LONG DOCK BEACON

DUTCHESS COUNTY

CITY OF BEACON, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: C314112

Prepared for:

The Scenic Hudson Land Trust, Inc.

One Civic Center Plaza, Suite 200

Poughkeepsie, New York 12601

Prepared by:

Gallagher Bassett Technical Services

22 IBM Road, Suite 101, Poughkeepsie, New York 12601

Phone: (845) 452-1658

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date
1	October 6, 2023	Soil profiles were added and monitoring well names corrected on the annual inspection forms; Phase I area cover system was added to Figure 15	

FEBRUARY 2023 (REVISED OCTOBER 2023)

CERTIFICATION STATEMENT

I Victoria Panico, CHMM, certify that I am currently a Qualified Environmental Professional as in defined in 6 NYCRR Part 375 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).



_____

Victoria Panico, CHMM

October 16, 2023

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List of Acronyms

AS	Air Sparging
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
CLP	Contract Laboratory Program
COC	Certificate of Completion
CO2	Carbon Dioxide
CP	Commissioner Policy
DER	Division of Environmental Remediation
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ERP	Environmental Restoration Program
EWP	Excavation Work Plan
GHG	Green House Gas
GWE&T	Groundwater Extraction and Treatment
HASP	Health and Safety Plan
IC	Institutional Control
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operation and Maintenance
OM&M	Operation, Maintenance and Monitoring
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PID	Photoionization Detector
PRP	Potentially Responsible Party
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RP	Remedial Party
RSO	Remedial System Optimization
SAC	State Assistance Contract
SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective

List of Acronyms

SMP	Site Management Plan
SOP	Standard Operating Procedures
SOW	Statement of Work
SPDES	State Pollutant Discharge Elimination System
SSD	Sub-slab Depressurization
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program

ES EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan:

Site Identification:	NYSDEC BCP Site ID: C314112; Long Dock Beacon Site, Red Flynn Drive, Beacon, NY	
Institutional Controls:	1. Environmental Easement Parcels 1, 2 and 3 of the property may be used for Commercial and Industrial uses only; Parcels 4 and 5 of the property may be used for Restricted Residential, Commercial and Industrial uses.	
	2. The only IC present on this Site is the Environmental Easement	
	3. All ECs must be inspected at a frequency and in a manner defined in the SMP.	
Engineering Controls:	1. Cover system - Exposure to remaining contamination at the site is prevented by a cover system placed over the site. 2. Monitoring well network 3. SSD system – In the event that buildings are constructed on-site, exposure to soil vapor intrusion will be prevented by the installation of a SSD system, on an "as needed" basis.	
Inspections:		Frequency
1. Cover inspection		Annually
Monitoring:		
1. Groundwater Monitoring Wells MW-06R, MW-08R, MW-11, MW-12, MW-13 and MW-14		Within 1 year of SMP approval; every 3 years thereafter
Maintenance:		
1. Cover maintenance		As needed
Reporting:		
1. Groundwater Monitoring Data		Within 1 year of SMP approval; every 3 years thereafter
2. Periodic Review Report		Annually

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan.

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the Long Dock Beacon site located in City of Beacon, New York (hereinafter referred to as the "Site"). See Figure 1. The Site is currently in the New York State (NYS) Brownfield Cleanup Program (BCP), Site No. C314112 which is administered by New York State Department of Environmental Conservation (NYSDEC).

The Scenic Hudson Land Trust, Inc. entered into a Brownfield Cleanup Agreement (BCA) on July 13, 2006 with the NYSDEC to remediate the site. A figure showing the site location and boundaries of this site is provided in Figure 2. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in Appendix E.

After completion of the remedial work, some contamination was left at this site, which is hereafter referred to as "remaining contamination". Institutional and Engineering Controls (ICs and ECs) have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Dutchess County Clerk, requires compliance with this SMP and all ECs and ICs placed on the site.

This SMP was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC);

- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA (Index #W3-1038-04-12) Site # C314112) for the site, and thereby subject to applicable penalties.

All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the site is provided in Appendix C of this SMP.

This SMP was originally prepared by Morris Associates Engineering and Surveying Consultants, PLLC and Ecosystems Strategies, Inc. (ESI), and has been revised by Gallagher Bassett Technical Services (GBTS), on behalf of The Scenic Hudson Land Trust, Inc., in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

1.2 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. In accordance with the Environmental Easement for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the BCA, 6NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan.

- Notice within 48-hours of acquiring knowledge of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day after any emergency commenced/occurred, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the Brownfield Cleanup Agreement (BCA), and all approved work plans and reports, including this SMP.
- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Table 1 on the following page includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix C

Table 1: Notifications*

Name	Contact Information
Parag Amin, P.E. (NYSDEC Project Manager)	Tel: (518) 402-9662 Email: parag.amin@dec.ny.gov
Daniel Bendell , P.E. (NYSDEC, Department's Region 3 Hazardous Waste Engineer)	Tel: (845)-265-3151 Email: daniel.bendell@dec.ny.gov
Kelly A. Lewandowski, P.E. (NYSDEC, Chief of Site Control)	Tel: (518) 402-9553 Email: Kelly.Lewandowski@dec.ny.gov
Anthony Perretta (NYSDOH, Project Manager)	Tel: (518) 402-7860 Email: BEEI@health.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location and Description

The site is located in the City of Beacon, Dutchess County, New York and is identified as Block 32 and Lots 481840, 490828 and 537725 on the City of Beacon Tax Map #5954 (see Figure 2). The site is an approximately 6.44-acre area, situated on a peninsula on the eastern shore of the Hudson River, and is bounded by the Metro North Railroad station to the north, and east additional portions of Long Dock Park to the south, Red Flynn Drive to the east, and the Hudson River to the west (see Figure 1 and Figure 2).

For purposes of the Environmental Easement (EE), the site is comprised of five parcels ranging in size from 0.30 acres to 3.83 acres (see Figures 2 and 3). Parcels 1 through 3 cover the central to western portion of the site and only commercial and industrial uses are permitted under the EE, while Parcels 4 and 5 make up the eastern portion of the site and may be used for restricted residential, commercial and industrial uses, as defined by the EE. A 12-inch soil cover is required for all areas limited to commercial/industrial uses and a 24-inch soil cover is required all areas allowing restricted residential uses.

The Phase I remediation area includes the eastern portion of Parcel 2, and Parcels 4 and 5, and the Phase II remediation area includes Parcels 1 and 3, and the majority of Parcel 2. Based on the EE, therefore, these remediation areas do not directly correspond to the areas defining use restrictions.

