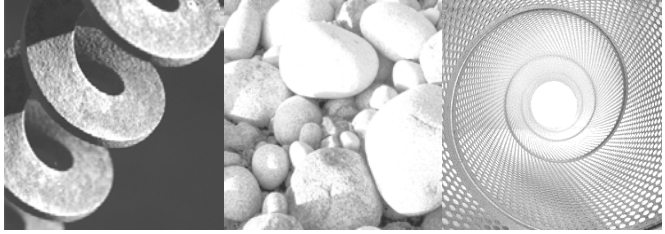

GEI Consultants

Consulting
Engineers and
Scientists

Site Management Plan

Former Oyster Bay Hortonsphere Site
Oyster Bay, Nassau County, New York

NYSDEC Site Number: 130183

Submitted to:
National Grid
175 East Old Country Road
Hicksville, New York 11801

Submitted by:
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January 2019
Project 1702897.4

Michael Quinlan
Environmental Scientist

Matthew J. O'Neil, P.E.
Project Engineer.

Revisions to Final Approved Site Management Plan

Revision #	Submitted Date	Summary of Revision	NYSDEC Approval Date
1	1/31/2019	Added Metes and Bounds Survey to Appendix B and Environmental Easement to Appendix C. Updated references in text to the additional appendices, figures and tables.	

Professional Engineer Certification

I, Matthew J. O'Neil, certify that I am currently a NYS registered professional engineer and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

1/31/19
Date

Matthew J. O'Neil
GEI Consultants, Inc. P.C.
New York State Professional Engineer
License Number 091317

It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

Table of Contents

Tables

Figures

Table of Contents (cont.)

Appendices

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Abbreviations and Acronyms

AWQS	Ambient Water Quality Standards
CAMP	Community Air Monitoring Plan
DER	Division of Environmental Remediation
GEI	GEI Consultants, Inc., P.C.
IC	Institutional Control
LILCO	Long Island Lighting Company
LIPA	Long Island Power Authority
NAVD	North American Vertical Datum
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
PCB	Polychlorinated biphenyls
PSEG	Public Service Enterprise Group
SC	Site Characterization
SCG	Standards, Criteria, and Guidance
SCO	Soil Cleanup Objectives
SIR	Site Inspection Report
SMP	Site Management Plan
SVOC	Semi-volatile organic compound
UST	Underground Storage Tank
VOC	Volatile organic compound

Units of Measurement

ft	feet
µg/L	micrograms per liter

1. Introduction and Description of Site

1.1 Introduction

This Site Management Plan (the "Plan") is required as an element of the remedial program at the former Oyster Bay Hortonsphere Site (hereinafter referred to as the "Site") (**Figure 1**) under the New York State (NYS) Hazardous Waste Disposal Site Remedial Program administered by New York State Department of Environmental Conservation (NYSDEC). National Grid (formerly "KeySpan Gas East Corporation") entered into an Order on Consent, Index #A1-0595-08-07, Site # 130183, dated August 24, 2007.

Following the field assessment, a Site Characterization (SC) report, dated February 2013, was completed by GEI Consultants, Inc., P.C. (GEI) on behalf of National Grid (the Remedial Party). The SC revealed that all subsurface soil analytical results are below the New York State Residential Soil Cleanup Objectives (SCOs). Volatile organic compounds (VOCs) were not detected in surface soils. Detected semi-volatile organic compounds (SVOCs) and pesticides in surface soils were below residential SCOs. Three surface soil samples had compounds with concentrations that exceeded residential SCOs: OHS-SS-06 with total polychlorinated biphenyls (PCB) and chromium, OHS-SS-07 with mercury, and OHS-SS-10 with lead and chromium (**Figure 2**). However, these concentrations were well below the Industrial SCO, which is more appropriate based on the current and intended future industrial use of the Site. During the SC, sediment sampling in Mill Creek was also conducted. In these sediment samples, several metals exceeded ecological screening benchmarks. In June 2013, NYSDEC approved the SC report which concluded that no further investigations are necessary. However, it was recommended that an annual inspection be performed.

This Plan was prepared on behalf of National Grid and is consistent with relevant requirements of the NYSDEC Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation, dated May 2010 and guidance provided by NYSDEC specific to this site. This Plan addresses the means for performing the annual inspection of the site.

1.2 Site Background

The site is located in Oyster Bay, Nassau County, New York and is identified as Section 27, Block 29, Lot 13. The site is bounded by the Long Island Railroad to the north, West Main Street to the south, a residential neighborhood to the east, and Mill Creek to the west.

The Oyster Bay Hortonsphere was constructed in 1930 and was present on the Site until 1979. The subject property was operated by the Oyster Bay Electric Light and Power Company from prior to 1897 until at least 1909. By 1915, the site was operated by the Nassau Light and Power Company, and by 1964 it was operated by Long Island Lighting Company (LILCO). No gas production facilities were present at the site. The site is currently occupied by an electric substation (northeast portion of the site), an outbuilding (former DC generator building), transformer pads, concrete pilings adjacent to the former DC generator building, and vacant wooded and grass covered land. The enclosed electric substation is operated by Long Island Power Authority (LIPA)/Public Service Enterprise Group (PSEG). The property is described in the Metes & Bounds survey included in **Appendix B**.

1.3 Summary of Site Characterization Findings

A SC was performed to characterize the nature and extent of contamination at the site. The results of the SC are described in detail in the following report:

Final Site Characterization Report, Former Oyster Bay Hortonsphere Site, Oyster Bay, New York, AOC Index No. A1-0595-08-07 Site # 130183, February 2013.

Below is a summary of site conditions when the SC was performed:

- Water table elevations ranged from 2.45 to 4.19 feet (ft) above North American Vertical Datum (NAVD) when measured in 2009. Groundwater elevation contours and groundwater flow direction are depicted in **Figure 3**.

- The Site consisted predominately of silty sand interbedded with sand and gravel. Soil borings encountered fill materials with thicknesses ranging from 2 to 10 ft.

- There are no known underground storage tanks (USTs) at the Site.

- Surface soil (0 to 2 inches below surface cover) samples contained PCBs and metals at concentrations that were generally below SCOs for residential use, exceptions being well under industrial use SCOs (**Table 1** and **Figure 4**).

- Sediment samples were collected, and an assessment of bioavailability was completed during the SC. The assessment indicated that only 1 out of 10 samples contained compounds that might be bioavailable. The sediment samples were further compared against the Residential SCOs for soil as NYSDEC does not have published Standards, Criteria, and Guidance (SCG) values for sediments. There were no exceedances of the Residential SCOs (**Table 2** and **Figure 5**).

- Subsurface soil (deeper than 2 inches) contained levels of VOCs, SVOCs, PCBs, pesticides, herbicides, metals, sulfate, and sulfite below SCOs for residential use (**Table 3** and **Figure 6**).

- A groundwater sample (OHS-GW-08) contained toluene at a concentration that exceeded NYSDEC Ambient Water Quality Standards for GA groundwater (AWQS) of 5 micrograms per liter (µg/L). Other concentrations of detected compounds were below AWQS except for iron, manganese, and sodium. These metals are naturally present in regional groundwater in Long Island. Summaries of groundwater analytical results can be seen in **Table 4** and **Figure 3**.

- Soil vapor samples had VOCs detected at low levels. Many of the compounds detected (chlorinated solvents, acetone, oxygenates, other solvents), are not associated with manufactured gas storage. The locations of the soil vapor samples are on **Figure 2** and a summary of the soil vapor analytical results can be seen in **Table 5**.

2. Site Management Plan

2.1 General

Based on the results of the site characterization, residual surface soil contamination remains above Restricted Residential Soil SCOs at the site. In addition, sediments in the adjacent Mill Creek have elevated levels of several metals. As such, an institutional control in the form of an environmental easement has been completed. A Soil Management Plan will be implemented if any intrusive work is necessary at the site to ensure the protection of the public health. A Soil Management Plan is provided as **Appendix A**.

Since concentrations of a few contaminants in soil exceed Restricted Residential SCOs, this Plan was requested to monitor ongoing site land use. Should the land use of any portion of the site change from its current zoned use of industrial, the NYSDEC reserves its right under the Order on Consent to require National Grid to perform further assessment of the site, with possible remediation, if warranted.

2.2 Institutional Controls

The Site has a series of Institutional Controls (ICs) in the form of site restrictions. Adherence to these Institutional Controls is required by the Environmental Easement. A copy of the Environmental Easement is included in **Appendix C**. Site restrictions that apply to the Controlled Property are:

- The property may only be used for commercial/industrial purposes provided that the long-term Institutional Controls included in this Site Management Plan (SMP) are employed.

- The property may not be used for a higher level of use, such as unrestricted, restricted residential or residential use without the necessary additional investigation and possible remediation.

- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP.

- The use of groundwater underlying the property is prohibited without NYSDEC approval.

- Gardening and/or farming activities at the property are prohibited.

- Data and information pertinent to Site Management of the property must be reported to NYSDEC.

- Institutional Controls identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement.

2.3 Soil Management

If LIPA/PSEG needs to conduct intrusive work at the Site, they will contact National Grid. National Grid will then provide NYSDEC a brief description of the work so that NYSDEC can determine if monitoring is necessary. The protocol for soil management and air monitoring is described in the SMP in **Appendix A** and a generic Community Air Monitoring Plan (CAMP) in **Appendix D**, respectively.

2.4 Inspections

A site-wide inspection will be conducted annually to ensure the continued use of the property as an electric substation. The inspection will include a written request to the property owner to determine and document the following:

- That the use of the property as an electric substation has not changed since the prior inspection.

- The property owner has no plans to perform major structural repairs.

- The property owner has no plans within the next twelve (12) months to initiate any change in use of the property.

The reporting requirements are outlined in Section 3 of this Plan.

2.5 Notifications

Notifications will be made to the property owner of the plan to conduct the annual inspection of the property. The following confirmation will be requested from the property owner:

LIPA/PSEG hereby acknowledges that, at this time, there are no plans or intentions to sell the property or initiate any change in the land use of the property.

Should these intentions change in the period subsequent to this acknowledgement, LIPA/ PSEG will notify both:

Sarah Aldridge
National Grid
Site Investigation and Remediation Department
175 East Old Country Road
Hicksville, NY 11801
Sarah.Aldridge@nationalgrid.com
516-545-2568 (office)
860-334-0554 (cell)

John C. Sheehan
Engineering Geologist 1
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Stony Brook University
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Stony Brook, NY 11790-3408
John.sheehan@dec.ny.gov
631-444-0244 (office)

National Grid's Designated Site Representative will assist LIPA/PSEG of any notifications to NYSDEC.

2.6 Revisions

Revisions to this Plan will be proposed in writing to the NYSDEC Project Manager. If the NYSDEC approves the proposed changes, it will provide a notice of the approved changes to the Plan and append these notices to the Plan that is retained in its files and provide copies to both National Grid and the property owner.

3. Inspections, Reporting, and Certifications

3.1 Site Inspection Frequency

At a minimum, site-wide inspection will be conducted annually. Inspections will also be conducted whenever a severe weather condition has taken place that may affect the distribution of surface soil impacts and overall site conditions.

3.2 Certification of Site Conditions

After the completion of the inspection of the reporting period, a Qualified Environmental Professional will prepare the certification described below.

For each institutional identified for the site, I certify that all of the following statements are true:

- *The institutional control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *Use of the site is compliant with the environmental easement;*
- *The information presented in this report is accurate and complete; and*
- *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, [name of QEP], of [business address], am certifying as [Owner or Owner's Designated Site Representative]."*

The signed certifications will be included in the Site Inspection Report (SIR) described below in Section 3.3.

3.3 Site Inspection Report

A SIR will be submitted to the NYSDEC every year, beginning 15 months after the NYSDEC approval of this Plan. In the event that the site is subdivided into separate parcels with different ownership, a single SIR will be prepared that addresses the site. The report will be prepared in accordance with this Plan and submitted within 45 days of the end of each certification period. The report will include:

- Confirmation and certification of the continuing site use.
- Results of the required annual site inspections and condition inspections, if applicable.
- All applicable inspection forms and other records generated for the site during the inspection in electronic format.
- The signed certification described in Section 3.2.

The SIR will be submitted, in hard-copy format, to the NYSDEC Central Office and the Region 1 Office, and in electronic format to NYSDEC Central Office, Region 1 Office, and the New York State Department of Health Bureau of Environmental Exposure Investigation.

Tables

Table 1: Surface Soil Analytical Results Summary
Site Management Plan
Former Oyster Bay Hortonsphere Site
Oyster Bay, New York

Sample Name: Sample Depth (inches bgs): Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-SS-01 (1-3) 11/28/2007	OHS-SS-02 (1-3) 11/28/2007	OHS-SS-03 (1-3) 11/28/2007	OHS-SS-04 (1-3) 11/28/2007	Duplicate of: OHS-SS-04 (1-3) 11/28/2007	OHS-SS-05 (1-3) 11/28/2007	OHS-SS-06 (1-3) 11/28/2007
BTEX (mg/kg)									
Total BTEX	NE	NE	ND	ND	ND	ND	ND	ND	ND
Other VOCs (mg/kg)									
Total VOCs	NE	NE	ND	ND	ND	ND	ND	ND	ND
PAHs (mg/kg)									
Acenaphthylene	1,000	100	0.45 U	0.4 U	**0.17 J**	**0.099 J**	0.4 U	0.37 U	0.76 U
Anthracene	1,000	100	0.45 U	0.4 U	**0.09 J**	**0.079 J**	0.4 U	0.37 U	0.76 U
Benz[a]anthracene	11	1	**0.2 J**	**0.095 J**	**0.28 J**	**0.19 J**	**0.13 J**	**0.099 J**	**0.18 J**
Benzo[a]pyrene	1.1	1	**0.21 J**	**0.1 J**	**0.3 J**	**0.22 J**	**0.16 J**	**0.11 J**	**0.21 J**
Benzo[b]fluoranthene	11	1	**0.38 J**	**0.14 J**	**0.37 J**	**0.45**	**0.31 J**	**0.17 J**	**0.59 J**
Benzo[g,h,i]perylene	1,000	100	**0.18 J**	**0.12 J**	**0.33 J**	**0.14 J**	**0.12 J**	**0.12 J**	0.76 U
Benzo[k]fluoranthene	110	1	**0.13 J**	0.4 U	**0.14 J**	**0.15 J**	**0.1 J**	**0.066 J**	**0.19 J**
Chrysene	110	1	**0.26 J**	**0.11 J**	**0.3 J**	**0.29 J**	**0.22 J**	**0.13 J**	**0.49 J**
Dibenz[a,h]anthracene	1.1	0.33	0.45 U	0.4 U	**0.076 J**	0.4 U	0.4 U	0.37 U	0.76 U
Fluoranthene	1,000	100	**0.33 J**	**0.16 J**	**0.45**	**0.32 J**	**0.23 J**	**0.18 J**	**0.39 J**
Indeno[1,2,3-cd]pyrene	11	100	**0.18 J**	**0.11 J**	**0.33 J**	**0.14 J**	**0.13 J**	**0.12 J**	0.76 U
Phenanthrene	1,000	100	**0.12 J**	**0.066 J**	**0.1 J**	**0.15 J**	**0.11 J**	**0.065 J**	**0.23 J**
Pyrene	1,000	100	**0.31 J**	**0.15 J**	**0.37 J**	**0.26 J**	**0.2 J**	**0.17 J**	**0.26 J**
Total PAHs	NE	NE	**2.3**	**1.051**	**3.306**	**2.488**	**1.71**	**1.23**	**2.54**
Other SVOCs (mg/kg)									
Bis(2-ethylhexyl)phthalate	NE	NE	**0.097 J**	0.4 U	**3.5**	**0.087 J**	**0.064 J**	**0.071 J**	**0.12 J**
Phenol	1,000	100	0.45 U	0.4 U	0.38 U	0.4 U	0.4 U	0.37 U	**0.095 J**
Total SVOCs	NE	NE	**2.397**	**1.051**	**6.806**	**2.575**	**1.774**	**1.301**	**2.755**
PCBs (mg/kg)									
Aroclor 1248	NE	NE	0.023 U	0.021 U	0.02 U	0.021 U	**0.013 J**	0.019 U	0.19 U
Aroclor 1254	NE	NE	**0.097**	0.021 U	**0.029**	**0.049**	**0.045**	**0.05**	**0.76 J**
Aroclor 1260	NE	NE	**0.034**	**0.0076 J**	**0.025**	**0.016 J**	**0.023**	**0.028 J**	**0.8 J**
Total PCBs	25	1	**0.131**	**0.0076**	**0.054**	**0.065**	**0.081**	**0.078**	**1.56**
Pesticides (mg/kg)									
Aldrin	1.4	0.019	**0.00086 J**	0.0024 U	0.0023 U	0.0024 U	0.0024 U	0.0023 U	**0.0024 J**
alpha-Chlordane	47	0.91	0.0023 U	0.0021 U	0.0029 U	0.0021 U	0.002 U	0.0019 U	**0.0025 JN**
gamma-Chlordane	NE	NE	0.0023 U	0.0021 U	0.002 U	0.0021 U	0.002 U	**0.0022 JN**	**0.011 J**
DDD,4,4-	180	2.6	**0.0097 JN**	**0.0043 JN**	**0.0014 JN**	0.004 UJ	**0.004 JN**	0.0037 UJ	**0.0054 JN**
DDE,4,4-	120	1.7	**0.019 JN**	**0.016 JN**	**0.0092 JN**	**0.0069 JN**	**0.0063 JN**	**0.024 JN**	**0.02 JN**
DDT,4,4-	94	1.8	**0.022 J**	**0.031 J**	**0.012 J**	**0.0083 J**	**0.005 J**	**0.022 J**	**0.054 JN**

