachloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Tetrahydrofuran (THF)	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	1
Toluene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Total Xylenes	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,2-Dichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,3-Dichloropropene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
trans-1,4-dichloro-2-butene	ND	13	ug/Kg	1	04/17/15	JLI	SW8260C	
Trichloroethene	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Trichlorofluoromethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Trichlorotrifluoroethane	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
Vinyl chloride	ND	6.3	ug/Kg	1	04/17/15	JLI	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	89		%	1	04/17/15	JLI	70 - 130 %	
% Bromofluorobenzene	82		%	1	04/17/15	JLI	70 - 130 %	
% Dibromofluoromethane	107		%	1	04/17/15	JLI	70 - 130 %	
% Toluene-d8	92		%	1	04/17/15	JLI	70 - 130 %	
Semivolatiles								
1,2,4,5-Tetrachlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
1,2,4-Trichlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
1,2-Dichlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
1,2-Diphenylhydrazine	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
1,3-Dichlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
1,4-Dichlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4,5-Trichlorophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4,6-Trichlorophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dichlorophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dimethylphenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dinitrophenol	ND	660	ug/Kg	1	04/19/15	DD	SW8270D	
2,4-Dinitrotoluene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2,6-Dinitrotoluene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Chloronaphthalene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Chlorophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Methylnaphthalene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Methylphenol (o-cresol)	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
2-Nitroaniline	ND	660	ug/Kg	1	04/19/15	DD	SW8270D	
2-Nitrophenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	

Project ID: ORANGE & ROCKLAND
Client ID: S-5

Phoenix I.D.: BJ04262

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
3,3'-Dichlorobenzidine	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
3-Nitroaniline	ND	660	ug/Kg	1	04/19/15	DD	SW8270D	
4,6-Dinitro-2-methylphenol	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
4-Bromophenyl phenyl ether	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chloro-3-methylphenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chloroaniline	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
4-Chlorophenyl phenyl ether	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
4-Nitroaniline	ND	660	ug/Kg	1	04/19/15	DD	SW8270D	
4-Nitrophenol	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
Acenaphthene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Acenaphthylene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Acetophenone	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Aniline	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	
Anthracene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benz(a)anthracene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzidine	ND	500	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(a)pyrene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(b)fluoranthene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(ghi)perylene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzo(k)fluoranthene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Benzoic acid	ND	1200	ug/Kg	1	04/19/15	DD	SW8270D	1
Benzyl butyl phthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroethyl)ether	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
Bis(2-chloroisopropyl)ether	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	1
Bis(2-ethylhexyl)phthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Carbazole	ND	620	ug/Kg	1	04/19/15	DD	SW8270D	
Chrysene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Dibenz(a,h)anthracene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Dibenzofuran	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Diethyl phthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Dimethylphthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Di-n-butylphthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Di-n-octylphthalate	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Fluoranthene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Fluorene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorobutadiene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachlorocyclopentadiene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Hexachloroethane	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Indeno(1,2,3-cd)pyrene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Isophorone	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Naphthalene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
Nitrobenzene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodimethylamine	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodi-n-propylamine	ND	290	ug/Kg	1	04/19/15	DD	SW8270D	
N-Nitrosodiphenylamine	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
Pentachloronitrobenzene	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	
Pentachlorophenol	ND	410	ug/Kg	1	04/19/15	DD	SW8270D	

Project ID: ORANGE & ROCKLAND
Client ID: S-5

Phoenix I.D.: BJ04262

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phenanthrene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D
Phenol	ND	290	ug/Kg	1	04/19/15	DD	SW8270D
Pyrene	ND	290	ug/Kg	1	04/19/15	DD	SW8270D
Pyridine	ND	410	ug/Kg	1	04/19/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	78		%	1	04/19/15	DD	30 - 130 %
% 2-Fluorobiphenyl	66		%	1	04/19/15	DD	30 - 130 %
% 2-Fluorophenol	68		%	1	04/19/15	DD	30 - 130 %
% Nitrobenzene-d5	71		%	1	04/19/15	DD	30 - 130 %
% Phenol-d5	78		%	1	04/19/15	DD	30 - 130 %
% Terphenyl-d14	82		%	1	04/19/15	DD	30 - 130 %

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quanitation) ND=Not Detected
BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

This sample was not collected in accordance with EPA method 5035. NELAC requires the laboratory to qualify the volatile soil data as biased low.