The boundaries of the site are more fully described in Appendix E –Environmental Easement. The owner of the site parcels Block 32, Lots 481840 and 537725 (Easement Parcels 1, 3 and 4) at the time of issuance of this SMP is:

The Scenic Hudson Land Trust, Inc.
One Civic Center Plaza, Suite 200
Poughkeepsie, New York 12601

The owner of the site parcel Block 32, Lot 490828 (Easement Parcels 2 and 5) at the time of issuance of this SMP is:

The Scenic Hudson Land Trust, Inc., as sole member of
Beacon Waterfront LLC
One Civic Center Plaza, Suite 200
Poughkeepsie, New York 12601

2.2 Physical Setting

2.2.1 Land Use

The Site consists of the following: The River Center building (Red Barn) to the north, a paved access road to the east, meadow areas to the south (MOSF area) and north/northwest, a concrete foundation along western shoreline, and a gravel parking area (boat-club parking) to the southwest. The southern portion of the park (not part of the Site), adjoining the Site to the south, contains a kayak pavilion, unpaved site access roads, walkways and landscaped areas. The Site is currently utilized as a center for offering arts and environmental education programs and park areas for the general public. The property extends approximately 1,200 feet westwards from Red Flynn Drive and includes lands submerged in the Hudson River (not part of the Site).

The properties adjoining the Site and in the neighborhood surrounding the Site primarily include commercial properties. The properties immediately south of the Site include remaining portions of the Long Dock Park (former Kellam property); the properties immediately north of the Site include the Metro North Railroad station and the Hudson River; the properties immediately east of the Site include the Metro North properties and Red Flynn Drive; and the properties to the west of the Site include the Hudson River. The Site is zoned Waterfront Development (WD) and is currently used as a park, boat launch and education center. Site occupants include Scenic Hudson's River Center, which offers

environmental and arts programs and a kayak pavilion and boat storage area. In addition, the Site provides walking trails.

2.2.2 Geology

State maps indicate that soils at the Site consist of lacustrine silt and clay deposits, overlying sandstone and shale. The local soil survey indicates that the smoothed Udorthents soil type is located on the Site, which consists of very deep, somewhat excessively drained to moderately well drained soils that have been altered by cutting and filling.

Subsurface soils in the northern portion of the Site, encountered in soil borings and test pits from approximately 0-5 feet bsg, generally consisted of variable texture sandy fill material with gravel and fragments of brick and coal. Soil from approximately 5-10 feet bsg generally consisted of brown to black fine materials (silt, clay and organic muck), with coal and ash. Subsurface soils in the southern portion of the Site, encountered in soil borings and test pits from approximately 0-15 feet bsg, generally consisted of variable texture sandy fill material with gravel, coal, ash, wood and fragments of brick and rock.

A dense clay layer is generally present at a depth of approximately 10 feet bsg in the northern portion of the Site, which slopes downwards towards the south at depths between 15 and 17 feet bsg. The clay appears to be native material and is likely to form a continuous confining layer.

Site specific boring logs are provided in Appendix G.

2.2.3 Hydrogeology

Monitoring well gauging conducted in 2007 documents significant tidal influences to groundwater depth at the western and central portions of the Site, with effects noted as far east as the vicinity of the River Center Building. The overall direction of groundwater flow during low and high tide was shown to be in a southwesterly and easterly direction, respectively.

The Site currently contains six monitoring wells: MW-06R, MW-08R, MW-11, MW-12 and MW-13 in the former MOSF area, and MW-14 west of the former MOSF area. On-site and nearby groundwater resources are not used for either potable or non-potable purposes. Municipal water is supplied via a connection at the River Center Building.

Groundwater contour maps for low and high tides noted on August 16, 2007 are shown in Figures 4 and 5, respectively. Groundwater elevation data are provided in Table 5, and well construction logs are provided in Appendix G.

2.3 Investigation and Remedial History

The Site has a long history of known industrial use, which occurred prior to the Volunteer's ownership of the property. Environmental investigations conducted by various consultants in the 1980s indicated that the Site had been formed with uncontrolled fill from multiple sources, and that soils and groundwater had been impacted by metals and hydrocarbon-based contamination.

Site is comprised of the former Cohen property (purchased October 2000) along the northern half and former Garrett Storm property (purchased September 1997) along the southern half. The northeastern portion of the Site was used as a "junk yard" (Beacon Salvage Yard) from approximately 1962 to 1983. The southern portion of the Site was used as a former major oil storage facility (MOSF), with aboveground petroleum storage tank structures, from approximately 1936 to 1994, located in the southeastern portion of the Site. The northwestern portion of the Site was used as a coal yard (Long Dock Coal Company/Garrett Storm Coal Yard). A figure illustrating pertinent site features is provided as Figure 3, in Appendix A.

The Beacon Salvage Yard (V00444) and the Garret Storm Site (V00096) were formerly enrolled with the NYSDEC under the Voluntary Cleanup Program (VCP). An interim remedial measure (IRM) to remove petroleum contamination was completed at the Garret Storm Site in 2000 and an IRM to remove polychlorinated biphenyl (PCB) contamination was completed at the Beacon Salvage Site in 2002.

The Site was enrolled into the current BCA in 2006. A remedial investigation (RI) was conducted by ESI in 2006 to 2007 to fully characterize known and suspected on-site contamination under the current BCA (Site was also investigated, prior to the current BCA, during 1994 through 2003, and a limited soil investigation was conducted in May 2014 under the current BCA).

The results of the investigations conducted prior to Site's enrollment under the current BCA are detailed in the following reports:

Former Cohen Property (Including Beacon Salvage Yard)

- Subsurface Investigation and Monitoring Well Installation Report, November 1994;
- Combined Phase I and Phase II Environmental Site Assessment, July 2000;
- Summary Report of Subsurface Investigation, September 2000; and,
- Summary Report of Remedial Activities, October 2002.

Former Garret Storm Property

- Environmental Audit, February 1997;
- Summary Report of Environmental Services, May 2000; and,
- Summary Report of Remedial Activities, August 2003.

The results of the RI and the soil investigation conducted in May 2014 are described in detail in the following reports:

- Remedial Investigation Report dated November 2007
- RAWP dated March 2015

Analytical data were collected from onsite soil, groundwater, sediment and surface water during the RI. Generally, the RI identified the contaminants of concern at the Site and determined that the contaminants of concern exceeded applicable Standards, Criteria and Guidance (SCGs) for soil and groundwater. Primary contaminants of concern identified during the RI included volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals (arsenic, lead, mercury), and polychlorinated biphenyls (PCBs).

The Site is currently divided into Phase I and Phase II Remediation Areas (see Figure 3, Appendix A). The Phase I Remediation Area is primarily subject to RRUSCOs and the Phase II Remediation Area is primarily subject to RCUSCOs (as approved by the NYSDEC on November 7, 2014).

The following section describes contaminants of concern identified during the RI conducted in 2006 to 2007.

Soil

Phase I Remediation Area (Includes Beacon Salvage Yard)

Contaminants of concern associated with the historic salvage operations of the Site included PCBs, metals (arsenic, lead and mercury) and SVOCs (mostly polycyclic aromatic hydrocarbons [PAHs]) in exceedance of RRUSCOs at various portions of the Site.

Phase II Remediation Area (Includes Former MOSF Area)

Significantly elevated level of lead was documented in the vicinity of the former MOSF area and in the north-central portion. Elevated levels of arsenic and/or PAHs were documented in the north-central portion and in the vicinity of the former MOSF area and northwestern portion.