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Oyster Bay, New York

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Delta-BHC	1,000	100	0.0023 U	**0.00078 J**	0.002 U	0.0021 U	0.002 U	0.0019 U	**0.0023 J**
Dieldrin	2.8	0.039	**0.0079**	**0.0026 J**	0.0038 U	0.004 U	0.004 U	**0.0028 J**	**0.027 J**
Endosulfan I	920	4.8	0.0023 U	0.0021 U	0.002 U	0.0021 U	0.002 U	**0.00048 J**	0.0019 U
Endrin	410	2.2	0.0069 U	0.0061 U	0.0058 U	0.0061 U	0.006 U	0.0057 U	**0.01 J**
Heptachlor	29	0.42	0.0023 U	0.0021 U	0.002 U	0.0021 U	0.002 U	0.0019 U	**0.0012 J**
Heptachlor epoxide	NE	NE	**0.0013 J**	0.0021 U	**0.00049 J**	0.0021 U	**0.00056 J**	**0.0021**	0.0019 U
Methoxychlor	NE	NE	0.023 UJ	0.021 UJ	0.02 UJ	**0.012 J**	**0.02 J**	**0.027 J**	0.019 UJ
Total Pesticides	NE	NE	**0.06076**	**0.05468**	**0.02309**	**0.0272**	**0.01586**	**0.08058**	**0.1358**
Herbicides (mg/kg)									
Silvex	1,000	NE	0.033 U	0.025 U	0.024 U	0.025 U	0.025 U	0.024 U	**0.0033 J**
Total Herbicides	NE	NE	ND	ND	ND	ND	ND	ND	**0.0033 J**
Metals (mg/kg)									
Aluminum	NE	NE	**8050**	**5880**	**7750**	**4100**	**4910**	**6820**	**5170**
Arsenic	16	16	**5.4**	**4.3**	**4.8**	**4.4 J**	**5**	**5.1**	**15.1**
Barium	10,000	350	**134**	**19.5 J**	**30.2 J**	**54 J**	**66.2**	**39.1 J**	**113**
Cadmium	60	2.5	7.7 U	5.9 U	5.3 U	7.4 U	6 U	6.4 U	**1.1 J**
Calcium	NE	NE	**2910 J**	**1570 J**	**5620 J**	**6170 J**	**5440 J**	**2870 J**	**4250 J**
Chromium	800*	22*	**13.6**	**8.2**	**12.3**	**7**	**8.5**	**10.4**	**31.4**
Cobalt	NE	NE	**5.2 J**	**2.2 J**	**4 J**	**4.1 J**	**3.9 J**	**4.6 J**	**5.3 J**
Copper	10,000	270	**29.1**	**9.9**	**12.3**	**24.3**	**29.7**	**29.2**	**126**
Iron	NE	NE	**13000**	**7680**	**11400**	**8740**	**10100**	**12300**	**9750**
Lead	3900	400	**168**	**43.8**	**37.2**	**92.1**	**106**	**61.5**	**303**
Magnesium	NE	NE	**1950**	**1130 J**	**3930**	**3130**	**2610**	**1710**	**1890**
Manganese	10,000	2000	**360**	**101**	**155**	**239**	**294**	**246**	**366**
Mercury	5.7	0.81	**0.15**	**0.034**	**0.045**	**0.11**	**0.092**	**0.082**	**0.14**
Nickel	10,000	140	**11.8 J**	**5 J**	**9.6**	**7.8 J**	**8.8 J**	**8.2 J**	**13.9**
Potassium	NE	NE	**544 J**	**357 J**	**371 J**	**266 J**	**305 J**	**381 J**	**362 J**
Selenium	6800	36	15.4 U	11.8 U	10.5 U	14.9 U	**2 J**	12.8 U	11.6 U
Sodium	NE	NE	**170 J**	**67.2 J**	**84.7 J**	**45.1 J**	**67.4 J**	**39.7 J**	**92.3 J**
Thallium	NE	NE	NA	NA	NA	NA	NA	NA	NA
Vanadium	NE	NE	**24.3**	**13.3**	**18**	**12.5 J**	**16.1**	**18.7**	**27.4**
Zinc	10,000	2200	**189 J**	**40.1 J**	**44.4 J**	**95.4 J**	**112 J**	**101 J**	**382 J**
Other Analyses (mg/kg)									
Sulfate	NE	NE	**10.5**	**5 J**	**6.3**	**5.1 J**	**5.9 J**	**6.7**	**6.5**
Sulfite	NE	NE	ND	ND	ND	ND	ND	ND	ND

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BTEX (mg/kg)									
Total BTEX	NE	NE	NA	NA	NA	NA	NA	NA	NA
Other VOCs (mg/kg)									
Total VOCs	NE	NE	NA	NA	NA	NA	NA	NA	NA
PAHs (mg/kg)									
Acenaphthylene	1,000	100	NA	NA	NA	NA	NA	NA	NA
Anthracene	1,000	100	NA	NA	NA	NA	NA	NA	NA
Benz[a]anthracene	11	1	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	1.1	1	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	11	1	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,000	100	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	110	1	NA	NA	NA	NA	NA	NA	NA
Chrysene	110	1	NA	NA	NA	NA	NA	NA	NA
Dibenz[a,h]anthracene	1.1	0.33	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	1,000	100	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	11	100	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	1,000	100	NA	NA	NA	NA	NA	NA	NA
Pyrene	1,000	100	NA	NA	NA	NA	NA	NA	NA
Total PAHs	NE	NE	NA	NA	NA	NA	NA	NA	NA
Other SVOCs (mg/kg)									
Bis(2-ethylhexyl)phthalate	NE	NE	NA	NA	NA	NA	NA	NA	NA
Phenol	1,000	100	NA	NA	NA	NA	NA	NA	NA
Total SVOCs	NE	NE	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg)									
Aroclor 1248	NE	NE	NA	NA	NA	NA	NA	NA	
Aroclor 1254	NE	NE	**0.012 J**	**0.013 J**	**0.02 J**	**0.024**	**0.034**	**0.0092 J**	**0.014 J**
Aroclor 1260	NE	NE	**0.0099 J**	**0.014 J**	**0.029**	**0.023**	**0.25**	**0.011 J**	**0.017 J**
Total PCBs	25	1	**0.0219**	**0.027**	**0.049**	**0.047**	**0.284**	**0.0202**	**0.031**
Pesticides (mg/kg)									
Aldrin	1.4	0.019	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	47	0.91	NA	NA	NA	NA	NA	NA	NA
gamma-Chlordane	NE	NE	NA	NA	NA	NA	NA	NA	NA
DDD,4,4-	180	2.6	NA	NA	NA	NA	NA	NA	NA
DDE,4,4-	120	1.7	NA	NA	NA	NA	NA	NA	NA
DDT,4,4-	94	1.8	NA	NA	NA	NA	NA	NA	NA

Table 1: Surface Soil Analytical Results Summary
Site Management Plan
Former Oyster Bay Hortonsphere Site
Oyster Bay, New York

Sample Name: Sample Depth (inches bgs): Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-SS-07 (0-2) 4/3/2012	OHS-SS-XX (0-2) 4/3/2012	OHS-SS-08 (0-2) 4/3/2012	OHS-SS-09 (0-2) 4/3/2012	OHS-SS-10 (0-2) 4/3/2012	OHS-SS-11 (0-2) 4/3/2012	OHS-SS-12 (0-2) 4/3/2012
Delta-BHC	1,000	100	NA	NA	NA	NA	NA	NA	NA
Dieldrin	2.8	0.039	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	920	4.8	NA	NA	NA	NA	NA	NA	NA
Endrin	410	2.2	NA	NA	NA	NA	NA	NA	NA
Heptachlor	29	0.42	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	NE	NE	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	NE	NE	NA	NA	NA	NA	NA	NA	NA
Total Pesticides	NE	NE	NA	NA	NA	NA	NA	NA	NA
Herbicides (mg/kg)									
Silvex	1,000	NE	NA	NA	NA	NA	NA	NA	NA
Total Herbicides	NE	NE	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Aluminum	NE	NE	**4000**	**3740**	**2410**	**5420**	**8090**	**3840**	**3380**
Arsenic	16	16	**7**	**4.6**	**2.8**	**4.8**	**15.4**	**4.3**	**2.8**
Barium	10,000	350	**83.2**	**75.7**	**59.9**	**83.3**	**117**	**33.4**	**24.2**
Cadmium	60	2.5	**0.63**	**0.5**	0.57 U	**1.1**	**0.91**	0.48 U	0.5 U
Calcium	NE	NE	**2690 J**	**2630 J**	**1940 J**	**1300 J**	**9030 J**	**5180 J**	**962 J**
Chromium	800*	22*	**8.4**	**8**	**10.1**	**8.8**	**35.2**	**7.5**	**5.3**
Cobalt	NE	NE	**4.5 J**	**3.1 J**	**2.4 J**	**3.1 J**	**5.8 J**	**2.6 J**	**2.2 J**
Copper	10,000	270	**51 J**	**51.2 J**	**26.9 J**	**54.7 J**	**43.5 J**	**16.6 J**	**13.7 J**
Iron	NE	NE	**27000 J**	**6890 J**	**5560**	**7680**	**18900**	**7560**	**6670**
Lead	3900	400	**344**	**383**	**194**	**202**	**469**	**89.3**	**103**
Magnesium	NE	NE	**1000 J**	**1010 J**	574 UJ	**750 J**	**4300 J**	**3170 J**	**794 J**
Manganese	10,000	2000	**377 J**	**236 J**	**166 J**	**389 J**	**358 J**	**170 J**	**168 J**
Mercury	5.7	0.81	**1.4**	**1.3**	**0.14**	**0.21**	**0.41**	**0.062**	**0.069**
Nickel	10,000	140	**12.4**	**9**	**9.7**	**7.9**	**17.4**	**5.6**	**5**
Potassium	NE	NE	**366 J**	**283 J**	**215 J**	**267 J**	**728**	**229 J**	**253 J**
Selenium	6800	36	NA	NA	NA	NA	NA	NA	NA
Sodium	NE	NE	NA	NA	NA	NA	NA	NA	NA
Thallium	NE	NE	**0.24 J**	2.2 U	2.9 U	2.3 U	3.1 U	2.4 U	2.5 U
Vanadium	NE	NE	**13.3**	**10**	**9.5**	**14.3**	**36.2**	**11.5**	**10**
Zinc	10,000	2200	**331**	**318**	**144**	**165**	**243**	**74.4**	**84.8**
Other Analyses (mg/kg)									
Sulfate	NE	NE	NA	NA	NA	NA	NA	NA	NA
Sulfite	NE	NE	NA	NA	NA	NA	NA	NA	NA

Table 1: Surface Soil Analytical Results Summary
Site Management Plan
Former Oyster Bay Hortonsphere Site
Oyster Bay, New York

Notes:
INDUSTRIAL SCO - New York State Code of Rules and Regulations Title 6 (6 NYCRR) Subpart 375-6 Restricted Use Industrial Soil Cleanup Objective (SCO)
RESIDENTIAL SCO - 6 NYCRR Subpart 375-6 Restricted Use Residential SCO
mg/kg - milligrams per kilogram (equivalent to parts per million (ppm))
bgs - below ground surface
VOCs - volatile organic compounds
BTEX - benzene, toluene, ethylbenzene, and xylenes (a subset of VOCs)
SVOCs - semivolatile organic compounds
PAHs - polycyclic aromatic hydrocarbons (a subset of SVOCs)
PCBs - polychlorinated biphenyls
NE - not established; in the absence of Residential SCOs, results were considered against relevant SCGs
ND - not detected; total concentration is listed as ND because no compounds were detected in the group
J - estimated value
JN - analyte is presumptively present at an approximated quantity
U - indicates not detected to the reporting limit for organic analysis and the method detection limit for inorganic analysis
UJ - not detected at or above the reporting limit shown, and the reporting limit is estimated
Bold indicates a detection.
Gray shading indicates the result exceeds the NYCRR Part 375 Residential SCO.
Orange shading and bolding indicates that the detected result value exceeds established 6 NYCRR SCO UNREST, 6 NYCRR SCO REST RES and 6 NYCRR SCO REST REST-RES
No criteria for the individual Aroclor compounds have been established; however, the limits for Total PCBs are 25 mg/kg (Industrial SCO) and 1 mg/kg (Residential SCO).
* - indicates the listed SCO is for hexavalent chromium. An SCO for total chromium has not been established.
NA - Not analyzed

Table 2: Sediment Analytical Results Summary
Site Management Plan
Oyster Bay Hortonsphere Site
Oyster Bay, New York