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

Phyllis Shiller, Laboratory Director
April 22, 2015
Reviewed and Released by: Bobbi Aloisa, Vice President

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

April 22, 2015

QA/QC Data

SDG I.D.: GBJ04258

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 304904 (mg/kg), QC Sample No: BJ03356 (BJ04258, BJ04259, BJ04260, BJ04261, BJ04262)														
ICP Metals - Soil														
Arsenic	BRL	0.64	<0.7	<0.68	NC	83.2	101	19.3	86.9	87.1	0.2	75 - 125	30	
Barium	BRL	0.32	132	149	12.1	81.5	99.2	19.6	114	106	7.3	75 - 125	30	
Cadmium	BRL	0.32	<0.35	<0.34	NC	83.7	103	20.7	87.9	87.7	0.2	75 - 125	30	
Chromium	BRL	0.32	26.8	29.9	10.9	86.6	103	17.3	104	96.0	8.0	75 - 125	30	
Lead	BRL	0.32	3.15	3.12	1.00	82.4	100	19.3	89.2	88.4	0.9	75 - 125	30	
Selenium	BRL	1.3	<1.4	<1.4	NC	76.9	95.1	21.2	74.2	74.6	0.5	75 - 125	30	m
Silver	BRL	0.32	<0.35	<0.34	NC	81.8	101	21.0	93.4	92.8	0.6	75 - 125	30	
QA/QC Batch 305110 (mg/kg), QC Sample No: BJ03703 (BJ04258, BJ04259, BJ04260, BJ04261, BJ04262)														
Mercury - Soil	BRL	0.06	0.18	0.17	5.70	97.8	95.6	2.3	98.8	49.1	67.2	70 - 130	30	m,r

Comment:

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%.

m = This parameter is outside laboratory ms/msd specified recovery limits.
r = This parameter is outside laboratory rpd specified recovery limits.

PHOENIX

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

April 22, 2015

QA/QC Data

SDG I.D.: GBJ04258

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 305134 (PH), QC Sample No: BJ04102 (BJ04258, BJ04259, BJ04260, BJ04261, BJ04262)													
pH - Soil			7.35	7.16	2.60	98.6						85 - 115	20
QA/QC Batch 305143 (PH), QC Sample No: BJ04102 (BJ04258, BJ04259, BJ04260, BJ04261, BJ04262)													
pH - Soil			7.35	7.16	2.60	98.6						85 - 115	20