Elevated concentrations of total SVOCs were detected in samples 2SB-15 [36-40”] (2,733.4 ppm), TP-9 [4.7’] (2,657.2 ppm), and 2SB-10 [5-6’] (1,184.2 ppm). Elevated levels of total TICs were detected at all three locations, and elevated levels of total unknown compounds were detected at 2SB-15 and TP-9. Elevated levels of benzo(a)pyrene were detected in ten of the remaining twenty-seven soil samples (peak concentration 10 ppm at TP-8 [3’]), and elevated levels of dibenzo(a,h)anthracene were detected in four of the remaining twenty-seven soil samples (peak concentration 1.6 ppm at 2SB-18 [9-10’]).

No PCBs, pesticides or VOCs were detected at concentrations above RCUSCOs. Documented VOCs included both solvents and petroleum compounds. Elevated levels of total VOC concentrations, based on total TICs and/or unknown compounds, were identified at southeastern and western portion of the former MOSF area.

Diesel-range total petroleum hydrocarbons (TPH-DRO) were identified throughout the former MOSF area at depths ranging from 3 to 7 feet bsg, with concentrations above 10,000 ppm (located at the central portion of the former MOSF area) at 2SB-10 [5-6’], 2SB-11A [6-7’], 2SB-13 [6-7’] and 2SB-13 [6-7’] (peak concentration 22,000 ppm at 2SB-10, average detected concentration 19,333 ppm). TPH-DRO in soil is illustrated in Figure 6 in Appendix A and tabulated in Table 6 in Appendix B.

Groundwater

Groundwater data collected during the RI documented: elevated BTEX at MW-05 (southeastern portion), and, low level concentrations of one or more VOCs at MW-01

(northeastern portion) and MW-08 (former MOSF area). TICs and/or unknown compounds were documented at various levels at MW-02 and MW-03 (western portion), MW-06 and MW-08 (former MOSF area) and, MW-09 and MW-10 (off-site, to the south). Active monitoring well locations (except MW-03 in the western portion of the Site) are illustrated in Figure 10, Appendix A (well locations for former well MW-01, MW-04, MW-05, MW-09 and MW-10 are illustrated in Figures 4 and 5).

Low levels of dissolved arsenic were documented at MW-01 and MW-04, and a low level of dissolved lead was documented at MW-08.

Low levels of PAHs were documented at MW-01 and MW-08 (TICs/unknown compounds were documented at a slightly elevated level at MW-08).

PCBs and pesticides were not detected in groundwater throughout the Site.

Soil Vapor

The presence of VOCs during the remedial investigation indicated the potential for soil vapors in subsurface soils in the area of the former MOSF. In addition, the potential existed for VOC contamination in subsurface soils to be found off-site (southeast of the former MOSF). Therefore, the potential existed for soil vapors to be present southeast of the former MOSF. Note: A hotel building was projected to be built at the former MOSF area at the time of the RI. No building structures are present or projected to be built at the former MOSF area, which now consists of meadow areas.

Therefore, no existing or potential exposure pathways for on-site and potential off-site soil vapors are anticipated, eliminating the possibility of soil vapor exposures.

Underground Storage Tanks

No existing underground storage tanks were noted during the remedial investigation conducted during 2006 -2007 (and during the Phase I and II remediation).

Determination of Significant Threat

Based on the RI conducted on-site, the NYSDEC and NYSDOH determined that the Site does not present a significant threat to public health or the environment.

Summary of Remedial Actions

The Phase I and II remedial activities were conducted in accordance with the Phase I Remedial Action Design (dated June 2010) and Remedial Action Work Plan (dated March

2015), respectively. Additional Phase II remedial activities (i.e. ISCO treatment and LNAPL monitoring) within the former MOSF area were conducted in accordance with the Remedial Design Document (dated October 2015) and documented in the Summary Report of In Situ Chemical Oxidation Treatment (dated July 2016).

Phase I Remediation, conducted from 2010 to 2011, included the following:

1. Contaminant source areas for arsenic, lead, mercury, PCBs and PAHs were removed at the eastern portion of the Site. Excavation was generally extended to 4 feet bsg at the areas to the east, southeast, west and southwest of the Red Barn (limited areas were excavated to 9 feet bsg at the east of the Red Barn, and 2 feet bsg to the southwest of the Red Barn).

   Additionally, trench excavation to install utility lines was conducted, which originated from the area immediately along the eastern portion of the Red barn extending to the former MOSF area (Phase II Remediation Area) to the south and southeast. Depth of excavation ranged 1.2 feet to 5.5 feet bsg and approximately 4 feet wide. Portions of the former MOSF are known to contain grossly contaminated soil; however, no grossly contaminated soil was observed during the entire trench excavation activities. Figure 7A in Appendix A illustrates the Phase I excavation areas.

2. Two feet of cover (imported clean soil) was installed throughout the Phase I Remediation area (a minimum of 4 feet of cover was installed in the excavation voids at the areas to the east and west of the Red Barn) except for the eastern portion of EE Parcel 2, where one foot of cover was installed. A demarcation layer was installed below the soil cover.

   Portions of the Site not covered by soil cover were covered by a minimum of 1 foot of other materials, which included, asphalt paving for access roadways and portions of parking areas near Red Barn, concrete slabs for the parking area, concrete paving for sidewalks and stabilized gravel paving at the boat club parking area. (Note: Boat club parking area is at the Phase I Remediation Area).

   Figure 7B in Appendix A illustrates the installed cover installed at the Phase I Area.

Phase II Remediation, conducted from January to June 2015, included the following:

1. Contaminant source areas for lead were removed at the north-central (north of former MOSF area) and eastern portion of the former MOSF area. Excavation was extended to 3 feet bsg at the north-central area and 2 feet bsg at the former MOSF area. Figure 8A in Appendix A illustrates the Phase II excavation areas. The remedial work conducted under the Phase II Remediation will be documented in the Final Engineering Report (FER).
2. One foot of cover (imported shot rock and clean soil) was installed throughout the Phase II Remediation Area because of its designation for commercial use. Figure 8B in Appendix A illustrates the Phase II barrier cover area and Figure 14 in Appendix A illustrates the boundaries of site-wide institutional and engineering controls. Figure 9 in Appendix A illustrates typical barrier cover details.

Additional work conducted under the Phase II remediation included an in-situ chemical oxidation (ISCO) treatment at the former MOSF area in February 2016. The ISCO treatment was performed to address the source areas of TPH-DRO contamination. The Summary Report of In Situ Chemical Oxidation Treatment was prepared for and submitted to NYSDEC in July 2016, as prescribed by the RDD, and provides summary information for all fieldwork methodologies and findings related to ISCO treatment at the Site, including:

- A summary of relevant historical and current conditions at the former MOSF area;
- An overview of the selected ISCO treatment remedial action;
- Pre-treatment baseline (November, 2015) and post-treatment (May, 2016) soil and groundwater sampling events (see discussion in Section 2.5 below);
- Monitoring for light non-aqueous phase liquids (LNAPL) at new groundwater monitoring wells (MW-12 and MW-13);
- ISCO field injection pilot testing methodologies and findings;
- Full-scale ISCO application; and,
- Conclusions.