VALIDATED

			Location Name	OHS-SED-01	OHS-SED-02	OHS-SED-03	OHS-SED-04	OHS-SED-05
			Sample Name	OHS-SED-01	OHS-SED-02	OHS-SED-03	OHS-SED-04	OHS-SED-05
			Sample Date	4/3/2012	4/3/2012	4/3/2012	4/3/2012	4/3/2012
			Parent Sample Code					
Analyte	CAS no.	ER-L	ER-M					
PCBs (mg/kg)								
Aroclor 1254	11097-69-1	NE	NE	**0.051**	0.023 U	0.025 U	0.022 U	0.025 U
Aroclor 1260	11096-82-5	NE	NE	**0.03**	0.023 U	**0.0052 J**	0.022 U	0.025 U
Total PCBs	TPCB	22.7	180	**0.081**	ND	**0.0052**	ND	ND
Total Metals (mg/kg)								
Aluminum	7429-90-5	NE	1.8%	**1920**	**3650**	**5350**	**2480**	**1890**
Antimony	7440-36-0	NE	NE	**1.4 J**	**1.2 J**	**1.1 J**	**0.59 J**	6.2 UJ
Arsenic	7440-38-2	8.2	70	**2.3 J**	**4.0 J**	**7.3 J**	**1.8 J**	**1.2 J**
Barium	7440-39-3	NE	NE	**31.5**	**22.7**	**21.8 J**	**13.5 J**	**6.6 J**
Cadmium	7440-43-9	1.2	9.6	**0.82**	0.51 U	0.55 U	0.54 U	0.51 U
Calcium	7440-70-2	NE	NE	**1740**	**977**	**933**	**472 J**	**2530**
Chromium	7440-47-3	81	370	**3.7 J**	**6.5 J**	**9.0 J**	**4.0 J**	**4.4 J**
Cobalt	7440-48-4	NE	NE	**3.5 J**	**25.9 J**	**5.8 J**	**5.0 J**	**1.2 J**
Copper	7440-50-8	34	270	**65.5 J**	**15.4 J**	**13.0 J**	**22.3 J**	**8.8 J**
Iron	7439-89-6	NE	NE	**4970**	**7910**	**15400**	**4020**	**3350**
Lead	7439-92-1	46.7	218	**256 J**	**31.7 J**	**85.2 J**	**6.5 J**	**28.8 J**
Magnesium	7439-95-4	NE	NE	**551**	**713**	**1310**	541 U	**1500**
Manganese	7439-96-5	NE	NE	**137**	**82.3**	**750**	**36.1**	**29.9**
Mercury	7439-97-6	0.15	0.71	**0.053**	**0.043**	**0.11**	**0.011 J**	**0.024 J**
Nickel	7440-02-0	20.9	51.6	**6.6 J**	**10.3 J**	**9.5 J**	**5.3 J**	**2.7 J**
Potassium	7440-09-7	NE	NE	**121 J**	**300 J**	**476 J**	**196 J**	**162 J**
Selenium	7782-49-2	NE	NE	3.8 U	3.5 U	3.8 U	3.8 U	3.6 U
Sodium	7440-23-5	NE	NE	540 U	507 U	549 U	541 U	514 U
Vanadium	7440-62-2	NE	NE	**5.9 J**	**8.1 J**	**17.1 J**	**5.5 J**	**5.2 J**
Zinc	7440-66-6	150	410	**483**	**58.2**	**52.0**	**22.1**	**18.4**
AVS/SEM Metals (UMOLES/G)								
Acid Volatile Sulfide	AVOLSULF	NE	NE	**1.1 J**	**1.2 J**	0.71 UJ	0.58 UJ	0.67 UJ
Cadmium	7440-43-9	NE	NE	0.016 U	0.014 U	0.015 U	0.012 U	0.014 U
Copper	7440-50-8	NE	NE	**0.42 J**	**0.015 J**	**0.025 J**	**0.013 J**	**0.097 J**
Lead	7439-92-1	NE	NE	**0.38 J**	**0.019 J**	**0.084 J**	**0.016 J**	**0.093 J**
Mercury	7439-97-6	NE	NE	0.000037 UJ	0.000032 UJ	**0.000023 J**	0.000029 UJ	0.000033 UJ
Nickel	7440-02-0	NE	NE	0.26 U	0.22 U	0.24 U	0.2 U	0.23 U
SEM/AVS *(Unitless)*	SEMAVS	NE	NE	**4.5 J**	**0.26 J**	NC	NC	NC
Zinc	7440-66-6	NE	NE	**4.2 J**	**0.27 J**	0.11 UJ	0.088 UJ	**0.12 J**

Table 2: Sediment Analytical Results Summary
Site Management Plan
Oyster Bay Hortonsphere Site
Oyster Bay, New York

VALIDATED

			Location Name	OHS-SED-01	OHS-SED-02	OHS-SED-03	OHS-SED-04	OHS-SED-05
			Sample Name	OHS-SED-01	OHS-SED-02	OHS-SED-03	OHS-SED-04	OHS-SED-05
			Sample Date	4/3/2012	4/3/2012	4/3/2012	4/3/2012	4/3/2012
			Parent Sample Code					
Analyte	CAS no.	ER-L	ER-M					
Other								
Total Organic Carbon *(mg/kg)*	TOC	NE	NE	**52900**	**13400 J**	**28100**	**9460**	**26700 J**
Total Phosphorous *(mg/kg)*	7723-14-0	NE	NE	**308**	**415**	**768**	**341**	**176**
Coarse Sand *(percent)*	CRS SND	NE	NE	**10.3**	**13.2**	**8.4**	**10.2**	**10**
Fine Sand *(percent)*	FINE SND	NE	NE	**28.2**	**14.9**	**32.7**	**21**	**22.9**
Gravel *(percent)*	GRAVEL	NE	NE	**22.8**	**46.7**	**21.4**	**42.5**	**34.3**
Hydrometer, Reading 1, (% passed)	HYD01	NE	NE	**3**	**2.5**	**8.8**	**4**	**4.2**
Hydrometer, Reading 2, (% passed)	HYD02	NE	NE	**2.6**	**2.1**	**6.5**	**3.2**	**3.7**
Hydrometer, Reading 3, (% passed)	HYD03	NE	NE	**2.1**	**2.1**	**5.4**	**2.7**	**2.7**
Hydrometer, Reading 4, (% passed)	HYD04	NE	NE	**1.2**	**1.6**	**4.3**	**2.3**	**2.2**
Hydrometer, Reading 5, (% passed)	HYD05	NE	NE	**0.7**	**0.7**	**3.1**	**1.5**	**1.7**
Hydrometer, Reading 6, (% passed)	HYD06	NE	NE	**0.7**	**0.7**	**2**	**1.5**	**1.7**
Hydrometer, Reading 7, (% passed)	HYD07	NE	NE	**0.2**	**0.2**	**0.8**	**0.6**	**0.7**
Medium Sand *(percent)*	MED SND	NE	NE	**23.7**	**22.5**	**20.3**	**21.9**	**25.3**
Sand *(percent)*	SAND	NE	NE	**62.2**	**50.6**	**61.4**	**53.1**	**58.2**
Sieve No. 10, *(% passed)*	Sieve10	NE	NE	**66.9**	**40.1**	**70.2**	**47.3**	**55.7**
Sieve No. 200, (% passed)	Sieve200	NE	NE	**15**	**2.7**	**17.2**	**4.4**	**7.6**
Sieve No. 4, (% passed)	Sieve4	NE	NE	**77.2**	**53.3**	**78.6**	**57.5**	**65.7**
Sieve No. 40, (% passed)	Sieve40	NE	NE	**43.2**	**17.6**	**49.9**	**25.4**	**30.4**
Sieve No. 80, (% passed)	Sieve80	NE	NE	**21.1**	**5.5**	**25.5**	**8.5**	**11.2**
Sieve, 19000 Microns, (% passed)	Sieve19KU	NE	NE	**100**	**100**	**100**	**93.6**	**100**
Sieve, 25000 Microns, (% passed)	Sieve25KU	NE	NE	**100**	**100**	**100**	**100**	**100**
Sieve, 37500 Microns, (% passed)	Sieve37.5KU	NE	NE	**100**	**100**	**100**	**100**	**100**
Sieve, 50000 Microns, (% passed)	Sieve50KU	NE	NE	**100**	**100**	**100**	**100**	**100**
Sieve, 75000 Microns, (% passed)	Sieve75KU	NE	NE	**100**	**100**	**100**	**100**	**100**
Sieve, 9500 Microns, (% passed)	Sieve9.5KU	NE	NE	**90**	**73.2**	**91**	**75.7**	**82.2**
Sieve, No. 100, (% passed)	Sieve100	NE	NE	**18.6**	**4.5**	**22.4**	**6.8**	**9.7**
Sieve, No. 20, (% passed)	Sieve20	NE	NE	**57.9**	**30.5**	**63.2**	**37.4**	**45.6**
Sieve, No. 60, (% passed)	Sieve60	NE	NE	**27.4**	**8.4**	**32.8**	**13**	**15.8**
Silt *(percent)*	SILT	NE	NE	**14.3**	**2**	**14.1**	**2.9**	**5.8**
Clay *(percent)*	GS020	NE	NE	**0.7**	**0.7**	**3.1**	**1.5**	**1.7**

Table 2: Sediment Analytical Results Summary
Site Management Plan
Oyster Bay Hortonsphere Site
Oyster Bay, New York

VALIDATED

			Location Name	OHS-SED-06	OHS-SED-06	OHS-SED-07	OHS-SED-08	OHS-SED-09
			Sample Name	OHS-SED-06	OHS-SED-XX	OHS-SED-07	OHS-SED-08	OHS-SED-09
			Sample Date	4/3/2012	4/3/2012	4/3/2012	4/3/2012	4/3/2012
			Parent Sample Code		OHS-SED-06			
Analyte	CAS no.	ER-L	ER-M					
PCBs (mg/kg)								
Aroclor 1254	11097-69-1	NE	NE	0.022 U	0.021 U	**0.018 J**	**0.012 J**	**0.017 J**
Aroclor 1260	11096-82-5	NE	NE	0.022 U	0.021 U	**0.0074 J**	**0.0039 J**	**0.0082 J**
Total PCBs	TPCB	22.7	180	ND	ND	**0.0254**	**0.0159**	**0.0252**
Total Metals (mg/kg)								
Aluminum	7429-90-5	NE	1.8%	**4210**	**4330**	**4460**	**13200**	**1970**
Antimony	7440-36-0	NE	NE	**0.94 J**	**1.0 J**	**0.40 J**	5.5 UJ	**1.2 J**
Arsenic	7440-38-2	8.2	70	**2.9 J**	**3.3 J**	**5.3 J**	**2.6 J**	**1.8 J**
Barium	7440-39-3	NE	NE	**17.0 J**	**39.4**	**28.3**	**6.0 J**	**7.4 J**
Cadmium	7440-43-9	1.2	9.6	0.52 U	0.51 U	0.46 U	0.45 U	0.51 U
Calcium	7440-70-2	NE	NE	**596**	**523**	**732**	**32600**	**702**
Chromium	7440-47-3	81	370	**6.6 J**	**7.0 J**	**6.4 J**	**31.0 J**	**9.0 J**
Cobalt	7440-48-4	NE	NE	**4.1 J**	**4.4 J**	**1.7 J**	**7.8 J**	**1.6 J**
Copper	7440-50-8	34	270	**14.4 J**	**14.2 J**	**31.2 J**	**80.0 J**	**51.1 J**
Iron	7439-89-6	NE	NE	**7870**	**7600**	**6300**	**18300**	**4080**
Lead	7439-92-1	46.7	218	**43.4 J**	**46.1 J**	**118 J**	**5.6 J**	**160 J**
Magnesium	7439-95-4	NE	NE	**1010**	**1030**	**807**	**7320**	**870**
Manganese	7439-96-5	NE	NE	**56.7**	**58.4**	**51.6**	**264**	**27.6**
Mercury	7439-97-6	0.15	0.71	**0.19**	**0.15**	**0.063**	**0.24**	**0.088**
Nickel	7440-02-0	20.9	51.6	**6.3 J**	**7.0 J**	**5.2 J**	**18.5 J**	**3.7 J**
Potassium	7440-09-7	NE	NE	**331 J**	**309 J**	**276 J**	**1810**	**315 J**
Selenium	7782-49-2	NE	NE	3.6 U	3.5 U	3.2 U	**1.4 J**	3.6 U
Sodium	7440-23-5	NE	NE	520 U	506 U	456 U	**7260**	514 U
Vanadium	7440-62-2	NE	NE	**8.8 J**	**8.9 J**	**9.2 J**	**57.1 J**	**11.4 J**
Zinc	7440-66-6	150	410	**65.7**	**67.0**	**86.2**	**57.9**	**34.6**
AVS/SEM Metals (UMOLES/G)								
Acid Volatile Sulfide	AVOLSULF	NE	NE	0.61 UJ	0.61 UJ	0.61 UJ	0.62 UJ	0.67 UJ
Cadmium	7440-43-9	NE	NE	0.013 U	0.013 U	0.013 U	0.013 U	0.014 U
Copper	7440-50-8	NE	NE	**0.055 J**	**0.054 J**	**0.22 J**	**2.2 J**	**0.23 J**
Lead	7439-92-1	NE	NE	**0.098 J**	**0.093 J**	**0.33 J**	**0.29 J**	**0.49 J**
Mercury	7439-97-6	NE	NE	0.000030 UJ	0.000030 UJ	0.000031 UJ	0.000031 UJ	0.000034 UJ
Nickel	7440-02-0	NE	NE	0.21 U	0.21 U	0.21 U	0.21 U	0.23 U
SEM/AVS *(Unitless)*	SEMAVS	NE	NE	NC	NC	NC	NC	NC
Zinc	7440-66-6	NE	NE	**0.32 J**	**0.31 J**	**0.45 J**	**0.51 J**	**0.16 J**

Table 2: Sediment Analytical Results Summary
Site Management Plan
Oyster Bay Hortonsphere Site
Oyster Bay, New York