PHOENIX

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

April 22, 2015

QA/QC Data

SDG I.D.: GBJ04258

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 305048 (ug/Kg), QC Sample No: BJ04134 10X (BJ04258, BJ04259, BJ04260, BJ04261, BJ04262)											
Polychlorinated Biphenyls - Soil											
PCB-1016	ND	170	96	91	5.3	93	94	1.1	40 - 140	30	
PCB-1221	ND	170							40 - 140	30	
PCB-1232	ND	170							40 - 140	30	
PCB-1242	ND	170							40 - 140	30	
PCB-1248	ND	170							40 - 140	30	
PCB-1254	ND	170							40 - 140	30	
PCB-1260	ND	170	89	89	0.0	91	90	1.1	40 - 140	30	
PCB-1262	ND	170							40 - 140	30	
PCB-1268	ND	170							40 - 140	30	
% DCBP (Surrogate Rec)	102	%	106	108	1.9	107	105	1.9	30 - 150	30	
% TCMX (Surrogate Rec)	101	%	107	103	3.8	103	104	1.0	30 - 150	30	
QA/QC Batch 305119 (ug/kg), QC Sample No: BJ04258 (BJ04258, BJ04259 (1X, 50X) , BJ04260, BJ04261, BJ04262)											
Volatiles - Soil											
1,1,1,2-Tetrachloroethane	ND	5.0	98	101	3.0	99	97	2.0	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	104	106	1.9	99	99	0.0	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0	101	103	2.0	90	93	3.3	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	97	102	5.0	100	101	1.0	70 - 130	30	
1,1-Dichloroethane	ND	5.0	103	105	1.9	102	102	0.0	70 - 130	30	
1,1-Dichloroethene	ND	5.0	107	107	0.0	94	94	0.0	70 - 130	30	
1,1-Dichloropropene	ND	5.0	102	103	1.0	102	106	3.8	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	102	105	2.9	100	106	5.8	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	96	102	6.1	91	91	0.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	102	103	1.0	100	105	4.9	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	96	98	2.1	99	102	3.0	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	111	115	3.5	105	103	1.9	70 - 130	30	
1,2-Dibromoethane	ND	5.0	102	106	3.8	103	106	2.9	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	101	103	2.0	99	102	3.0	70 - 130	30	
1,2-Dichloroethane	ND	5.0	98	102	4.0	100	103	3.0	70 - 130	30	
1,2-Dichloropropane	ND	5.0	98	102	4.0	102	103	1.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	101	103	2.0	100	102	2.0	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	102	102	0.0	99	101	2.0	70 - 130	30	
1,3-Dichloropropane	ND	5.0	100	103	3.0	102	99	3.0	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	99	100	1.0	97	101	4.0	70 - 130	30	
2,2-Dichloropropane	ND	5.0	106	104	1.9	97	101	4.0	70 - 130	30	
2-Chlorotoluene	ND	5.0	102	104	1.9	101	103	2.0	70 - 130	30	
2-Hexanone	ND	25	93	96	3.2	92	85	7.9	70 - 130	30	
2-Isopropyltoluene	ND	5.0	106	109	2.8	103	106	2.9	70 - 130	30	
4-Chlorotoluene	ND	5.0	98	102	4.0	100	101	1.0	70 - 130	30	
4-Methyl-2-pentanone	ND	25	99	104	4.9	94	96	2.1	70 - 130	30	
Acetone	ND	10	85	84	1.2	71	67	5.8	70 - 130	30	m
Acrylonitrile	ND	5.0	109	106	2.8	95	95	0.0	70 - 130	30	

QA/QC Data

SDG I.D.: GBJ04258

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Benzene	ND	1.0	103	106	2.9	102	105	2.9	70 - 130	30	