ISCO treatment was proposed to address remaining hydrocarbon contamination in soil that is associated with historical petroleum releases. The contaminants of concern (COCs) consist of elevated levels of TPH-DRO (greater than 10,000 ppm) and limited areas of observed LNAPL. Existing analytical data supported the conclusion that petroleum compounds in soil and groundwater, resulting from spill events at the former MOSF, had undergone natural degradation over time, but still persisted on-site in soil. An ISCO treatment, introducing oxidants into the source was conducted to address these residual conditions in that portion of the former MOSF (see Figure 10 and Figure 11 of ISCO Treatment Maps, provided in Appendix A). As advised by NYSDEC, no additional ISCO treatment is required.

Monitoring wells MW-12 and MW-13 were installed in the eastern portion of the former MOSF area, where free petroleum was observed during previous fieldwork, to document the presence or absence of LNAPL and to serve as passive collection points. Both wells were developed and then initially observed on a weekly basis during the first month for the presence or absence of any accumulating LNAPL. No measurable product was present in either of the two monitoring wells during the four, weekly LNAPL monitoring events. LNAPL monitoring was discontinued after the December 23, 2015 monitoring event, in accordance with the RDD and consultation with NYSDEC.

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Decision Document dated April, 2008 and are as follows:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

The remedy for the Phase II Remediation Area is a Track 4 (Restricted-Commercial Use) cleanup consisting of the following elements:

- Excavation of soil with significantly elevated concentration of lead at the north-central portion and former MOSF area of the Site.
- Characterization and appropriate off-site disposal of all contaminated and/or regulated excavated material, in accordance with all Federal, State, and local rules and regulations for handling, transport and disposal.
- Confirmatory endpoint sampling to document the integrity of remaining soils in excavation areas.
- Importation and placement of a one-foot cover layer of certified clean fill (overlying a demarcation layer for soil) throughout the Phase II Remediation Area. The cover layer conforms to the constituent levels specified in DER-10, Appendix 5 (Commercial Use category).
- Implementation of in-situ chemical oxidation treatment of petroleum hydrocarbons in the former MOSF area.
- Post-remediation monitoring to document acceptable groundwater quality.
- Implementation of a Site Management Plan to manage and document the integrity of the cover layer and/or any other Engineering Controls required for completion of the remedial activities and the long-term management of any residual contamination, including all operation, maintenance and monitoring plans.
- Imposition of Institutional Controls (deed restriction/environmental easement) to restrict future use of the Phase II portion of the Site (Commercial use), consistent with 6NYCRR 375-1.8(g)(2)(ii).

2.5 Remaining Contamination

Subsequent to the Phase I and II remedial activities (contaminated material removal and cover installation; ISCO treatment within former MOSF area) conducted on-site soil and/or groundwater sampling was conducted to document post-remedial Site conditions, as described below.

2.5.1 Soil

Exceedances of contaminants of concern (COC) present on-site after the remedial activities are described below:

2.5.1.1 Phase I Area

The post-excavation confirmatory samples were analyzed for metals (arsenic, lead and mercury), PCBs and PAHs (see Figure 7A, Appendix A).

Elevated concentrations of lead and arsenic were documented. Lead concentrations were reported between 444 mg/kg to 593 mg/kg along the eastern portion and 516 mg/kg to 1,930 mg/kg at the area to the west of the Red Barn (SCO 16 mg/kg). Arsenic was reported between 18 mg/kg to 71.7 mg/kg along the eastern portion and 16.1 to 33.5 at the area to the west of the Red Barn (SCO 16 mg/kg).

No significant concentrations of PCBs, PAHs and mercury were documented. Maximum concentrations of PCBs and mercury include 0.13 mg/kg and 0.56 mg/kg, respectively (SCOs 1 mg/kg for PCBs and mercury). Among the PAHs, naphthalene, phenanthrene and pyrene were documented at levels between 91.4 µg/kg to 123 µg/kg (SCOs 100,000 µg/kg for the three PAHs).

A minimum of 2 feet layer of cover is present throughout the Phase I Area (a minimum of 4 feet cover is present at portions of the Phase I excavation areas, see Figure 7A, Appendix A). The cover material is currently being maintained and monitored annually).

2.5.1.2 Phase II Area

All post-excavation confirmatory samples were analyzed for lead. Additionally, one sample (EP-10), collected at the former MOSF area, was analyzed for VOCs, SVOCs, PCBs, pesticides and TAL metals.

No significant concentration of lead was reported in all the confirmatory samples. Lead concentrations were reported between 55.9 mg/kg to 870 mg/kg at the former MOSF area and 188 mg/kg to 424 mg/kg at the north-central portion (SCO 1,000 mg/kg). All analytes in sample EP-10 were documented at concentrations below the SCOs.

Contaminants of concern present at the Phase II area (after the remedial excavations) include TPH-DRO, VOCs with TICs, SVOCs with TICs and metals.

Significantly elevated level of lead was documented in the vicinity of the former MOSF area and in the north-central portion. Elevated levels of arsenic and/or PAHs were documented in the north-central portion and in the vicinity of the former MOSF area and northwestern portion.

No PCBs, pesticides or VOCs were detected at concentrations above RCUSCOs.

Based on the data collected during the RI and the remedial excavations, contaminants of concern primarily include TPH-DRO and secondarily include VOC TICs, SVOCs with TICs and metals.

Elevated levels of total VOC concentrations, based on total TICs and/or unknown compounds, were documented at southeastern and western portion of the former MOSF area during the RI.

Diesel-range total petroleum hydrocarbons (TPH-DRO) were identified throughout the former MOSF area at depths ranging from 3 to 7 feet bsg, with concentrations above 10,000 ppm located at the central portion of the former MOSF area. TPH-DRO in soil is illustrated in Figure 6 in Appendix A and tabulated in Table 6 in Appendix B.

The pre- and post ISCO-treatment concentrations of TPH in soil are essentially equivalent values; both sampling events have a wide distribution, which is indicative of the heterogeneity of contaminant concentrations in the subsurface. The pre- and post-treatment concentrations of VOC and SVOC TICs in soils have significantly decreased, as have total VOC and SVOC concentrations throughout the treatment area. Data were compared to Unrestricted Use SCOs (UUSCOs) and Protection of Groundwater SCOS (POGSCOs).

Results of post-treatment soil sampling show TPH-DRO concentrations within the treatment area ranging from 37.3 ppm at 5SB-01 (5-8) to 35,300 ppm at 5SB-06 (5-7). Compared to baseline sampling results, TPH-DRO results show no significant change in concentrations. Results show decreased concentrations at 5SB-01 (largest decrease at 5,193 ppm), 5SB-02

and 5SB-08. Increased concentrations were seen at 5SB-03, 5SB-04, 5SB-05, 5SB-06 (largest increase at 29,190 ppm), 5SB-07 and 5SB-09. TPH data are shown in Figure 12, Appendix A and Table 11, Appendix B.