			Location Name	OHS-SED-06	OHS-SED-06	OHS-SED-07	OHS-SED-08	OHS-SED-09
			Sample Name	OHS-SED-06	OHS-SED-XX	OHS-SED-07	OHS-SED-08	OHS-SED-09
			Sample Date	4/3/2012	4/3/2012	4/3/2012	4/3/2012	4/3/2012
			Parent Sample Code		OHS-SED-06			
Analyte	CAS no.	ER-L	ER-M					
Other								
Total Organic Carbon *(mg/kg)*	TOC	NE	NE	**13400 J**	**7300 J**	**13600 J**	**19900**	**30400**
Total Phosphorous *(mg/kg)*	7723-14-0	NE	NE	**292**	**272**	**261**	**247**	**176**
Coarse Sand *(percent)*	CRS SND	NE	NE	**16.2**	**16**	**9.9**	**11.1**	**15**
Fine Sand *(percent)*	FINE SND	NE	NE	**18.5**	**18**	**32.1**	**26**	**21.9**
Gravel *(percent)*	GRAVEL	NE	NE	**39.3**	**40.2**	**13.1**	**32.4**	**25.2**
Hydrometer, Reading 1, (% passed)	HYD01	NE	NE	**6.7**	**7.1**	**8.7**	**4.8**	**4.3**
Hydrometer, Reading 2, (% passed)	HYD02	NE	NE	**5.2**	**5.5**	**7**	**3.9**	**4.3**
Hydrometer, Reading 3, (% passed)	HYD03	NE	NE	**4.8**	**4.7**	**5.3**	**3.5**	**3.7**
Hydrometer, Reading 4, (% passed)	HYD04	NE	NE	**4**	**3.9**	**4.8**	**3**	**3.1**
Hydrometer, Reading 5, (% passed)	HYD05	NE	NE	**3.3**	**3.1**	**3.7**	**2.6**	**2.6**
Hydrometer, Reading 6, (% passed)	HYD06	NE	NE	**2.5**	**2.3**	**2.6**	**1.6**	**2**
Hydrometer, Reading 7, (% passed)	HYD07	NE	NE	**1.3**	**1.4**	**1.4**	**0.7**	**1.4**
Medium Sand *(percent)*	MED SND	NE	NE	**19**	**18.5**	**29.5**	**22.5**	**23.9**
Sand *(percent)*	SAND	NE	NE	**53.7**	**52.5**	**71.5**	**59.6**	**60.8**
Sieve No. 10, *(% passed)*	Sieve10	NE	NE	**44.5**	**43.8**	**77**	**56.5**	**59.8**
Sieve No. 200, (% passed)	Sieve200	NE	NE	**7**	**7.3**	**15.4**	**8**	**14**
Sieve No. 4, (% passed)	Sieve4	NE	NE	**60.7**	**59.8**	**86.9**	**67.6**	**74.8**
Sieve No. 40, (% passed)	Sieve40	NE	NE	**25.5**	**25.3**	**47.5**	**34**	**35.9**
Sieve No. 80, (% passed)	Sieve80	NE	NE	**12.1**	**12.5**	**22.7**	**13.8**	**17.9**
Sieve, 19000 Microns, (% passed)	Sieve19KU	NE	NE	**100**	**100**	**100**	**100**	**100**
Sieve, 25000 Microns, (% passed)	Sieve25KU	NE	NE	**100**	**100**	**100**	**100**	**100**
Sieve, 37500 Microns, (% passed)	Sieve37.5KU	NE	NE	**100**	**100**	**100**	**100**	**100**
Sieve, 50000 Microns, (% passed)	Sieve50KU	NE	NE	**100**	**100**	**100**	**100**	**100**
Sieve, 75000 Microns, (% passed)	Sieve75KU	NE	NE	**100**	**100**	**100**	**100**	**100**
Sieve, 9500 Microns, (% passed)	Sieve9.5KU	NE	NE	**80.3**	**78.2**	**100**	**87.1**	**91.9**
Sieve, No. 100, (% passed)	Sieve100	NE	NE	**10.3**	**10.7**	**20**	**11.5**	**16.2**
Sieve, No. 20, (% passed)	Sieve20	NE	NE	**35**	**34.5**	**65.5**	**47.5**	**49.8**
Sieve, No. 60, (% passed)	Sieve60	NE	NE	**16.2**	**16.4**	**29.4**	**19.6**	**22.5**
Silt *(percent)*	SILT	NE	NE	**3.7**	**4.2**	**11.7**	**5.5**	**11.4**
Clay *(percent)*	GS020	NE	NE	**3.3**	**3.1**	**3.7**	**2.6**	**2.6**

Table 2: Sediment Analytical Results Summary
Site Management Plan
Oyster Bay Hortonsphere Site
Oyster Bay, New York

Notes:

mg/kg - milligrams/kilogram or parts per million (ppm)
PCBs - polychlorinated biphenyls
Total PCBs are calculated using detects only.

6 NYCRR -New York State Register and Official Compilation of Codes, Rules and Regulations of the State of New York
6 NYCRR 375 SCO UNRESTRICTED USE - regulatory comparison against NYCRR, Chapter IV, Part 375-6 Unrestricted Use Soil Cleanup Objectives
ER-L - Effects Range Low
ER-M - Effects Range Medium
ER-L and ER-M from "Sediments Classification Methods Compendium." Long and MacDonald 1992
NY Part 375 SCOs are compared in mg/kg, therefore there are no regulatory comparisons applicable to AVS/SEM metals calculated in U/Moles.

NE - not established
ND - not detected; total concentration is listed as ND because no compounds were detected in the group

Bolding indicates a detected concentration
Gray shading and bolding indicates that the detected result value exceeds established 6 NYCRR SCO UNRES

Yellow shading and bolding indicates that the detected result value exceeds established 6 NYCRR SCO UNREST and 6 NYCRR SCO ECO

Validation Qualifiers:

J - estimated value
U - indicates not detected to the reporting limit
UJ - not detected at or above the reporting limit shown and the reporting limit is estimated

Table 3: Subsurface Soil Analytical Results Summary
Site Management Plan
Former Oyster Bay Hortonsphere Site
Oyster Bay, New York

Sample Name: Sample Depth (feet bgs): Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-GP-01 (1-2.5) 11/26/2007	OHS-GP-01 (5-6) 11/26/2007	OHS-GP-02 (1-1.5) 11/27/2007	OHS-GP-02 (7-8) 11/26/2007	OHS-GP-03 (1-2) 11/26/2007	OHS-GP-03 (7-8) 11/26/2007	OHS-GP-04 (4-5) 11/26/2007	OHS-GP-04 (8.5-9.5) 11/26/2007
BTEX (mg/kg)										
Toluene	1,000	100	0.0059 U	0.0056 U	0.0057 U	0.0059 U	**0.0018 J**	0.0056 U	0.0056 U	0.0053 U
Total BTEX	NE	NE	ND	ND	ND	ND	**0.0018**	ND	ND	ND
Other VOCs (mg/kg)										
Acetone	1,000	100	0.024 UJ	**0.0088 J**	0.023 U	**0.012 J**	**0.011 J**	**0.018 J**	**0.0062 J**	**0.0078 J**
Styrene	NE	NE	0.0059 UJ	0.0056 U	0.0057 U	0.0059 U	**0.0016 J**	0.0056 U	0.0056 U	0.0053 U
Total VOCs	NE	NE	ND	**0.0088**	ND	**0.012**	**0.0144**	**0.018**	**0.0062**	**0.0078**
PAHs (mg/kg)										
Acenaphthylene	1,000	100	0.39 U	0.36 U	**0.07 J**	0.38 U	0.39 U	0.35 U	0.37 U	0.35 U
Benz[a]anthracene	11	1	**0.11 J**	0.36 U	**0.21 J**	0.38 U	**0.058 J**	0.35 U	0.37 U	0.35 U
Benzo[a]pyrene	1.1	1	**0.094 J**	0.36 U	**0.21 J**	0.38 U	**0.056 J**	0.35 U	0.37 U	0.35 U
Benzo[b]fluoranthene	11	1	**0.14 J**	0.36 U	**0.26 J**	0.38 U	**0.12 J**	0.35 U	0.37 U	0.35 U
Benzo[g,h,i]perylene	1,000	100	0.39 U	0.36 U	**0.2 J**	0.38 U	0.39 U	0.35 U	0.37 U	0.35 U
Benzo[k]fluoranthene	110	1	0.39 U	0.36 U	**0.099 J**	0.38 U	0.39 U	0.35 U	0.37 U	0.35 U
Chrysene	110	1	**0.13 J**	0.36 U	**0.22 J**	0.38 U	**0.13 J**	0.35 U	0.37 U	0.35 U
Dibenz[a,h]anthracene	1.1	0.33	0.39 U	0.36 U	**0.055 J**	0.38 U	0.39 U	0.35 U	0.37 U	0.35 U
Fluoranthene	1,000	100	**0.18 J**	0.36 U	**0.31 J**	0.38 U	**0.084 J**	0.35 U	0.37 U	0.35 U
Indeno[1,2,3-cd]pyrene	11	0.5	0.39 U	0.36 U	**0.22 J**	0.38 U	0.39 U	0.35 U	0.37 U	0.35 U
Phenanthrene	1,000	100	0.39 U	0.36 U	**0.097 J**	0.38 U	**0.074 J**	0.35 U	0.37 U	0.35 U
Pyrene	1,000	100	**0.18 J**	0.36 U	**0.26 J**	0.38 U	**0.079 J**	0.35 U	0.37 U	0.35 U
Total PAHs	NE	NE	**0.834**	ND	**2.211**	ND	**0.601**	ND	ND	ND
Other SVOCs (mg/kg)										
Bis(2-ethylhexyl)phthalate	NE	NE	0.39 U	0.36 U	**0.056 J**	**0.07 J**	0.39 U	0.35 U	0.37 U	0.35 U
Total SVOCs	NE	NE	**0.834**	ND	**2.267**	**0.07**	**0.601**	ND	ND	ND
PCBs (mg/kg)										
Aroclor 1254	NE	NE	**0.025 J**	0.019 UJ	**0.0053 J**	**0.027 J**	0.02 UJ	**0.026 J**	0.019 UJ	0.018 UJ
Aroclor 1260	NE	NE	**0.013 J**	**0.19 J**	**0.0075 J**	**0.0063 J**	0.02 UJ	**0.034 J**	0.019 UJ	0.018 UJ
PCBs, Total	25	1	**0.038**	**0.19**	**0.0128**	**0.0333**	ND	0.06	ND	ND

Table 3: Subsurface Soil Analytical Results Summary
Site Management Plan
Former Oyster Bay Hortonsphere Site
Oyster Bay, New York

Sample Name: Sample Depth (feet bgs): Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-GP-01 (1-2.5) 11/26/2007	OHS-GP-01 (5-6) 11/26/2007	OHS-GP-02 (1-1.5) 11/27/2007	OHS-GP-02 (7-8) 11/26/2007	OHS-GP-03 (1-2) 11/26/2007	OHS-GP-03 (7-8) 11/26/2007	OHS-GP-04 (4-5) 11/26/2007	OHS-GP-04 (8.5-9.5) 11/26/2007
Pesticides (mg/kg)										
DDD,4,4-	180	2.6	0.0039 UJ	0.0037 UJ	0.0037 UJ	**0.00093 JN**	0.0039 UJ	0.0036 UJ	0.0037 UJ	0.0035 UJ
DDE,4,4-	120	1.8	**0.0061 JN**	0.0037 UJ	0.0037 UJ	**0.0075 JN**	0.0039 UJ	0.0036 UJ	0.0037 UJ	0.0035 UJ
DDT,4,4-	94	1.7	**0.016 J**	**0.027 J**	**0.0048 J**	**0.0078 J**	0.0039 UJ	0.0036 UJ	0.0037 UJ	0.0035 UJ
Endrin aldehyde	NE	NE	**0.0016 JN**	0.0037 UJ	0.0037 UJ	0.0039 UJ	**0.0013 JN**	0.0036 UJ	0.0037 UJ	0.0035 UJ
Total Pesticides	NE	NE	**0.0237**	**0.027**	**0.0048**	**0.01623**	**0.0013**	ND	ND	ND
Herbicides (mg/kg)										
Total Herbicides	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND
Metals (mg/kg)										
Aluminum	NE	NE	**4280**	**996**	**4390**	**2860**	**3910**	**864**	**4930**	**1200**
Arsenic	16	16	**3.4**	10.5 U	**3.1 J**	8.4 U	**6.7 J**	10.4 U	**2 J**	8.9 U
Barium	10,000	350	**17.6 J**	**4 J**	**25.9 J**	**23 J**	**124**	**6.2 J**	**24.4 J**	**47.6 J**
Calcium	NE	NE	**860 J**	**99.7 J**	**22100 J**	**2280 J**	**7110 J**	**138 J**	**536 J**	**677 J**
Chromium	800*	22*	**6.5**	**2.1 J**	**8.5**	**4.9**	**7**	**4.6**	**7.2**	**3.5**
Cobalt	NE	NE	**2 J**	**1.3 J**	**2.8 J**	**2.7 J**	**3.6 J**	**1 J**	**5.3 J**	**5.5 J**
Copper	10,000	270	**9.8**	**0.74 J**	**16.3**	**3.1 J**	**38.6**	**1.4 J**	**4.6 J**	**1.9 J**
Iron	NE	NE	**7700**	**1740**	**7060**	**3970**	**8290**	**2970**	**8930**	**5090**
Lead	3900	400	**60.2**	6.6 U	**78**	**9.1**	**204**	6.5 U	**4.2**	**1.2 J**
Magnesium	NE	NE	**674 J**	**142 J**	**12600**	**635 J**	**1300**	**173 J**	**1070 J**	**215 J**
Manganese	10,000	2000	**192**	22.3 U	**140**	**93.1**	**189**	24.9 U	**363**	**1480**
Mercury	5.7	0.81	**0.084**	0.048 U	**0.06**	**0.016 J**	**0.16**	0.055 U	**0.019**	0.012 U
Nickel	10,000	140	**4.7 J**	**5 J**	**6.1 J**	**6.1 J**	**8.3 J**	**2.7 J**	**5.8 J**	**4.1 J**
Potassium	NE	NE	**208 J**	**49.7 J**	**275 J**	**142 J**	**336 J**	**75.3 J**	**198 J**	**112 J**
Sodium	NE	NE	**57.5 J**	262 U	**109 J**	**46.2 J**	**95 J**	260 U	**64.9 J**	**27 J**
Vanadium	NE	NE	**10.5 J**	**2.4 J**	**14.4**	**5.6 J**	**11**	**3.2 J**	**11.1 J**	**2.5 J**
Zinc	10,000	2200	**60.9 J**	**13.2 J**	**61.7 J**	**15.8 J**	**101 J**	**5.5 J**	**13.6 J**	**6.4 J**

Table 3: Subsurface Soil Analytical Results Summary
Site Management Plan
Former Oyster Bay Hortonsphere Site
Oyster Bay, New York

Sample Name: Sample Depth (feet bgs): Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-GP-01 (1-2.5) 11/26/2007	OHS-GP-01 (5-6) 11/26/2007	OHS-GP-02 (1-1.5) 11/27/2007	OHS-GP-02 (7-8) 11/26/2007	OHS-GP-03 (1-2) 11/26/2007	OHS-GP-03 (7-8) 11/26/2007	OHS-GP-04 (4-5) 11/26/2007	OHS-GP-04 (8.5-9.5) 11/26/2007
Other Analyses (mg/kg)										
Sulfate	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND
Sulfite	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND

Notes
INDUSTRIAL SCO - New York Code of Rules and Regulations Title 6 (6 NYCRR) Subpart 375-6 Restricted Use Industrial Soil Cleanup Objective (SCO)
RESIDENTIAL SCO - 6 NYCRR Subpart 375-6 Restricted Use Residential SCO
bgs - below ground surface
NE - not established; in the absence of Residential SCOs, results were considered against relevant SCGs
ND - not detected; total concentration is listed as ND because no compounds were detected in the group
J - estimated value
JN - analyte is presumptively present at an approximated quantity
U - indicates not detected to the reporting limit for organic analysis and the method detection limit for inorganic analysis
UJ - not detected at or above the reporting limit shown, and the reporting limit is estimated
Bolding indicates a detection
Bolding with shading indicates the result exceeds 6NYCRR Part 375 Unrestricted Use criteria
mg/kg - milligrams/kilogram or parts per million (ppm)
BTEX - benzene, toluene, ethylbenzene, and xylenes
VOCs - volatile organic compounds
SVOCs - semivolatile organic compounds
PAHs - polycyclic aromatic hydrocarbons
PCBs - Polychlorinated Biphenyls
* - indicates the listed SCO is for hexavalent chromium. An SCO for total chromium has not been established.