Bromobenzene	ND	5.0	104	105	1.0	128	104	20.7	70 - 130	30	
Bromochloromethane	ND	5.0	101	106	4.8	99	100	1.0	70 - 130	30	
Bromodichloromethane	ND	5.0	101	105	3.9	100	101	1.0	70 - 130	30	
Bromoform	ND	5.0	98	102	4.0	94	90	4.3	70 - 130	30	
Bromomethane	ND	5.0	98	91	7.4	57	64	11.6	70 - 130	30	m
Carbon Disulfide	ND	5.0	113	113	0.0	90	90	0.0	70 - 130	30	
Carbon tetrachloride	ND	5.0	101	104	2.9	98	100	2.0	70 - 130	30	
Chlorobenzene	ND	5.0	102	102	0.0	101	101	0.0	70 - 130	30	
Chloroethane	ND	5.0	102	104	1.9	20	20	0.0	70 - 130	30	m
Chloroform	ND	5.0	98	99	1.0	96	95	1.0	70 - 130	30	
Chloromethane	ND	5.0	97	99	2.0	97	97	0.0	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	111	110	0.9	104	106	1.9	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	107	111	3.7	105	107	1.9	70 - 130	30	
Dibromochloromethane	ND	3.0	103	106	2.9	100	97	3.0	70 - 130	30	
Dibromomethane	ND	5.0	100	104	3.9	102	104	1.9	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	109	108	0.9	99	98	1.0	70 - 130	30	
Ethylbenzene	ND	1.0	105	106	0.9	103	102	1.0	70 - 130	30	
Hexachlorobutadiene	ND	5.0	105	106	0.9	106	110	3.7	70 - 130	30	
Isopropylbenzene	ND	1.0	105	106	0.9	105	106	0.9	70 - 130	30	
m&p-Xylene	ND	2.0	100	102	2.0	102	102	0.0	70 - 130	30	
Methyl ethyl ketone	ND	5.0	99	98	1.0	86	86	0.0	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	1.0	96	100	4.1	94	97	3.1	70 - 130	30	
Methylene chloride	ND	5.0	95	95	0.0	90	91	1.1	70 - 130	30	
Naphthalene	ND	5.0	110	113	2.7	105	109	3.7	70 - 130	30	
n-Butylbenzene	ND	1.0	102	102	0.0	104	106	1.9	70 - 130	30	
n-Propylbenzene	ND	1.0	97	98	1.0	102	104	1.9	70 - 130	30	
o-Xylene	ND	2.0	106	107	0.9	107	106	0.9	70 - 130	30	
p-Isopropyltoluene	ND	1.0	103	104	1.0	103	105	1.9	70 - 130	30	
sec-Butylbenzene	ND	1.0	105	106	0.9	101	103	2.0	70 - 130	30	
Styrene	ND	5.0	103	105	1.9	106	103	2.9	70 - 130	30	
tert-Butylbenzene	ND	1.0	104	106	1.9	103	106	2.9	70 - 130	30	
Tetrachloroethene	ND	5.0	104	106	1.9	104	104	0.0	70 - 130	30	
Tetrahydrofuran (THF)	ND	5.0	103	99	4.0	90	88	2.2	70 - 130	30	
Toluene	ND	1.0	102	106	3.8	103	105	1.9	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0	105	105	0.0	94	97	3.1	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0	105	110	4.7	102	104	1.9	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	107	110	2.8	94	94	0.0	70 - 130	30	
Trichloroethene	ND	5.0	104	109	4.7	104	106	1.9	70 - 130	30	
Trichlorofluoromethane	ND	5.0	98	100	2.0	30	33	9.5	70 - 130	30	m
Trichlorotrifluoroethane	ND	5.0	103	101	2.0	98	98	0.0	70 - 130	30	
Vinyl chloride	ND	5.0	111	110	0.9	90	89	1.1	70 - 130	30	
% 1,2-dichlorobenzene-d4	95	%	101	101	0.0	99	100	1.0	70 - 130	30	
% Bromofluorobenzene	98	%	101	102	1.0	102	101	1.0	70 - 130	30	
% Dibromofluoromethane	105	%	101	98	3.0	98	97	1.0	70 - 130	30	
% Toluene-d8	93	%	99	102	3.0	101	103	2.0	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Batch 305046 (ug/Kg), QC Sample No: BJ04315 (BJ04258, BJ04259, BJ04260, BJ04261, BJ04262)