VOCs were not detected above POGSCOs at 5SB-01, 5SB-02, 5SB-05, 5SB-06, 5SB-08 and 5SB-09. Slightly elevated concentrations of VOCs (total 8260 list compounds) were detected at 5SB-03 (acetone, 0.068 ppm, POGSCO 0.05 ppm), 5SB-04 (vinyl chloride, 0.057 ppm, POGSCO 0.02) and 5SB-07 (total xylenes, 2.4 ppm, POGSCO 1.6 ppm, and toluene 0.72 ppm, POGSCO 0.7 ppm). Total VOC TICs (total TICs) were detected in all soil borings (5SB-01 through 5SB-09) with peak concentrations at 5SB-02 (103 ppm), 5SB-06 (43 ppm) and 5SB-07 (47 ppm). Total VOCs (total 8260 list compounds and total TICs) ranged from 0.057 ppm at 5SB-01 to 108 ppm at 5SB-02.

Compared to baseline sampling results, concentrations of VOCs, VOC TICs and total VOCs show notable decreases at 5SB-01, 5SB-02, 5SB-03, 5SB-04, 5SB-05, 5SB-08 and 5SB-09. The most significant decreases of total VOCs were seen at 5SB-01 and 5SB-02 (261 ppm and 302 ppm, respectively). Results show slightly increased concentrations of total VOCs at 5SB-06 (14 ppm) and 5SB-07 (44 ppb). VOC and total VOC post-treatment data are shown in Figure 13, Appendix A and Table 7, Appendix B. Total VOC TIC post-treatment data are shown in Table 9.

Several polycyclic aromatic hydrocarbons were detected above POGSCOs at 5SB-04 and 5SB-09. Peak concentrations were seen at 5SB-09 and included, benzo(a)anthracene (5.9 ppm, POGSCO 1 ppm), benzo(b)fluoranthene (2.47 ppm, POGSCO 1.7 ppm), benzo(k)fluoranthene (2.05 ppm, POGSCO 1.7 ppm) and chrysene (6.66 ppm, POGSCO 1.7 ppm). SVOC TICs were only detected at 5SB-04, at a concentration of 1.5 ppm. Total SVOC concentrations (8270 list compounds and TICs) ranged from 2.00 ppm at 5SB-05 to 87 ppm at 5SB-09.

Compared to baseline sampling results, SVOC TICs and total SVOCs show notable decreases at 5SB-01, 5SB-02, 5SB-03, 5SB-05, 5SB-06, 5SB-07 and 5SB-08. Decreases of SVOCs ranged from 189 ppm at 5SB-01 to 62 ppm at 5SB-06. Results show slight increases of total SVOCs at 5SB-04 and 5SB-09 (9.8 ppm and 31.5 ppm, respectively). SVOC and total SVOC post-treatment data are shown in Figure 13 and Table 8. Total SVOC TIC post-treatment data are shown in Table 10.

Remaining contamination is present at the former MOSF and other portions of the site. A cover is installed throughout the Site where the exposed surface soil exceeded the applicable SCOs for protection of human health and/or ecological resources (two feet at Phase I Area and one foot at Phase II Area).

Tables 7-11 and Figures 12-13 summarize the results of all the post-ISCO treatment soil samples collected that exceed the Unrestricted Use SCOs and the Protection of Groundwater SCOs at the site after completion of remedial action.

2.5.2 Groundwater

Groundwater data collected at the completion of the Phase I Remediation in July 2011 documented slightly elevated level of benzene and a low level of arsenic at MW-05R. However, subsequent groundwater data collected in December 2011, January 2013 and December 2013 consistently document VOCs, PAHs and arsenic to be within the guidance levels (information provided to the NYSDEC via Memorandum No. 20 dated January 12, 2012, Memorandum No. 21 dated January 17, 2013 and the Annual Groundwater Sampling Report dated January 24, 2014, respectively).

Groundwater data collected during the baseline and post-ISCO treatment sampling events continue to document an absence of any substantive concentrations of petroleum hydrocarbons in the groundwater present within the MOSF treatment area.

No VOCs or SVOCs were detected above AWQS in any samples during the post-ISCO treatment sampling. TPH-DRO was detected at two of the three wells (MW-06, 298 µg/l; MW-08R, 700 µg/l). TPH-DRO results are variable but show no significant change in overall concentrations compared to baseline conditions. Low levels of dissolved VOCs are present, but all concentrations are below groundwater protection standards for the respective compounds (it is noted here that tert-butyl alcohol [TBA] does not have a specified standard but is present in on-site groundwater). This information supports the conclusion that the continued presence of petroleum in on-site soils does not represent a threat to either on-site groundwater or to the adjoining Hudson River.

Tables 12 through Table 14 summarize the results of all samples of groundwater that exceed the SCGs after completion of the remedial action.

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

Since remaining contamination exists at the site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC.

This plan provides:

- A description of all IC/ECs on the site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the site remedy, as determined by the NYSDEC.

3.2 Institutional Controls

A series of ICs is required by the RAWP to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to restricted residential, commercial and industrial (Phase I remediation area – Parcels 4 and 5) and commercial/industrial (Phase II remediation area – Parcels 1, 2 and 3) uses only. The eastern portion of Parcel 2 lies within the Phase I remediation area. Adherence to these ICs on the site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are shown on Figure 14.

The only IC present on this Site is the Environmental Easement, specifying the following:

- Parcels 1, 2 and 3 of the property may be used for 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) uses only;

- Parcels 4 and 5 of the property may be used for Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial and Industrial uses, as described above;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Dutchess 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;
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- 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 the Environmental Easement; and.
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on Figure 14 and any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the site are prohibited.

3.3 Engineering Controls

3.3.1 Cover (or Cap)

Exposure to remaining contamination at the site is prevented by a cover system placed over the site. A 12-inch soil cover is required for the three commercial/industrial parcels of the site and a 24-inch soil cover is required for the two restricted residential portions of the site.

A portion of the Phase I remediation area (eastern section of Parcel 2) contains 12 inches of cover and is part of the commercial/industrial easement parcels, therefore, the Phase I area is not entirely restricted-residential.

The cover consisted of certified clean material of varying thickness, with a minimum of 24 inches in the Phase I area (Parcels 4 and 5 - restricted residential, commercial, industrial use) with the exception of the eastern portion of Parcel 2, and 12 inches in the Phase II area (Parcels 1, 2 and 3 - commercial and industrial). Figure 7B, Figure 7C, Figure 8B and Figure 14 and Figure 15, Appendix A, present the location of the cover system and applicable demarcation layers. The Excavation Work Plan (EWP) provided in Appendix L outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the site and provided in Appendix I.

3.3.2 Monitoring Well Network

To assess the performance of the remedy, a network of six monitoring wells (MW-06R, MW-08R, MW-11, MW-12, MW-13, and MW-14) are retained on-site for the long-term monitoring of on-site and downgradient groundwater conditions. All wells are located in the former MOSF area, with exception of MW-14, which was installed west of the treatment area, and north of the maintenance shed. Due to a site development plans, original well MW-06 was closed and replacement well MW-06R was installed. All existing wells not part of the monitoring well network were properly decommissioned in accordance with NYSDEC DER-10 on June 7, 2017, including MW-02, MW-03, MW-06 and MW-08.