Table 4: Groundwater Analytical Results Summary
Site Management Plan
Former Oyster Bay Hortonsphere Site
Oyster Bay, New York

Sample Name: / Sample Date:	NYSDEC SCG	OHS-GW-01 11/27/2007	OHS-GW-02 11/27/2007	OHS-GW-03 11/27/2007	OHS-GW-04 11/28/2007	Duplicate of: OHS-GW-04 11/28/2007	OHS-GW-05 11/27/2007	OHS-GW-06 6/15/2009	OHS-GW-08 6/15/2009
BTEX (µg/L)									
Toluene	5	5 U	5 U	5 U	5 U	5 U	**0.22 J**	**1.9 J**	**36**
Total BTEX	NE	ND	ND	ND	ND	ND	**0.22 J**	**1.9 J**	**36**
Other VOCs (µg/L)									
Carbon disulfide	60	5 U	5 U	**0.25 J**	**0.15 J**	5 U	5 U	5 U	5 U
Trichloroethene	5	5 U	**1.5**	**1.4**	5 U	5 U	**2.1**	5 U	5 U
Total VOCs	NE	ND	**1.5**	**1.65**	**0.15**	ND	**2.32**	ND	ND
PAHS (µg/L)									
Phenanthrene	NE	ND	ND	ND	ND	ND	ND	4.0 U	**0.37 J**
Total PAHs	NE	ND	ND	ND	ND	ND	ND	ND	**0.37 J**
SVOCs (µg/L)									
Total SVOCs	NE	ND	ND	ND	ND	ND	ND	ND	**0.37 J**
PCBs (µg/L)									
Total PCBs	NE	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides (µg/L)									
Delta-BHC	0.04	0.052 U	0.05 U	**0.0097 J**	0.05 U	0.05 U	0.05 U	0.052 U	0.052 U
Total Pesticides	NE	ND	ND	**0.0097**	ND	ND	ND	ND	ND
Total Metals (µg/L)									
Aluminum	NE	**1100**	**330**	**3400**	**140 J**	**94 J**	**290 J**	**641 J**	**1660 J**
Arsenic	25	25 U	25 U	25 U	25 U	25 U	25 U	15 U	**6.2 J**
Barium	1000	**31 J**	**39 J**	**74 J**	**150 J**	**150 J**	**70 J**	**22.1**	**53.5**
Calcium	NE	**39900**	**60300**	**22900**	**30000**	**30600**	**38400**	**23100**	**33300**
Chromium	50	**3.4 J**	10 U	**18**	10 U	10 U	10 U	**2.2 J**	**8.1**
Cobalt	NE	**2.8 J**	**4.7 J**	**7.9 J**	**10 J**	**11 J**	10 U	**5.3**	**3.1 J**
Copper	200	10 U	10 U	**6.7 J**	10 U	10 U	**15 J**	**8.6**	**8.8**
Iron	300	**2300 J**	**1000 J**	**11400 J**	**35200 J**	**35200 J**	**570 J**	**11100**	**9470**
Lead	25	**5.3 J**	10 U	10 U	10 U	10 U	**6.1 J**	15 U	**6.2**

Table 4: Groundwater Analytical Results Summary
Site Management Plan
Former Oyster Bay Hortonsphere Site
Oyster Bay, New York

Sample Name: / Sample Date:	NYSDEC SCG	OHS-GW-01 11/27/2007	OHS-GW-02 11/27/2007	OHS-GW-03 11/27/2007	OHS-GW-04 11/28/2007	Duplicate of: OHS-GW-04 11/28/2007	OHS-GW-05 11/27/2007	OHS-GW-06 6/15/2009	OHS-GW-08 6/15/2009
Magnesium	35000	**8000**	**10700**	**5900**	**9000**	**9200**	**7000**	**7090**	**11100**
Manganese	300	**830**	**510**	**830**	**3300**	**3300**	**130**	**658**	**833**
Nickel	100	**3.7 J**	10 U	**10**	10 U	10 U	10 U	**4.2 J**	**8.9**
Potassium	NE	**1800 J**	**3300 J**	**1000 J**	**3100 J**	**3200 J**	**1300 J**	**2320**	**3020**
Sodium	20000	**35700**	**32600**	**5800**	**57700**	**58000**	**11000**	**36900**	**47200**
Thallium	5	40 U	40 U	40 U	40 U	40 U	40 U	15 U	**3.5 J**
Vanadium	NE	**2.5 J**	5 U	**6.1 J**	5 U	5 U	5 U	**3.1 J**	**3.7 J**
Zinc	2000	**15 J**	50 U	**37 J**	50 U	50 U	**72**	25 U	**37.2**
Other (µg/L)									
Sulfate	250000	**11200**	**11600**	**22200**	**4400**	**4500**	**11500**	**13.4**	**13.8**
Sulfide	NE	ND	ND	ND	ND	ND	ND	ND	ND

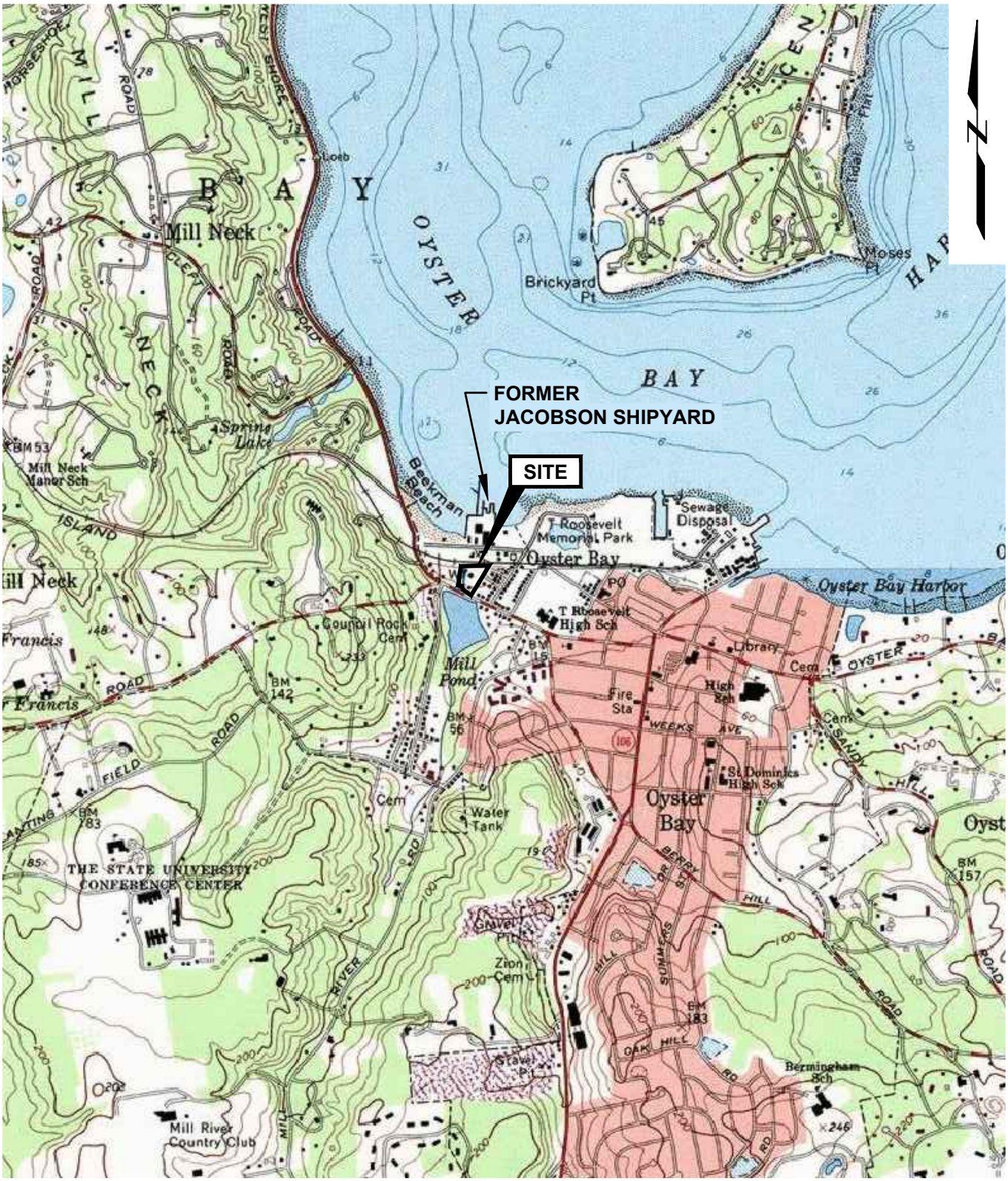
Notes
NYSDEC SCG - New York State Department of Environmental Conservation Draft DER-10 Section 7: Standards, Criteria, and Guidelines.
µg/L - micrograms per liter or parts per billion (ppb)
NE- not established
ND - not detected; total concentration is listed as ND because no compounds were detected in the group
J - estimated value
U - indicates not detected to the reporting limit for organic analysis and the method detection limit for inorganic analysis
Bolding indicates a detected result value
Bolding with shading indicates the result exceeds the NYS AWQS criterion
BTEX - benzene, toluene, ethylbenzene, and xylenes
VOCs - volatile organic compounds

Table 5: Soil Vapor Analytical Results Summary
Site Management Plan
Former Oyster Bay Hortonsphere Site
Oyster Bay, New York

Sample Location:	OHS-SV-05	OHS-SV-06	OHS-SV-E	OHS-SV-W
Sample Date:	11/28/2007	11/28/2007	11/28/2007	11/28/2007
BTEX (µg/m3)				
Benzene	**2.53**	**3.27**	**1.38 J**	**2.78**
Ethylbenzene	**0.985 J**	**0.854 J**	**0.741 J**	**1.38 J**
Toluene	**13.8**	**11.8**	**6.08**	**8.63**
Xylene, m,p-	**2.86**	**2.27**	**2.05**	**3.65**
Xylene, o-	**1.36 J**	**0.926 J**	**0.972 J**	**1.43 J**
Xylene, total	**4.22**	**3.196**	**3.022**	**5.08**
Other VOCs (µg/m3)				
Acetaldehyde	**67.2 J**	20 UJ	20.2 U	20.9 UJ
Acetone	**30.6**	1.05 UJ	**10.8**	1.1 UJ
Butane	**2.62**	**16**	**1.73**	**98.8**
Butanone, 2-	**3.4**	**2.13**	**1.29 J**	**8.83**
Carbon disulfide	**15.7**	**20.8**	**4.09**	**8.94**
Cyclohexane	**2.01**	**2.97**	**0.817 J**	**3.26**
Decane, n-	**3.29**	**0.485 J**	**0.854 J**	**1.37 J**
Dichlorodifluoromethane	**4.55**	**2.65**	**2.4**	**2.12 J**
Dodecane, n-	**2.24 J**	7.74 U	7.8 U	8.1 U
Ethanol	**21.7**	10.4 U	10.5 U	10.9 U
Heptane, n-	**2.24**	**3.78**	**3.29**	**21.3**
Hexane, n-	**5.95**	**9.58**	**2.97**	**58.6**
Hexanone,2-	**0.651 J**	**0.645 J**	1.83 U	1.9 U
Indan	**0.354 J**	2.15 U	2.16 U	2.25 U
Nonane	**0.885 J**	**0.471 J**	**0.864 J**	**2.29 J**
Octane, n-	**0.731 J**	**1.31 J**	**1.46 J**	**5.03**
Pentane	**7.14**	**14.8**	**2.36**	**85.2**
Styrene	1.69 U	1.89 U	1.9 U	**0.642 J**
t-Butyl alcohol	**4.06**	**2.56**	**1.27 J**	1.41 U
Tetrachloroethene	**21**	**10.1**	**13.1**	**22.7**
Tetramethylbenzene, 1,2,4,5-	2.18 U	2.44 U	**0.892 J**	2.55 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	3.04 U	**1.32 J**	3.43 U	3.56 U
Trichloroethane, 1,1,1-	**5.66**	2.42 U	**0.447 J**	2.54 U
Trichlorofluoromethane	**4.06**	**2.12 J**	**0.987 J**	**0.919 J**
Trimethylbenzene, 1,2,4-	**1.26 J**	2.18 U	**0.718 J**	**0.911 J**
Trimethylbenzene,1,2,3-	**0.591 J**	2.18 U	2.2 U	**0.424 J**
Trimethylpentane, 2,2,4-	**3.24**	**3.9**	**2.49**	**3.51**
Undecane, n-	**1.42 J**	2.84 U	**1.09 J**	**0.968 J**

Notes:
µg/m3 - micrograms per cubic meter
J - estimated value
BTEX - benzene, toluene, ethylbenzene, and xylenes
VOCs - volatile organic compounds
U - indicates the compound was not detected
Bolding indicates a detection

Figures



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Site Management Plan
Oyster Bay Former Hortonsphere Site
Oyster Bay, New York

nationalgrid

GEI Consultants

SITE LOCATION MAP

Project 1702897 | January 2019 | Fig. 1

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LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- HISTORIC PROPERTY BOUNDARY
- LAND OWNED BY NYSDEC
- HISTORIC STRUCTURE
- CHAIN-LINK FENCE
- UTILITY POLE
- OHS-GP-04/ OHS-GW-04 — GEOPROBE® BORING LOCATION/ TEMPORARY GROUNDWATER SAMPLING
- STILLING WELL — STILLING WELL
- OHS-SV-05 — SOIL VAPOR SAMPLE
- OHS-SS-01 — SURFACE SOIL SAMPLE
- OHS-SED-03 — SEDIMENT SAMPLE

SOURCES:

1. Orthophoto obtained from New York State Interactive Mapping Gateway *(http://www1.nysgis.state.ny.us/MainMap.cfm)* photo date: 2010, accessed on June 29, 2012.
2. *Land and Tax Map, Sec. 27, Blk. 29,* Nassau County Department of Assessment, Sheet 1 of 1, Revised date: February 11, 2003, Scale: 1" = 50', map obtained from: http://www.nassaucountyny.gov.
3. 1941 Sanborn Fire Insurance Map.
4. Survey of existing conditions and sample locations conducted by GEI Consultants, Inc. Survey by New York state licensed land surveyor number 050146. Horizontal datum: New York State Plane coordinate system (Long Island Zone, North American Datum (NAD)83). Vertical datum: North American Vertical Datum (NAVD) 88.