Semivolatiles - Soil

1,2,4,5-Tetrachlorobenzene	ND	230	85	85	0.0	78	87	10.9	30 - 130	30	
1,2,4-Trichlorobenzene	ND	230	80	82	2.5	76	83	8.8	30 - 130	30	

QA/QC Data

SDG I.D.: GBJ04258

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,2-Dichlorobenzene	ND	230	68	72	5.7	67	72	7.2	30 - 130	30	
1,2-Diphenylhydrazine	ND	230	95	96	1.0	87	93	6.7	30 - 130	30	
1,3-Dichlorobenzene	ND	230	65	69	6.0	64	70	9.0	30 - 130	30	
1,4-Dichlorobenzene	ND	230	66	70	5.9	65	71	8.8	30 - 130	30	
2,4,5-Trichlorophenol	ND	230	96	97	1.0	88	97	9.7	30 - 130	30	
2,4,6-Trichlorophenol	ND	130	94	92	2.2	87	93	6.7	30 - 130	30	
2,4-Dichlorophenol	ND	130	93	92	1.1	86	95	9.9	30 - 130	30	
2,4-Dimethylphenol	ND	230	86	85	1.2	78	85	8.6	30 - 130	30	
2,4-Dinitrophenol	ND	230	<10	18	NC	18	25	32.6	30 - 130	30	l,m,r
2,4-Dinitrotoluene	ND	130	108	108	0.0	102	107	4.8	30 - 130	30	
2,6-Dinitrotoluene	ND	130	101	100	1.0	92	98	6.3	30 - 130	30	
2-Chloronaphthalene	ND	230	94	91	3.2	86	93	7.8	30 - 130	30	
2-Chlorophenol	ND	230	88	85	3.5	80	86	7.2	30 - 130	30	
2-Methylnaphthalene	ND	230	91	91	0.0	84	93	10.2	30 - 130	30	
2-Methylphenol (o-cresol)	ND	230	91	92	1.1	87	92	5.6	30 - 130	30	
2-Nitroaniline	ND	670	130	130	0.0	128	128	0.0	30 - 130	30	
2-Nitrophenol	ND	230	86	86	0.0	78	88	12.0	30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	230	95	97	2.1	89	94	5.5	30 - 130	30	
3,3'-Dichlorobenzidine	ND	130	102	109	6.6	97	113	15.2	30 - 130	30	
3-Nitroaniline	ND	670	97	93	4.2	98	100	2.0	30 - 130	30	
4,6-Dinitro-2-methylphenol	ND	170	35	44	22.8	58	76	26.9	30 - 130	30	
4-Bromophenyl phenyl ether	ND	230	93	92	1.1	83	89	7.0	30 - 130	30	
4-Chloro-3-methylphenol	ND	230	100	101	1.0	92	102	10.3	30 - 130	30	
4-Chloroaniline	ND	230	75	62	19.0	78	78	0.0	30 - 130	30	
4-Chlorophenyl phenyl ether	ND	230	97	95	2.1	88	92	4.4	30 - 130	30	
4-Nitroaniline	ND	670	108	108	0.0	100	105	4.9	30 - 130	30	
4-Nitrophenol	ND	230	99	107	7.8	96	102	6.1	30 - 130	30	
Acenaphthene	ND	230	89	87	2.3	81	86	6.0	30 - 130	30	
Acenaphthylene	ND	230	94	91	3.2	85	91	6.8	30 - 130	30	
Acetophenone	ND	230	91	94	3.2	87	92	5.6	30 - 130	30	
Aniline	ND	970	83	80	3.7	82	88	7.1	30 - 130	30	
Anthracene	ND	230	103	101	2.0	93	95	2.1	30 - 130	30	
Benz(a)anthracene	ND	230	92	91	1.1	85	92	7.9	30 - 130	30	
Benzidine	ND	330	>200	>200	NC	141	>200	NC	30 - 130	30	l,m
Benzo(a)pyrene	ND	230	99	91	8.4	90	96	6.5	30 - 130	30	
Benzo(b)fluoranthene	ND	230	96	88	8.7	93	95	2.1	30 - 130	30	
Benzo(ghi)perylene	ND	230	98	84	15.4	70	96	31.3	30 - 130	30	r
Benzo(k)fluoranthene	ND	230	100	94	6.2	98	92	6.3	30 - 130	30	
Benzoic Acid	ND	330	<10	<10	NC	<10	<10	NC	30 - 130	30	l,m
Benzyl butyl phthalate	ND	230	98	99	1.0	102	100	2.0	30 - 130	30	
Bis(2-chloroethoxy)methane	ND	230	90	91	1.1	84	92	9.1	30 - 130	30	
Bis(2-chloroethyl)ether	ND	130	68	70	2.9	65	71	8.8	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	230	70	74	5.6	67	72	7.2	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	230	108	106	1.9	103	99	4.0	30 - 130	30	
Carbazole	ND	500	119	116	2.6	114	115	0.9	30 - 130	30	
Chrysene	ND	230	99	99	0.0	93	106	13.1	30 - 130	30	
Dibenz(a,h)anthracene	ND	230	99	90	9.5	74	95	24.9	30 - 130	30	
Dibenzofuran	ND	230	99	97	2.0	90	96	6.5	30 - 130	30	
Diethyl phthalate	ND	230	100	99	1.0	92	98	6.3	30 - 130	30	
Dimethylphthalate	ND	230	98	96	2.1	90	96	6.5	30 - 130	30	
Di-n-butylphthalate	ND	230	108	105	2.8	102	103	1.0	30 - 130	30	
Di-n-octylphthalate	ND	230	103	106	2.9	94	106	12.0	30 - 130	30	
Fluoranthene	ND	230	108	99	8.7	97	96	1.0	30 - 130	30	