Monitoring wells in the network will be evaluated for structural integrity and overall performance. If an event occurs that renders any well unusable, the NYSDEC will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement. Monitoring well construction logs are included in Appendix G and monitoring well network locations are shown on Figure 10.

3.3.3 Sub-slab Depressurization System (SSD system)

It is anticipated that a SSD system will be installed under any building constructed on-site, subject to verification of subgrade vapors by field testing. The SSD system will be comprised of subgrade piping connected to risers that permit the discharge of accumulating vapors above the roofline of the proposed structure. Prior to any building construction, drawings of the SSD system will be submitted for approval to the NYSDEC accompanied by soil vapor testing data demonstrating the concentrations of soil gas within the footprint of the proposed structure. The need for a passive or active system will be made in consultation with the NYSDEC; the need for any treatment of the system's emissions will also be made in consultation with the NYSDEC. Procedures for operating, maintaining and monitoring the SSD system are to be determined depending on the site-specific conditions.

3.3.4 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10.

4.0 MONITORING AND SAMPLING PLAN

4.1 General

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC. Details regarding the sampling procedures, data quality usability objectives, analytical methods, etc. for all samples collected as part of site management for the site are included in the Quality Assurance Project Plan provided in Appendix H.

This Monitoring and Sampling Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor, soils);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance (SCGs), particularly groundwater standards and Part 375 SCOs for soil; and,

- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment.

To adequately address these issues, this Monitoring and Sampling Plan provides information on:

- Sampling locations, protocol and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and,
- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site-wide Inspection

Site-wide inspections will be performed once per year. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix J – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

Inspections of all remedial components installed at the site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;

- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and,
- If site records are complete and up to date.
- Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the site by a qualified environmental professional, as determined by the NYSDEC. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

4.3 Post-Remediation Media Monitoring and Sampling

Samples shall be collected from the groundwater monitoring wells on a routine basis – the first round within one year of SMP approval and every three years (triennially) thereafter. Sampling locations, required analytical parameters and schedule are provided in Table 2 – Remedial System Sampling Requirements and Schedule below. Modification to the frequency or sampling requirements will require approval from the NYSDEC. . Monitoring well locations are shown in Figure 10 of Appendix A.

Table 2 – Post Remediation Sampling Requirements and Schedule

Sampling Location	**Analytical Parameters**			**Schedule**
	VOCs USEPA 8260	SVOCs USEPA 8270	TPH-DRO (C10-C28)	
MW-06R	X	X	X	Triennially
MW-08R	X	X	X	Triennially
MW-11	X	X	X	Triennially
MW-12	X	X	X	Triennially
MW-13	X	X	X	Triennially
MW-14	X	X	X	Triennially

Detailed sample collection and analytical procedures and protocols are provided in the Appendix F – Fieldwork SOPs and Appendix H – QAPP. The groundwater sampling field

log sheet is provided in Appendix J- SMP Forms. Summarized below are general sampling methodologies:

- All monitoring well sampling activities will be recorded in a field book and a groundwater-sampling log presented in Appendix J. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as part of the inspection form for the groundwater monitoring well network, in addition to the Engineering Control Inspection & Maintenance form provided in Appendix J.
- Prior to sampling, each monitoring well casing will be opened and the well column will be immediately screened with a properly calibrated photoionization detector (PID) meter to document the presence of any volatile organic vapors.
- All wells will be purged and sampled following the USEPA Low-Flow Method.
- All sampling will be conducted using a Horiba® U-22 or similar equipment (set to record parameter levels at three to five minute intervals), dedicated plastic tubing and a peristaltic pump.
- Field testing and recording of field parameters (dissolved oxygen, pH, specific conductivity and temperature) will be conducted via Horiba® U-22.
- Sample collection will occur after the initial 15-minute period when field parameters will be observed to have been stabilized (achieved when three consecutive readings are within the required parameters specified by the USEPA protocol).
- Each groundwater sample will be collected in three 40-ml vials and 1-liter amber glass jars supplied by testing laboratory. No groundwater samples will be filtered prior to submission to the laboratory.
- After sample collection, the containers will be placed in a cooler (with ice) accompanied by proper chain of custody documentation and transported to a NYSDOH certified laboratory for the analysis VOCs plus TICs (USEPA Method 8260), SVOCs plus TICs (USEPA Method 8270) and TPH-DRO. The groundwater samples will be analyzed by a NYSDOH ELAP-certified laboratory.

4.3.1 Groundwater Sampling

The first round of groundwater monitoring will be performed within one year of SMP approval and then every three years (triennially) to assess the performance of the remedy. Modification to the frequency or sampling requirements will require approval from the NYSDEC.

Proposals to sample the monitoring wells at a decreased frequency for the purpose of monitoring the effectiveness of the remedy may be included in the Periodic Review Report (PRR) and will be considered by the agency under the following circumstances: 1. Contaminant levels do not exceed the applicable RAOs at any time during the monitoring program; ii. Contaminant levels detected in the monitoring wells at the edge of the treatment area are reflective of the contaminant levels predicted by the groundwater flow/contaminant transport model; and iii. Contaminant levels above the applicable RAOs remain, but a decreasing trend in the levels is demonstrated in the area of concern monitoring well(s).

The network of monitoring wells has been installed to monitor on-site and downgradient groundwater conditions at the site. The network of on-site wells has been designed based on the following criteria:

MW-08R (located downgradient of the ISCO treatment area), MW-06 and MW-11 (located within the ISCO treatment area) were used for baseline and post-treatment sampling events. MW-12 and MW-13 are located within the Phase II excavation area, east of the ISCO treatment area, and were used for LNAPL monitoring during implementation of the RDD; both of these wells are part of the monitoring network. MW-06R replaced MW-06 within the treatment area and MW-14 is located west of the treatment area and north of the maintenance shed. These wells will be used for monitoring under this SMP.

Table 3 summarizes well identification numbers, as well as the purpose, location, depth, and screened interval of the wells (all are constructed from 2” diameter PVC). As part of the groundwater monitoring, six on-site wells will be sampled to evaluate the effectiveness of the remedial system. All existing wells not part of the monitoring well network were properly decommissioned in accordance with NYSDEC DER-10. Well decommissioning, extension and replacement was performed on Wednesday, June 7, 2017. MW-02, MW-03, MW-06 and MW-08 were decommissioned, and MW-06R and MW-14 were installed, in accordance with NYSDEC guidance. The existing risers for MW-08R, MW-11, MW-12 and

MW-13 were extended upward to accommodate final grades during park construction, and were finished with drive-over manholes. All wells were surveyed (to a reference elevation to 0.01 feet) on August 21, 2018 once final grading was achieved.