0 80' 160'

SCALE: 1" = 80'

Site Management Plan
Oyster Bay Former Hortonsphere Site
Oyster Bay, New York

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EXISTING CONDITIONS AND SAMPLE LOCATION MAP

Project 1702897 | January 2019 | Fig. 2

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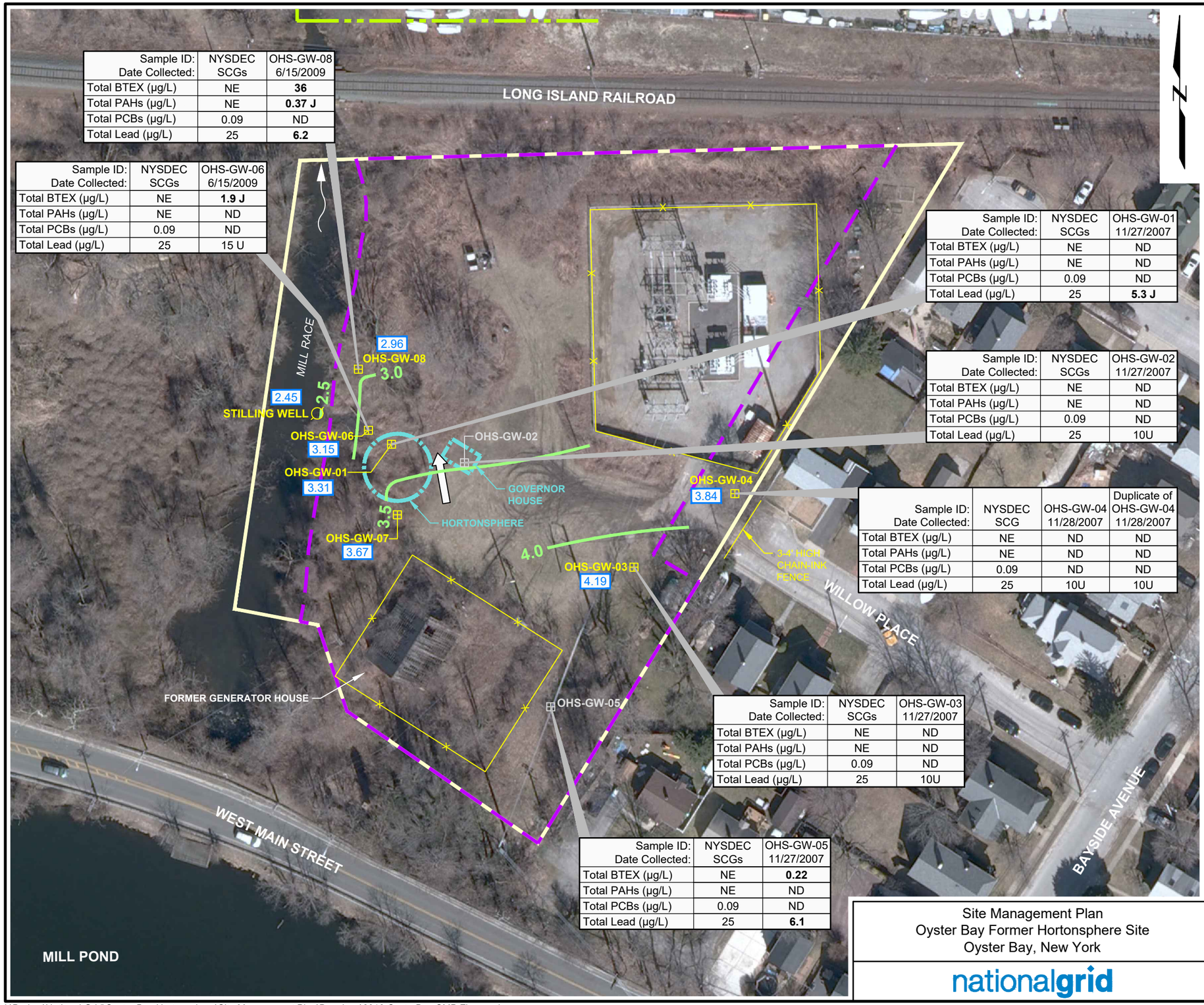

Sample ID: / Date Collected:	NYSDEC SCGs	OHS-GW-08 6/15/2009
Total BTEX (µg/L)	NE	**36**
Total PAHs (µg/L)	NE	**0.37 J**
Total PCBs (µg/L)	0.09	ND
Total Lead (µg/L)	25	**6.2**

Sample ID: / Date Collected:	NYSDEC SCGs	OHS-GW-06 6/15/2009
Total BTEX (µg/L)	NE	**1.9 J**
Total PAHs (µg/L)	NE	ND
Total PCBs (µg/L)	0.09	ND
Total Lead (µg/L)	25	15 U

Sample ID: / Date Collected:	NYSDEC SCGs	OHS-GW-01 11/27/2007
Total BTEX (µg/L)	NE	ND
Total PAHs (µg/L)	NE	ND
Total PCBs (µg/L)	0.09	ND
Total Lead (µg/L)	25	**5.3 J**

Sample ID: / Date Collected:	NYSDEC SCGs	OHS-GW-02 11/27/2007
Total BTEX (µg/L)	NE	ND
Total PAHs (µg/L)	NE	ND
Total PCBs (µg/L)	0.09	ND
Total Lead (µg/L)	25	10U

Sample ID: / Date Collected:	NYSDEC SCG	OHS-GW-04 11/28/2007	Duplicate of OHS-GW-04 11/28/2007
Total BTEX (µg/L)	NE	ND	ND
Total PAHs (µg/L)	NE	ND	ND
Total PCBs (µg/L)	0.09	ND	ND
Total Lead (µg/L)	25	10U	10U

Sample ID: / Date Collected:	NYSDEC SCGs	OHS-GW-03 11/27/2007
Total BTEX (µg/L)	NE	ND
Total PAHs (µg/L)	NE	ND
Total PCBs (µg/L)	0.09	ND
Total Lead (µg/L)	25	10U

Sample ID: / Date Collected:	NYSDEC SCGs	OHS-GW-05 11/27/2007
Total BTEX (µg/L)	NE	**0.22**
Total PAHs (µg/L)	NE	ND
Total PCBs (µg/L)	0.09	ND
Total Lead (µg/L)	25	**6.1**

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- HISTORIC PROPERTY BOUNDARY
- LAND OWNED BY NYSDEC
- HISTORIC STRUCTURE LOCATION
- CHAIN-LINK FENCE
- OHS-GW-04 — TEMPORARY GROUNDWATER SAMPLING LOCATION
- OHS-GW-02 — TEMPORARY GROUNDWATER SAMPLING LOCATION (DESTROYED)
- STILLING WELL — STILLING WELL LOCATION
- 3.0 — GROUNDWATER CONTOUR (FEET NAVD)
- GROUNDWATER ELEVATION (FEET NAVD)
- INFERRED GROUNDWATER FLOW DIRECTION

NAVD	NORTH AMERICAN VERTICAL DATUM
NYS SCGs	New York State Standards, Criteria, and Guideline values
NE	not established
ND	not detected; total concentration is listed as ND because no compounds were detected in the group
J	estimated value
U	indicates not detected to the reporting limit for organic analysis and the method detection limit for inorganic analysis
BOLD	indicates a detected result
µg/L	micrograms per liter or parts per billion (ppb)
BTEX	benzene, toluene, ethlybenzene, and xylene
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls

NOTE:

GROUNDWATER ELEVATION DATA FROM THE JUNE 15, 2009 GAUGING EVENT WERE USED IN PREPARATION OF THE CONTOUR MAP.

SOURCES:

1. Orthophoto obtained from New York State Interactive Mapping Gateway (http://www1.nysgis.state.ny.us/MainMap.cfm) photo date: 2010, accessed on June 29, 2012.
2. L*and and Tax Map, Sec. 27, Blk. 29,* Nassau County Department of Assessment, Sheet 1 of 1, Revised date: February 11, 2003, Scale: 1" = 50', map obtained from: http://www.nassaucountyny.gov.
3. 1941 Sanborn Fire Insurance Map.
4. Survey of existing conditions and sample locations conducted by GEI Consultants, Inc. Survey by New York state licensed land surveyor number 050146. Horizontal datum: New York State Plane coordinate system (Long Island Zone, North American Datum (NAD)83). Vertical datum: North American Vertical Datum (NAVD) 88.

0 60' 120'

SCALE: 1" = 60'

Site Management Plan
Oyster Bay Former Hortonsphere Site
Oyster Bay, New York

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SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Project 1702897 | January 2019 | Fig. 3

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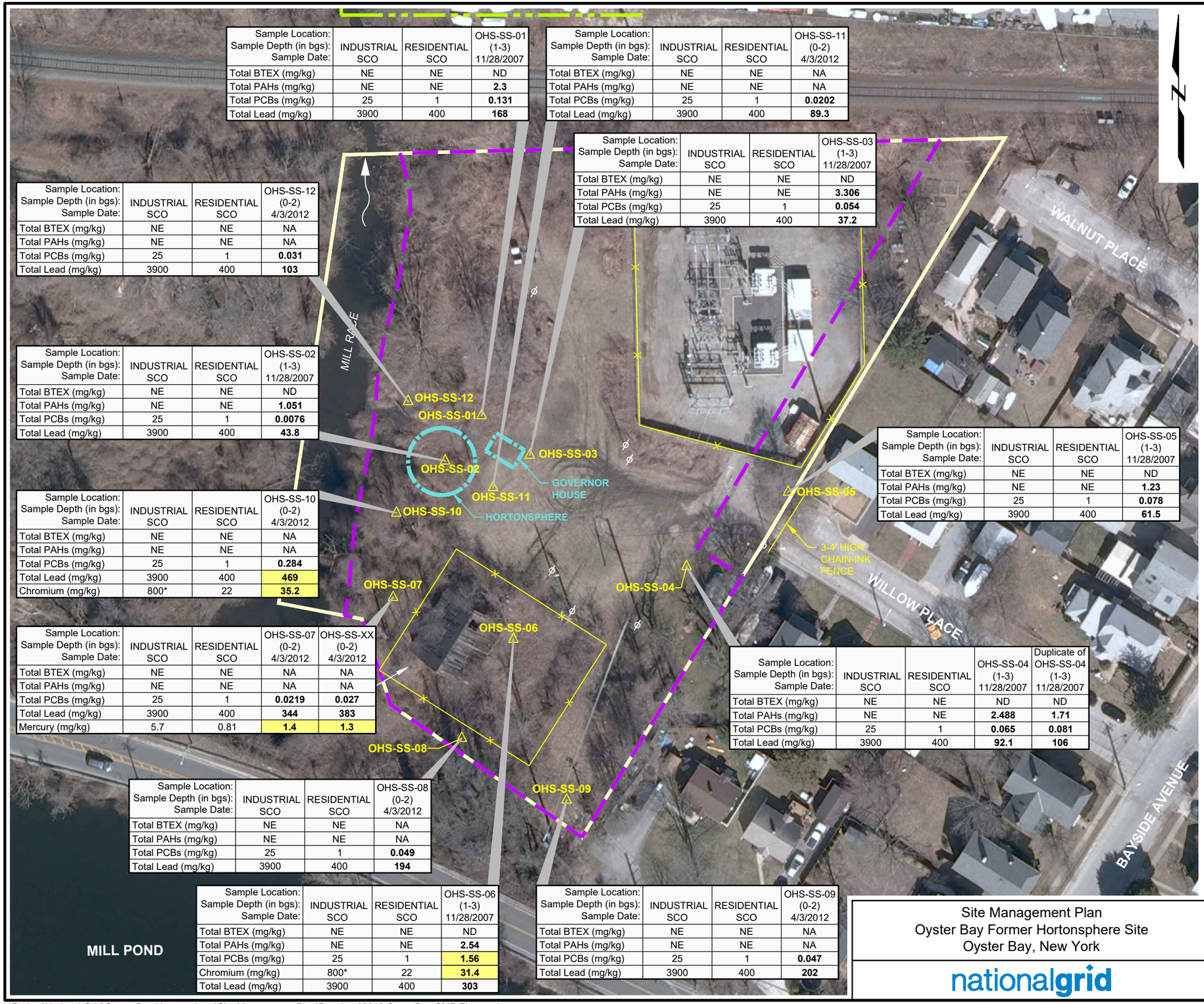

Sample Location: / Sample Depth (in bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-SS-01 (1-3) 11/28/2007
Total BTEX (mg/kg)	NE	NE	ND
Total PAHs (mg/kg)	NE	NE	**2.3**
Total PCBs (mg/kg)	25	1	**0.131**
Total Lead (mg/kg)	3900	400	**168**

Sample Location: / Sample Depth (in bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-SS-11 (0-2) 4/3/2012
Total BTEX (mg/kg)	NE	NE	NA
Total PAHs (mg/kg)	NE	NE	NA
Total PCBs (mg/kg)	25	1	**0.0202**
Total Lead (mg/kg)	3900	400	**89.3**

Sample Location: / Sample Depth (in bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-SS-03 (1-3) 11/28/2007
Total BTEX (mg/kg)	NE	NE	ND
Total PAHs (mg/kg)	NE	NE	**3.306**
Total PCBs (mg/kg)	25	1	**0.054**
Total Lead (mg/kg)	3900	400	**37.2**

Sample Location: / Sample Depth (in bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-SS-12 (0-2) 4/3/2012
Total BTEX (mg/kg)	NE	NE	NA
Total PAHs (mg/kg)	NE	NE	NA
Total PCBs (mg/kg)	25	1	**0.031**
Total Lead (mg/kg)	3900	400	**103**

Sample Location: / Sample Depth (in bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-SS-02 (1-3) 11/28/2007
Total BTEX (mg/kg)	NE	NE	ND
Total PAHs (mg/kg)	NE	NE	**1.051**
Total PCBs (mg/kg)	25	1	**0.0076**
Total Lead (mg/kg)	3900	400	**43.8**

Sample Location: / Sample Depth (in bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-SS-05 (1-3) 11/28/2007
Total BTEX (mg/kg)	NE	NE	ND
Total PAHs (mg/kg)	NE	NE	**1.23**
Total PCBs (mg/kg)	25	1	**0.078**
Total Lead (mg/kg)	3900	400	**61.5**

Sample Location: / Sample Depth (in bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-SS-10 (0-2) 4/3/2012
Total BTEX (mg/kg)	NE	NE	NA
Total PAHs (mg/kg)	NE	NE	NA
Total PCBs (mg/kg)	25	1	**0.284**
Total Lead (mg/kg)	3900	400	**469**
Chromium (mg/kg)	800*	22	**35.2**

Sample Location: / Sample Depth (in bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-SS-07 (0-2) 4/3/2012	OHS-SS-XX (0-2) 4/3/2012
Total BTEX (mg/kg)	NE	NE	NA	NA
Total PAHs (mg/kg)	NE	NE	NA	NA
Total PCBs (mg/kg)	25	1	**0.0219**	**0.027**
Total Lead (mg/kg)	3900	400	**344**	**383**
Mercury (mg/kg)	5.7	0.81	**1.4**	**1.3**

Sample Location: / Sample Depth (in bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-SS-04 (1-3) 11/28/2007	Duplicate of OHS-SS-04 (1-3) 11/28/2007
Total BTEX (mg/kg)	NE	NE	ND	ND
Total PAHs (mg/kg)	NE	NE	**2.488**	**1.71**
Total PCBs (mg/kg)	25	1	**0.065**	**0.081**
Total Lead (mg/kg)	3900	400	**92.1**	**106**

Sample Location: / Sample Depth (in bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-SS-08 (0-2) 4/3/2012
Total BTEX (mg/kg)	NE	NE	NA
Total PAHs (mg/kg)	NE	NE	NA
Total PCBs (mg/kg)	25	1	**0.049**
Total Lead (mg/kg)	3900	400	**194**

Sample Location: / Sample Depth (in bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-SS-06 (1-3) 11/28/2007
Total BTEX (mg/kg)	NE	NE	ND
Total PAHs (mg/kg)	NE	NE	**2.54**
Total PCBs (mg/kg)	25	1	**1.56**
Chromium (mg/kg)	800*	22	**31.4**
Total Lead (mg/kg)	3900	400	**303**

Sample Location: / Sample Depth (in bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-SS-09 (0-2) 4/3/2012
Total BTEX (mg/kg)	NE	NE	NA
Total PAHs (mg/kg)	NE	NE	NA
Total PCBs (mg/kg)	25	1	**0.047**
Total Lead (mg/kg)	3900	400	**202**

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- HISTORIC PROPERTY BOUNDARY
- LAND OWNED BY NYSDEC
- HISTORIC STRUCTURE LOCATION
- CHAIN-LINK FENCE
- OHS-SS-01 △ SURFACE SOIL SAMPLE LOCATION

INDUSTRIAL SCO – New York State Code of Rules and Regulations Title 6 (6 NYCRR) Subpart 375-6 Restricted Use Industrial Soil Cleanup Objectives (SCOs).