QA/QC Data

SDG I.D.: GBJ04258

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Fluorene	ND	230	99	97	2.0	90	93	3.3	30 - 130	30	
Hexachlorobenzene	ND	130	100	100	0.0	89	96	7.6	30 - 130	30	
Hexachlorobutadiene	ND	230	78	80	2.5	74	82	10.3	30 - 130	30	
Hexachlorocyclopentadiene	ND	230	51	61	17.9	40	60	40.0	30 - 130	30	r
Hexachloroethane	ND	130	66	70	5.9	62	70	12.1	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	230	99	88	11.8	73	95	26.2	30 - 130	30	
Isophorone	ND	130	86	86	0.0	80	88	9.5	30 - 130	30	
Naphthalene	ND	230	82	84	2.4	78	84	7.4	30 - 130	30	
Nitrobenzene	ND	130	82	85	3.6	79	84	6.1	30 - 130	30	
N-Nitrosodimethylamine	ND	230	67	69	2.9	65	71	8.8	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	130	87	92	5.6	85	90	5.7	30 - 130	30	
N-Nitrosodiphenylamine	ND	130	102	101	1.0	95	98	3.1	30 - 130	30	
Pentachloronitrobenzene	ND	230	98	97	1.0	90	95	5.4	30 - 130	30	
Pentachlorophenol	ND	230	47	57	19.2	53	60	12.4	30 - 130	30	
Phenanthrene	ND	230	101	97	4.0	91	95	4.3	30 - 130	30	
Phenol	ND	230	96	94	2.1	89	95	6.5	30 - 130	30	
Pyrene	ND	230	110	103	6.6	98	100	2.0	30 - 130	30	
Pyridine	ND	230	46	49	6.3	48	52	8.0	30 - 130	30	
% 2,4,6-Tribromophenol	86	%	92	95	3.2	81	88	8.3	30 - 130	30	
% 2-Fluorobiphenyl	93	%	86	83	3.6	77	84	8.7	30 - 130	30	
% 2-Fluorophenol	78	%	80	81	1.2	75	81	7.7	30 - 130	30	
% Nitrobenzene-d5	75	%	78	81	3.8	75	80	6.5	30 - 130	30	
% Phenol-d5	82	%	87	85	2.3	80	85	6.1	30 - 130	30	
% Terphenyl-d14	120	%	101	95	6.1	90	92	2.2	30 - 130	30	

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

l = This parameter is outside laboratory lcs/lcsd specified recovery limits.
m = This parameter is outside laboratory ms/msd specified recovery limits.
r = This parameter is outside laboratory rpd specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
April 22, 2015

Sample Criteria Exceedences Report

GBJ04258 - DACOLLIN

Criteria: NY: 375RRS

State: NY

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE
nelac
NY # 11301

NY Temperature Narration

April 22, 2015

SDG I.D.: GBJ04258

The samples in this delivery group were received at 4°C.
(Note acceptance criteria is above freezing up to 6°C)

Coolant: Cooler: Yes ☐ No ☐ / PK ☑ ICE ☐ No ☐

Temp °C Pg of

NY/NJ CHAIN OF CUSTODY RECORD

PHOENIX Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726 Nyack MGP

Contact Options:
☐ Fax: Robert Montague
☐ Phone: 518 361 8848
☐ Email: rmontague@dacollins.com

Customer: DA Collins
Address: 55 Gedney St
Nyack, NY, 10960

Project: ORANGE & ROCKLAND Project P.O:
Report to:
Invoice to:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature _____ Date: _____

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe
OIL=Oil **B**=Bulk **L**=Liquid

Analysis Request: RCRA 8 met Als; PCB by 8082; VOC by 8260; SVOC by 8270 C; pH organic content; GRAIN SIZE

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
04258	S-1	S	4/17	1015			1							
04259	S-2	S					1							
04260	S-3	S					1							
04261	S-4	S					1							
04262	S-5	S					1							

* Do not RUN grainsize or organic content per conv. w/ Rob Montague *LB

Relinquished by:	Accepted by:	Date:	Time:
		4/17/15	1020
		4/17/15	1622

Turnaround:
☒ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ 5 Days
☐ 10 Days
☐ Other
* SURCHARGE APPLIES

NJ
☐ Res. Criteria
☐ Non-Res. Criteria
☐ Impact to GW Soil Cleanup Criteria
☐ GW Criteria

NY
☐ TAGM 4046 GW
☐ TAGM 4046 SOIL
☐ NY375 Unrestricted Use Soil
☐ NY375 Residential Soil
☒ Restricted/Residential
☐ Commercial
☐ Industrial

Data Format
☐ Phoenix Std Report
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ NJ Hazsite EDD
☐ NY EZ EDD (ASP)
☐ Other _____

Data Package
☐ NJ Reduced Deliv. *
☐ NY Enhanced (ASP B) *
☐ Other

Comments, Special Requirements or Regulations:
24 hour TAT
Check with Rob Montague on pH, Org. content, grain size
518-361-8848

State where samples were collected: _____

Mix samples prior to analysis

Appendix N

Digital Copy of the Previous Construction Completion Reports