RESIDENTIAL SCO – 6 NYCRR Subpart 375-6: Restricted Use Residential SCOs.

NA	not analyzed
ND	not detected; total concentration is listed as ND because no compounds were detected in the group
NE	not established
BOLD	indicates a detection
BOLD (highlighted)	indicates the result exceeds 6 NYCRR Part 375 Residential SCO
mg/kg	milligrams/kilogram or parts per million (ppm)
BTEX	benzene, toluene, ethlybenzene, and xylene
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
in bgs	inches below ground surface

SOURCES:

1. Orthophoto obtained from New York State Interactive Mapping Gateway (http://www1.nysgis.state.ny.us/MainMap.cfm) photo date: 2010, accessed on June 29, 2012.
2. L*and and Tax Map, Sec. 27, Blk. 29,* Nassau County Department of Assessment, Sheet 1 of 1, Revised date: February 11, 2003, Scale: 1" = 50', map obtained from: http://www.nassaucountyny.gov.
3. 1941 Sanborn Fire Insurance Map.
4. Survey of existing conditions and sample locations conducted by GEI Consultants, Inc. Survey by New York state licensed land surveyor number 050146. Horizontal datum: New York State Plane coordinate system (Long Island Zone, North American Datum (NAD)83). Vertical datum: North American Vertical Datum (NAVD) 88.

0 60' 120'

SCALE: 1" = 60'

Site Management Plan
Oyster Bay Former Hortonsphere Site
Oyster Bay, New York

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SUMMARY OF SURFACE SOIL ANALYTICAL RESULTS

Project 1702897 | January 2019 | Fig. 4

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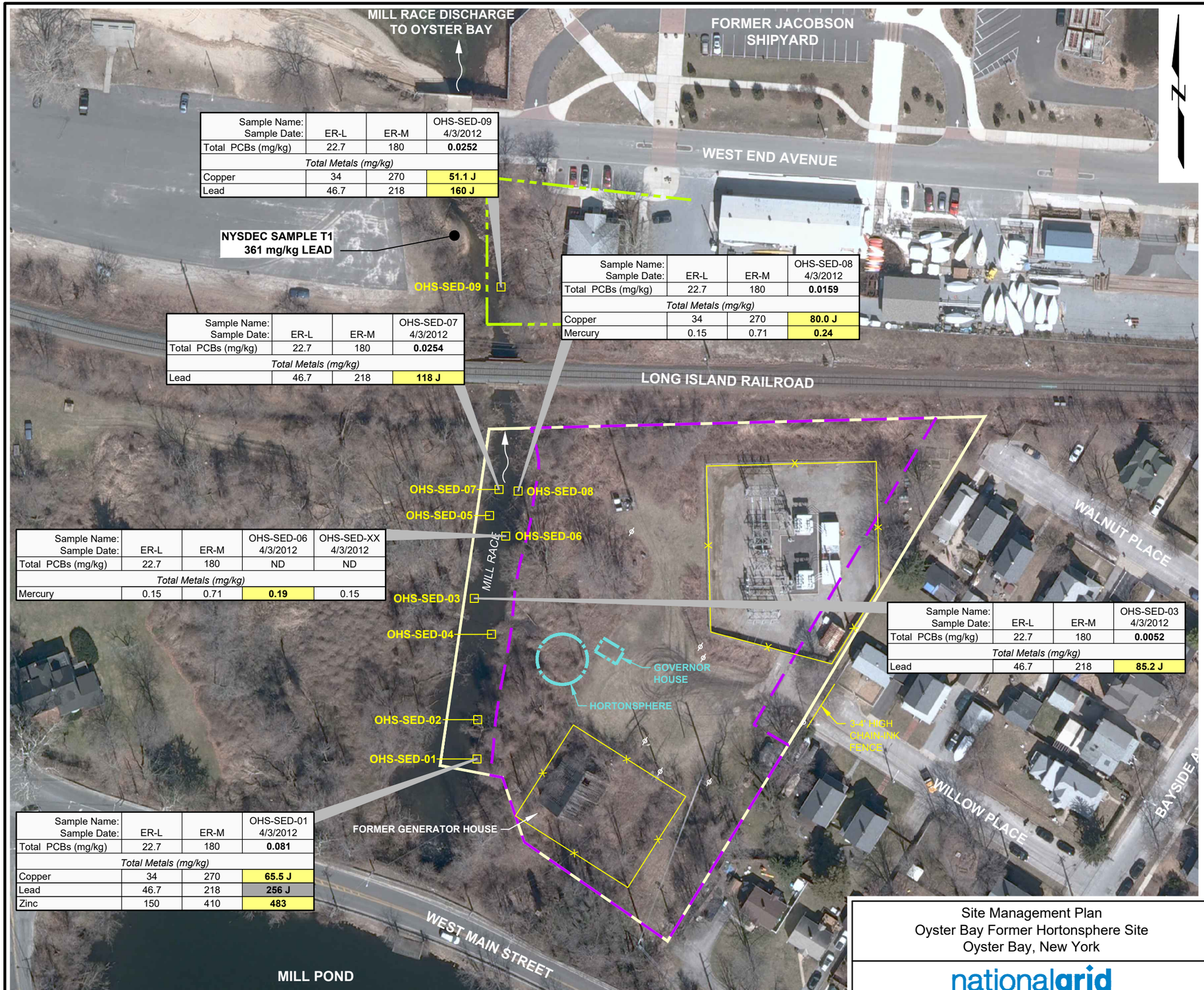

Sample Name: / Sample Date:	ER-L	ER-M	OHS-SED-09 4/3/2012
Total PCBs (mg/kg)	22.7	180	**0.0252**
Total Metals (mg/kg)			
Copper	34	270	**51.1 J**
Lead	46.7	218	**160 J**

Sample Name: / Sample Date:	ER-L	ER-M	OHS-SED-08 4/3/2012
Total PCBs (mg/kg)	22.7	180	**0.0159**
Total Metals (mg/kg)			
Copper	34	270	**80.0 J**
Mercury	0.15	0.71	**0.24**

Sample Name: / Sample Date:	ER-L	ER-M	OHS-SED-07 4/3/2012
Total PCBs (mg/kg)	22.7	180	**0.0254**
Total Metals (mg/kg)			
Lead	46.7	218	**118 J**

Sample Name: / Sample Date:	ER-L	ER-M	OHS-SED-06 4/3/2012	OHS-SED-XX 4/3/2012
Total PCBs (mg/kg)	22.7	180	ND	ND
Total Metals (mg/kg)				
Mercury	0.15	0.71	**0.19**	0.15

Sample Name: / Sample Date:	ER-L	ER-M	OHS-SED-03 4/3/2012
Total PCBs (mg/kg)	22.7	180	**0.0052**
Total Metals (mg/kg)			
Lead	46.7	218	**85.2 J**

Sample Name: / Sample Date:	ER-L	ER-M	OHS-SED-01 4/3/2012
Total PCBs (mg/kg)	22.7	180	**0.081**
Total Metals (mg/kg)			
Copper	34	270	**65.5 J**
Lead	46.7	218	**256 J**
Zinc	150	410	**483**

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- HISTORIC PROPERTY BOUNDARY
- LAND OWNED BY NYSDEC
- HISTORIC STRUCTURE LOCATION
- CHAIN-LINK FENCE
- UTILITY POLE
- OHS-SED-03 — SEDIMENT SAMPLE LOCATION

UNRESTRICTED USE – New York State Code of Rules and Regulations Title 6 (6 NYCRR) Subpart 375-6 Unrestricted Use Soil Cleanup Objectives (SCOs).

ER-L	Effects Range Low
ER-M	Effects Range Median
ND	not detected; total concentration is listed as ND because no compounds were detected in the group
BOLD	indicates a detection
BOLD	indicates the result exceeds ER-L
BOLD	indicates the result exceeds ER-M
mg/kg	milligrams/kilogram or parts per million (ppm)
PCBs	polychlorinated biphenyls

NOTE:

No Exceedances of ER-L for SED-02, SED-04, and SED-05.

SOURCES:

1. Orthophoto obtained from New York State Interactive Mapping Gateway *(http://www1.nysgis.state.ny.us/MainMap.cfm)* photo date: 2010, accessed on June 29, 2012.
2. *Land and Tax Map, Sec. 27, Blk. 29,* Nassau County Department of Assessment, Sheet 1 of 1, Revised date: February 11, 2003, Scale: 1" = 50', map obtained from: http://www.nassaucountyny.gov.
3. 1941 Sanborn Fire Insurance Map.
4. Survey of existing conditions and sample locations conducted by GEI Consultants, Inc. Survey by New York state licensed land surveyor number 050146. Horizontal datum: New York State Plane coordinate system (Long Island Zone, North American Datum (NAD)83). Vertical datum: North American Vertical Datum (NAVD) 88.

0 80' 160'

SCALE: 1" = 80'

Site Management Plan
Oyster Bay Former Hortonsphere Site
Oyster Bay, New York

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SUMMARY OF SEDIMENT ANALYTICAL RESULTS

Project 1702897 | January 2019 | Fig. 5

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Sample Location: / Sample Depth (ft bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-GP-02 (1-1.5) 11/27/2007	OHS-GP-02 (7-8) 11/27/2007
Total BTEX (mg/kg)	NE	NE	ND	ND
Total PAHs (mg/kg)	NE	NE	**2.211**	ND
Total PCBs (mg/kg)	25	1	**0.0128**	**0.0333**
Total Lead (mg/kg)	3900	400	**78**	**9.1**

LONG ISLAND RAILROAD

MILL RACE

OHS-GP-08/ OHS-GW-08

OHS-GP-01/ OHS-GW-01

STILLING WELL

OHS-GP-02 / OHS-GW-02

OHS-GP-06 / OHS-GW-06

GOVERNOR HOUSE

HORTONSPHERE

OHS-GP-07/ OHS-GW-07

OHS-GP-04 / OHS-GW-04

OHS-GP-03 / OHS-GW-03

3-4' HIGH CHAIN-LINK FENCE

FORMER GENERATOR HOUSE

OHS-GW-05

WALNUT PLACE

WILLOW PLACE

WEST MAIN STREET

BAYSIDE AVENUE

Sample Location: / Sample Depth (ft bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-GP-04 (4-5) 11/26/2007	OHS-GP-04 (8.5-9.5) 11/26/2007
Total BTEX (mg/kg)	NE	NE	ND	ND
Total PAHs (mg/kg)	NE	NE	ND	ND
Total PCBs (mg/kg)	25	1	ND	ND
Total Lead (mg/kg)	3900	400	**4.2**	**1.2 J**

Sample Location: / Sample Depth (ft bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-GP-03 (1-2) 11/26/2007	OHS-GP-03 (7-8) 11/26/2007
Total BTEX (mg/kg)	NE	NE	**0.0018**	ND
Total PAHs (mg/kg)	NE	NE	**0.601**	ND
Total PCBs (mg/kg)	25	1	ND	**0.06**
Total Lead (mg/kg)	3900	400	**204**	6.5 U

Sample Location: / Sample Depth (ft bgs): / Sample Date:	INDUSTRIAL SCO	RESIDENTIAL SCO	OHS-GP-01 (1-2.5) 11/26/2007	OHS-GP-01 (5-6) 11/26/2007
Total BTEX (mg/kg)	NE	NE	ND	ND
Total PAHs (mg/kg)	NE	NE	**0.834**	ND
Total PCBs (mg/kg)	25	1	**0.038**	**0.19**
Total Lead (mg/kg)	3900	400	**60.2**	6.6 U

N

LEGEND:

PROPERTY BOUNDARY (APPROXIMATE)

HISTORIC PROPERTY BOUNDARY

LAND OWNED BY NYSDEC

HISTORIC STRUCTURE LOCATION

CHAIN-LINK FENCE

OHS-GP-04/ OHS-GW-04 ⊞ GEOPROBE® BORING LOCATION/ TEMPORARY GROUNDWATER SAMPLING LOCATION

INDUSTRIAL SCO – New York State Code of Rules and Regulations Title 6 (6 NYCRR) Subpart 375-6 Restricted Use Industrial Soil Cleanup Objectives (SCOs).

RESIDENTIAL SCO – 6 NYCRR Subpart 375-6: Restricted Use Residential SCOs.

NE	not established
ND	not detected; total concentration is listed as ND because no compounds were detected in the group
J	estimated value
U	not detected to the reporting limit for organic analysis and the method detection limit for inorganic analysis
BOLD	indicates a detection
mg/kg	milligrams/kilogram or parts per million (ppm)
BTEX	benzene, toluene, ethlybenzene, and xylene
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
ft bgs	feet below ground surface

SOURCES:

1. Orthophoto obtained from New York State Interactive Mapping Gateway (http://www1.nysgis.state.ny.us/MainMap.cfm) photo date: 2010, accessed on June 29, 2012.
2. L*and and Tax Map, Sec. 27, Blk. 29,* Nassau County Department of Assessment, Sheet 1 of 1, Revised date: February 11, 2003, Scale: 1" = 50', map obtained from: http://www.nassaucountyny.gov.
3. 1941 Sanborn Fire Insurance Map.
4. Survey of existing conditions and sample locations conducted by GEI Consultants, Inc. Survey by New York state licensed land surveyor number 050146. Horizontal datum: New York State Plane coordinate system (Long Island Zone, North American Datum (NAD)83). Vertical datum: North American Vertical Datum (NAVD) 88.

0 60' 120'

SCALE: 1" = 60'

Site Management Plan
Oyster Bay Former Hortonsphere Site
Oyster Bay, New York

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SUMMARY OF SUBSURFACE SOIL SITE CHARACTERIZATION ANALYTICAL RESULTS

Project 1702897 | January 2019 | Fig. 6

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Appendix A

Soil Management Plan

Soil Management Plan

Former Oyster Bay Hortonsphere Site
Oyster Bay, Nassau County, New York

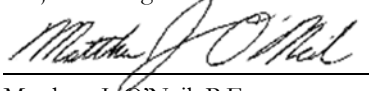
NYSDEC Site Number: 130183

Submitted to:
National Grid
175 East Old Country Road
Hicksville, New York 11801

Submitted by:
GEI Consultants, Inc., P.C.
455 Winding Brook Drive, Suite 201
Glastonbury, Connecticut 06033
860-368-5300

January 2019
Project 1702897.4

Christopher Morris, P.G.
Project Manager



Matthew J. O'Neil, P.E.
Project Engineer

1. Introduction

This Soil Management Plan was developed to accompany the Site Management Plan (SMP) for the Former Oyster Bay Hortonsphere site in Oyster Bay, New York (Site). The SMP is required as an element of the remedial program at the Site under the New York State (NYS) Hazardous Waste Disposal Site Remedial Program administered by New York State Department of Environmental Conservation (NYSDEC). National Grid (formerly "KeySpan Gas East Corporation") entered into an Order on Consent, Index #A1-0595-08-07, Site # 130183, dated August 24, 2007.

The Site is currently the Oyster Bay Substation 5H property, owned and operated by Long Island Power Authority (LIPA) and Public Service Enterprise Group (PSEG). The active substation is situated in the northeast quadrant of the Site; the remaining portion of the Site is currently undeveloped.

The SMP was developed subsequent to completion of a Site Characterization Study at the Site. The study found that residual surface soil contamination was present at concentrations above the NYSDEC Restricted Residential Soil Cleanup Objectives (SCOs). Several metals are also at elevated concentrations in Mill Creek sediment.

This document describes the measures that will be implemented if LIPA/PSEG needs to conduct site work that will disturb soil.

1.1 Soil Disturbance at Site

If LIPA/PSEG plans to undertake any intrusive activities that will result in surface soil disturbance, they are requested to notify the parties named below. The notification should include the type of work, location of work, and the proposed schedule for completion of work.

Sarah Aldridge
National Grid
Site Investigation and Remediation Department
175 East Old Country Road
Hicksville, NY 11801
Sarah.Aldridge@nationalgrid.com
516-545-2568 (office)
860-334-0554 (cell)

John C. Sheehan
Engineering Geologist 1
Division of Environmental Remediation
Stony Brook University
50 Circle Road
Stony Brook, NY 11790-3408
John.Sheehan@dec.ny.gov
631-444-0244 (office)

If the proposed work is located in areas sampled during Site Characterization, National Grid will review the data for exceedances in the vicinity of the proposed work, including excavation/trench depth and extension, above the Restricted Residential Soil Cleanup Objectives (SCOs).

If the proposed work will be conducted in areas where soil concentrations are below the Restricted Residential SCOs, no air monitoring or soil management will be necessary. Under these conditions, management of soil will be the responsibility of the property owner and excess soil may be re-used at the site.

If the proposed work will be conducted in areas where soil concentrations are above the Restricted Residential SCOs, air monitoring and soil management will be necessary. Soils will be inspected visually and with a PID to determine if there are impacts in the soil. Soil may be re-used at the Site if impacts are not observed or detected.

If the proposed work will be conducted in areas not previously sampled during Site Characterization, including work within the active substation, air monitoring and soil management will be conducted by National Grid as necessary. During emergency repairs or work requiring limited soil removal actions within the substation, air monitoring and soil management will be conducted by National Grid. Soils will be inspected visually and with a PID to determine if there are impacts in the soil during the work. Soil may be re-used at the Site if impacts are not observed or detected. If larger construction projects with sufficient notice are planned for the substation, then advanced characterization of the soils to be disturbed will be conducted. If no impacts are identified during the characterization, then National Grid will submit the results to the NYSDEC with a recommendation that no air monitoring is warranted during the work.

Additional sampling will be conducted as part of the soil management activities to properly characterize and manage any visually-impacted soils observed or any excess soil requiring off-site disposal.

1.2 Monitoring Requirements

If the validated sample results demonstrate that detected constituents are present at concentrations above the Restricted Residential SCOs, air monitoring and soil management will be conducted by National Grid.

1.2.1 Air Monitoring

A Community Air Monitoring Plan (CAMP) will be implemented for intrusive activities on the site in areas of the site with impacted soil. The New York State Department of Health (NYSDOH) Generic CAMP is included in this Site Management Plan as Appendix D.

Air sampling stations will be placed upgradient and downgradient of generally prevailing wind conditions. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide upwind and downwind monitoring stations.

A Photo-ionization Detector (PID) will be used to monitor air for VOC vapors. Particulate dust will be monitored using a Mini-ram particulate meter. The equipment will be calibrated at least once daily or in accordance with manufacturers' recommendations.

If the PID provides a reading greater than 1.0 part per million (ppm), a benzene Drager tube will be used to determine whether benzene is responsible for the exceedance. If benzene is present, work will be stopped until appropriate personal protective equipment (PPE) or engineering controls can be implemented. Work will be stopped if total VOCs exceed 25 ppm, as described in Appendix D. Work will commence when PPE or engineering controls can be employed to reduce the concentration. If surface soil produces a PID reading of 50 ppm or higher, National Grid will characterize the soil for proper off-site disposal.

If particulates exceeding 10 microns are detected in the breathing zone or at downwind stations, work will be stopped until the wind has subsided. Engineering controls, such as wetting the surface soil, will be used if the wind is sustained.

Exceedances of the actions levels stated above and provided in the CAMP (Appendix D) will be reported to the NYSDEC and NYSDOH project managers, in addition to any corrective measures taken.

Appendix B

Metes and Bounds Survey

LEGAL DESCRIPTION

BEGINNING AT A POINT IN THE SOUTHERLY RIGHT-OF-WAY LINE OF THE LONG ISLAND RAILROAD AND THE NORTHWESTERLY CORNER OF THE HEREIN DESCRIBED TRACT. SAID POINT ALSO BEING DESCRIBED AS THE INTERSECTION OF THE CENTER LINE OF THE ARCH BRIDGE UNDER THE RAILROAD PRODUCED SOUTHERLY TO THE POINT OF INTERSECTION WHERE SAID LINE WOULD INTERSECT THE SOUTHERLY RIGHT-OF-WAY LINE OF THE LONG ISLAND RAILROAD. AND FROM SAID POINT RUNNING THENCE:

1. SOUTH 88° 34' 07" EAST, ALONG SAID RIGHT-OF-WAY LINE OF THE LONG ISLAND RAILROAD, DISTANT 130.24 FEET TO AN ANGLE POINT, THENCE;
2. NORTH 89° 08' 27" EAST, STILL ALONG SAID RIGHT-OF-WAY LINE OF THE LONG ISLAND RAILROAD, DISTANT 265.88 FEET TO A POINT, THENCE;
3. SOUTH 32° 16' 15" WEST, ALONG THE NORTHWESTERLY LINE OF WALNUT PLACE, BLOCK 30 LOTS 21, 22 AND 17, WILLOW PLACE, BLOCK 29 LOTS 116 AND 118, DISTANT 484.28 FEET TO A POINT AND THE NORTHEASTERLY LINE OF BLOCK 29 LOT 121, THENCE;
4. NORTH 54° 29' 33" WEST, ALONG SAID NORTHEASTERLY LINE OF BLOCK 29 LOT 121, DISTANT 139.26 FEET TO AN ANGLE POINT IN SAME, THENCE;
5. NORTH 18° 36' 13" WEST, CONTINUING ALONG SAID NORTHEASTERLY LINE OF BLOCK 29 LOT 121, DISTANT 54.39 FEET TO AN ANGLE POINT, THENCE;
6. NORTH 78° 52' 27" WEST, STILL ALONG SAID NORTHEASTERLY LINE OF BLOCK 29 LOT 121, DISTANT 48.26 FEET TO A POINT AND A PROLONGATION OF THE CENTERLINE OF THE LONG ISLAND RAILROAD ARCH BRIDGE SOUTHWESTERLY, THENCE;
7. NORTH 08° 38' 34" EAST, ALONG SAID PROLONGATION OF THE CENTERLINE OF THE LONG ISLAND RAILROAD ARCH BRIDGE, DISTANT 270.07 FEET TO THE ABOVE DESCRIBED POINT OR PLACE OF BEGINNING.

CONTAINING 106,642 SF OR 2.448 AC.

TOGETHER WITH THE RIGHT TO UTILIZE A FIFTEEN (15) FOOT WIDE STRIP, WESTERLY OF THE WESTERLY BOUNDARY FOR NAVIGATION PURPOSES AS WELL AS THE PROPERTIES TO THE WEST TO UTILIZE THE STREAM WITHIN THE ABOVE DESCRIBED PREMISES. (DB 772 PG 160)

NOTES:

1. HORIZONTAL DATUM: NNEW YORK STATE PLAN COORDINATE SYSTEM LONG ISLAND ZONE, NAD83, ESTABLISHED BY GLOBAL POSITIONING SYSTEM METHODOLOGY
2. THIS SURVEY WAS PREPARED IN ACCORDANCE WITH A CERTAIN TITLE REPORT PREPARED BY ALL STATE ABSTRACT CORP., IDENTIFICATION NUMBER SS12232, WITH AN EFFECTIVE DATE OF 10/17/2014.
3. EXISTING FEATURES SHOWN HEREON ARE DEPICTED AS THEY EXISTED IN JULY 2016.
4. 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.

MAP REFERENCES:

1) A CERTAIN MAP ENTITLED "MAP OF PROPERTIES BELONGING TO LONG ISLAND LIGHTING CO., AND NOW OR FORMERLY TO OYSTER BAY ENGINE CO., AT OYSTER BAY, LI", PREPARED BY ARTHUR W. LEACH, CIVIL ENGINEER & SURVEYOR, DATED NOV. 18, 1927.

2) A CERTAIN MAP ENTITLED "STATION MAPS-LANDS, THE LONG ISLAND RAILROAD COMPANY OPERATED BY THE LONG ISLAND RAILROAD CO. OYSTER BAY BRANCH, STATION 1686+50 TO STATION 1767+36, DATED JUNE 30, 1916, SHEETS No. V2K/L232, V2K/L233.

3) A CERTAIN MAP ENTITLED "COUNTY ROAD SYSTEM, NASSAU COUNTY, N.Y., MAP SHOWING LAYOUT AND EXTENSION OF SHORE AVENUE, OYSTER BAY, PREPARED BY ORDER OF THE BOARD OF SUPERVISORS, PURSUANT TO A RESOLUTION ADOPTED 2-27-1928 AND PURSUANT TO THE HIGHWAY LAW, FILED IN NASSAU COUNTY CLERK'S OFFICE AS MAP No. H332.

DESIGNED BY:	DRAWN BY: TOT	CHECKED BY:	BOUNDARY SURVEY
		REVISIONS	SECTION 27, BLOCK 29, LOT 13 OYSTER BAY NASSAU COUNTY, NEW YORK
		NO. 1 — DATE 3/9/17 NO. 2 — DATE 10/3/18	KSE KS ENGINEERS, P.C. Engineers • Surveyors • Construction Managers 494 Broad Street, Newark, N.J. 07102 Phone: (973) 623-2999, Fax: (973) 623-2988

DAVID D. RUPNARAIN
PROFESSIONAL LAND SURVEYOR
N.Y. LICENSE NO. 050295

STATE OF NEW YORK · DAVID DYAL RUPNARAIN · 050295 · LICENSED LAND SURVEYOR

SCALE:	DATE:	PROJECT NO.:	SHEET NO.:
1"=30'	JULY 2016	1621	1 OF 1

Appendix C

Environmental Easement

**** Electronically Filed Document ****

Instrument Number: 2018-18262

Recorded As: EX-D06 - AGREEMENT

Recorded On: February 27, 2018

Recorded At: 01:57:45 pm Receipt Number: 979327

Number of Pages: 10 Processed By: 001 DAC

Book-VI/Pg: Bk-D VI-13625 Pg-970

Total Rec Fee(s): $395.00

** Examined and Charged as Follows **

06 - AGREEMENT	$ 90.00	EX-Blocks - Deeds - $300	$ 300.00	EX-TP-584 Affidavit Fee	$ 5.00

	Tax Amount	Consid Amt	RS#/CS#		
Tax-Transfer OYSTER BAY	$ 0	$ 0	RE 16049	Basic	$ 0.00
				Local NY CITY	$ 0.00
				Additional MTA	$ 0.00
				Spec ASST	$ 0.00
				Spec ADDL SONYMA	$ 0.00
				Transfer	$ 0.00
Tax Charge:	$ 0				

Property Information:

Section	Block	Lot	Unit	Town Name
27	29	13		OYSTER BAY

**********THIS PAGE IS PART OF THE INSTRUMENT **********

Any provision herein which restricts the Sale, Rental or use of the described REAL PROPERTY because of color or race is invalid and unenforceable under federal law.

Maureen O'Connell

County Clerk Maureen O'Connell

3020-843113

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

THIS INDENTURE made this 2nd day of February, 2018 between Owner(s) Long Island Lighting Company d/b/a LIPA, having an office at 333 Earle Ovington Boulevard, Uniondale, New York 11771, County of Nassau, 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,

Section 27 Block 29 Lot 13

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 having an address of Willow Street in the Town of Oyster Bay, County of Nassau and State of New York, known and designated on the tax map of the County Clerk of Nassau as tax map parcel numbers: Section 27 Block 29 Lot 13, being the same as that property conveyed to Grantor by deeds dated March 15, 1923 and September 23, 1937 and recorded in the Nassau County Clerk's Office in Liber and Page 772/160 and 1954/196, respectively. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 2.448 +/- acres, and is hereinafter more fully described in the Land Title Survey dated July, 2016 and last revised March 9, 2017 prepared by David D. Rupnarain, L.L.S. of KS Engineers, P.C., 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

a

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: A1-0595-08-07, 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:

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 Nassau 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 or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), 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

C. 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.

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

E. 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.

F. 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: 130183
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.

11. Consistency with the SMP. To the extent there is any conflict or inconsistency between the terms of this Environmental Easement and the SMP, the terms of the SMP will control.

Remainder of Page Intentionally Left Blank

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

Long Island Lighting Company d/b/a LIPA:

By: Thomas Falcone

Print Name: Thomas Falcone

Title: CEO Date: 1/2/18

Grantor's Acknowledgment

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

On the 2nd day of January, in the year 2018, before me, the undersigned, personally appeared Thomas Falcone 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/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public - State of New York

ALEXANDRE POZDNYAKOV
Notary Public, State of New York
No. 02PO6235981
Qualified in New York County
Commission Expires February 22, 2019

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~~ Michael Ryan, Asst. Dir.
Division of Environmental Remediation

Grantee's Acknowledgment

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

On the 2nd day of February, in the year 2018, 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. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

Beginning at a point in the southerly right-of-way line of The Long Island Railroad and the northwesterly corner of the herein described tract. Said point also being described as the intersection of the center line of the arch bridge under the railroad produced southerly to the point of intersection where said line would intersect the southerly right-of-way line of The Long Island Railroad. And from said point running thence:

1. South 88° 34' 07" East, along said right-of-way line of The Long Island Railroad, distant 130.24 feet to an angle point, thence;
2. North 89° 08' 27" East, still along said right-of-way line of The Long Island Railroad, distant 265.88 feet to a point, thence;
3. South 32° 16' 15" West, along the northwesterly line of Walnut Place, Block 30 Lots 21, 22 and 17, Willow Place, Block 29 Lots 116 and 118, distant 484.28 feet to a point and the northeasterly line of Block 29 Lot 121, thence;
4. North 54° 29' 33" West, along said northeasterly line of Block 29 lot 121, distant 139.26 feet to an angle point in same, thence;
5. North 18° 36' 13" West, continuing along said northeasterly line of Block 29 lot 121, distant 54.39 feet to an angle point, thence;
6. North 78° 52' 27" West, still along said northeasterly line of Block 29 lot 121, distant 48.26 feet to a point and a prolongation of the centerline of The Long Island Railroad arch bridge southwesterly, thence;
7. North 08° 38' 34" East, along said prolongation of the centerline of The Long Island Railroad arch bridge, distant 270.07 feet to the above described point or place of beginning.

Containing 106,642 SF or 2.448 Ac.

Together with the right to utilize a fifteen (15) foot wide strip, westerly of the westerly boundary for navigation purposes as well as the properties to the west to utilize the stream within the above described premises. (DB 772 PG 160)

Appendix D

Generic Community Air Monitoring Plan (CAMP)

Appendix D
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009