Table 3 – Monitoring Well Construction Details

Monitoring Well ID	Well Location	Coordinates (longitude/latitude)	Depth from TOC	Elevation above MSL		
				Surface	Screen Bottom	Screen Top
MW-06R	On-site: northern portion of the ISCO treatment area	-73.986676 / 41.504416	17.38	5.71	-10.25	7.38
MW-08R	On-site: southern portion of the former MOSF area	-73.986619 / 41.504117	12.87	7.73	-6.44	4.56
MW-11	On-site: southern portion of the ISCO treatment area	-73.986728 / 41.504281	17.58	11.39	-6.7	3.30
MW-12	On-site: eastern portion of the former area, located within the Phase II excavation area	-73.986540 / 41.504419	13.59	7.94	-6.21	3.79
MW-13	On-site: eastern portion of the former area, located within the Phase II excavation area	-73.986450 / 41.504351	12.46	7.07	-5.99	4.01
MW-14	On-site; western portion of the former MOSF area and east of the boat club parking area	-73.987208 / 41.504164	12.04	5.11	-12.01	-2.01
TOC – top of casing; MSL – mean sea level						

Monitoring well construction logs are included in Appendix G of this document. Monitoring well locations are shown on Figures 6A and 14.

If biofouling or silt accumulation occurs in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced, if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent Periodic Review Report. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC. Well abandonment will be performed in accordance with NYSDEC's guidance entitled "CP-43: Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC. All site investigation wells not being used for monitoring were properly decommissioned.

The sampling frequency may only be modified with the approval of the NYSDEC. This SMP will be modified to reflect changes in sampling plans approved by the NYSDEC.

Deliverables for the groundwater monitoring program are specified in Section 7.0 – Reporting Requirements.

4.3.2 Monitoring and Sampling Protocol

All sampling activities will be recorded in a field book and associated sampling log as provided in Appendix J - Site Management Forms. Other observations (e.g., groundwater monitoring well integrity, etc.) will be noted on the sampling log. The sampling log will serve as the inspection form for the monitoring network. Additional detail regarding monitoring and sampling protocols are provided in the site-specific Fieldwork SOPS provided as Appendix F of this document.

5.0 OPERATION AND MAINTENANCE PLAN

The site remedy does not rely on any mechanical systems, such as groundwater treatment systems, sub-slab depressurization systems or air sparge/soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP.

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a summary of vulnerability assessments that will be conducted for the site during periodic assessments, and briefly summarizes the vulnerability of the site and/or engineering controls to severe storms/weather events and associated flooding.

The site is located within the 100-year flood zone and is currently subject to periodic flooding, and vulnerable to intensifying storm and flood events due to Climate Change. In the future, the site will be prone to soil erosion caused by Hudson River inundation.

Currently, a vegetative buffer effectively holds the soil cap in place. The integrity of this soft shoreline stabilization is critical to the maintenance of the minimum site cover because it mitigates the force of inundation and runoff and therefore, soil erosion. Inspections of the shoreline stabilization will be included as part of the Reporting Requirements.

7.0. REPORTING REQUIREMENTS

7.1 Site Management Reports

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in Appendix J. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table 4 and summarized in the Periodic Review Report.

Table 4: Schedule of Interim Monitoring/Inspection Reports

Task/Report	**Reporting Frequency***
Inspection Report	Annually
Periodic Review Report (PRR)	Annually, or as otherwise determined by the Department
Groundwater Monitoring	Annually - first year; triennially thereafter; incorporated into PRR
* Events will be conducted as specified until otherwise approved by the NYSDEC.	

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;

- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc.);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria, as noted in Section 3.3.3.2, above;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables (as specified in DER-10) required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and,
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work and receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Description of non-routine activities performed;

- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and,
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

7.2 Periodic Review Report

A PRR will be submitted to the Department beginning sixteen (16) months after the Certificate of Completion is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually to the Department or at another frequency as may be required by the Department. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix E -Environmental Easement. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends.

- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.
- A site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the site-specific RAWP, ROD or Decision Document;
  - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
  - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan;
  - Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Decision Document; and,
  - The overall performance and effectiveness of the remedy.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a qualified environmental professional will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

"*For each institutional or engineering control identified for the site, I certify that all of the following statements are true:*

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*

- *The institutional control and/or engineering 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 and is continuing that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred and is continuing 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;*
- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the site is compliant with the environmental easement;*
- *The engineering control systems are performing as designed and are effective;*
- *To the best of my 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*
- *The information presented in this report is accurate and complete.*

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, Peter D. Setaro, PE, CPL Architecture, Engineering, Planning, 26 IBM Road, Poughkeepsie, NYam certifying as Owner's Designated Site Representative.

- *No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid; and*
- *The assumptions made in the qualitative exposure assessment remain valid.*

The signed certification will be included in the Periodic Review Report.

The Periodic Review Report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located and the NYSDOH Bureau of

Environmental Exposure Investigation. The Periodic Review Report may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

7.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a Corrective Measures Work Plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC.

8.0 REFERENCES

- Remedial Investigation Report dated November 2007
- Construction Completion Report (Phase I only) dated November 2013
- RAWP dated March 2015
- Remedial Design Document (RDD) dated October 2015
- Final Summary Report of In Situ Chemical Oxidation Treatment dated July 2016, Revised January 2017.
- 6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.
- NYSDEC DER-10 – “Technical Guidance for Site Investigation and Remediation”.
- NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

APPENDIX A – FIGURES



Figure 1: Site Location Map

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

Legend:

- Site boundary
- Environmental easement boundary

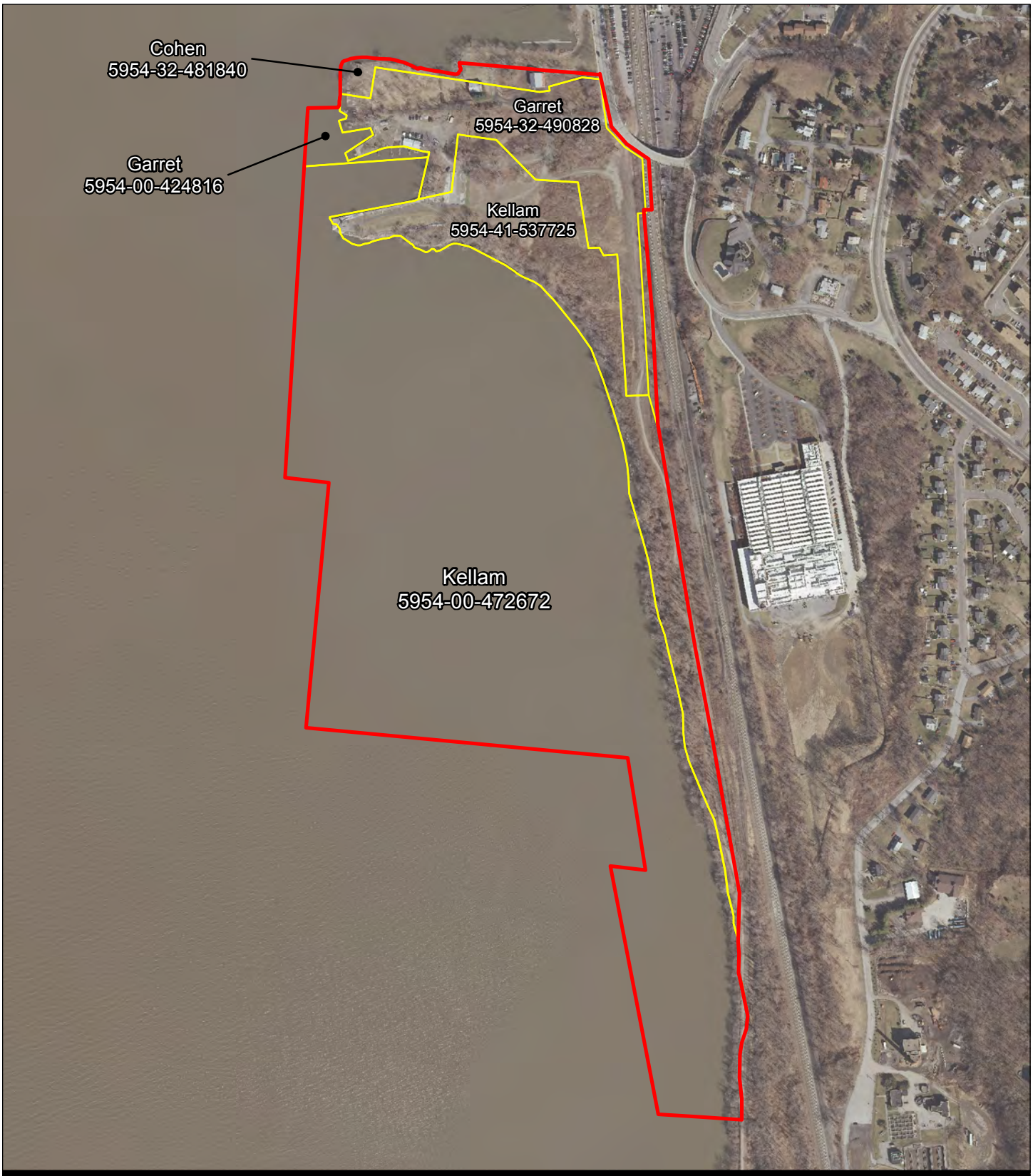
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February 2023

Scale as shown

Appendix A

FIGURE 2



Long Dock Park - Tax Parcels

2/22/13

City of Beacon
Dutchess County, NY
2009 Orthoimagery

0 200 400 800 Feet

Legend

Approx. Property Boundary

Tax Parcel Boundary

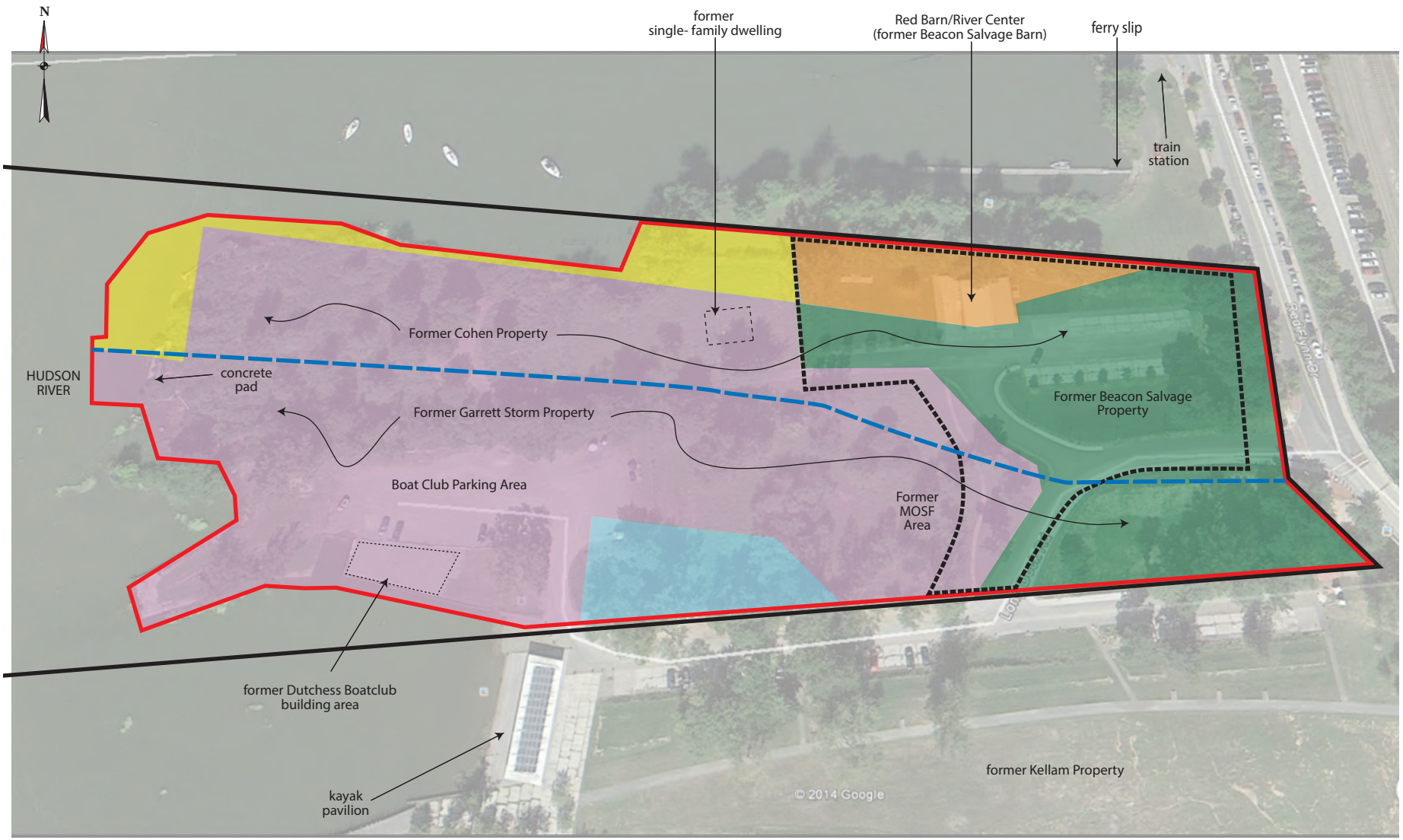
5

SCENIC HUDSON

DH

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All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Figure 3: Site Identification Map

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

Legend:

- Site boundary
- Environmental easement boundary
- Phase I remediation area
- Former property line between Cohen Property and Garrett Storm Property
- Parcel 1 area 0.41 acres
- Parcel 2 area 3.86 acres
- Parcel 3 area 0.30 acres
- Parcel 4 area 0.33 acres
- Parcel 5 area 1.54 acres

Note: Per the Environmental Easement, Parcels 1, 2 and 3 may be used for Commercial and Industrial Uses; Parcels 4 and 5 may be used for Restricted Residential, Commercial and Industrial Uses.

File: SG96152.85

February 2023

Scale as shown

Appendix A

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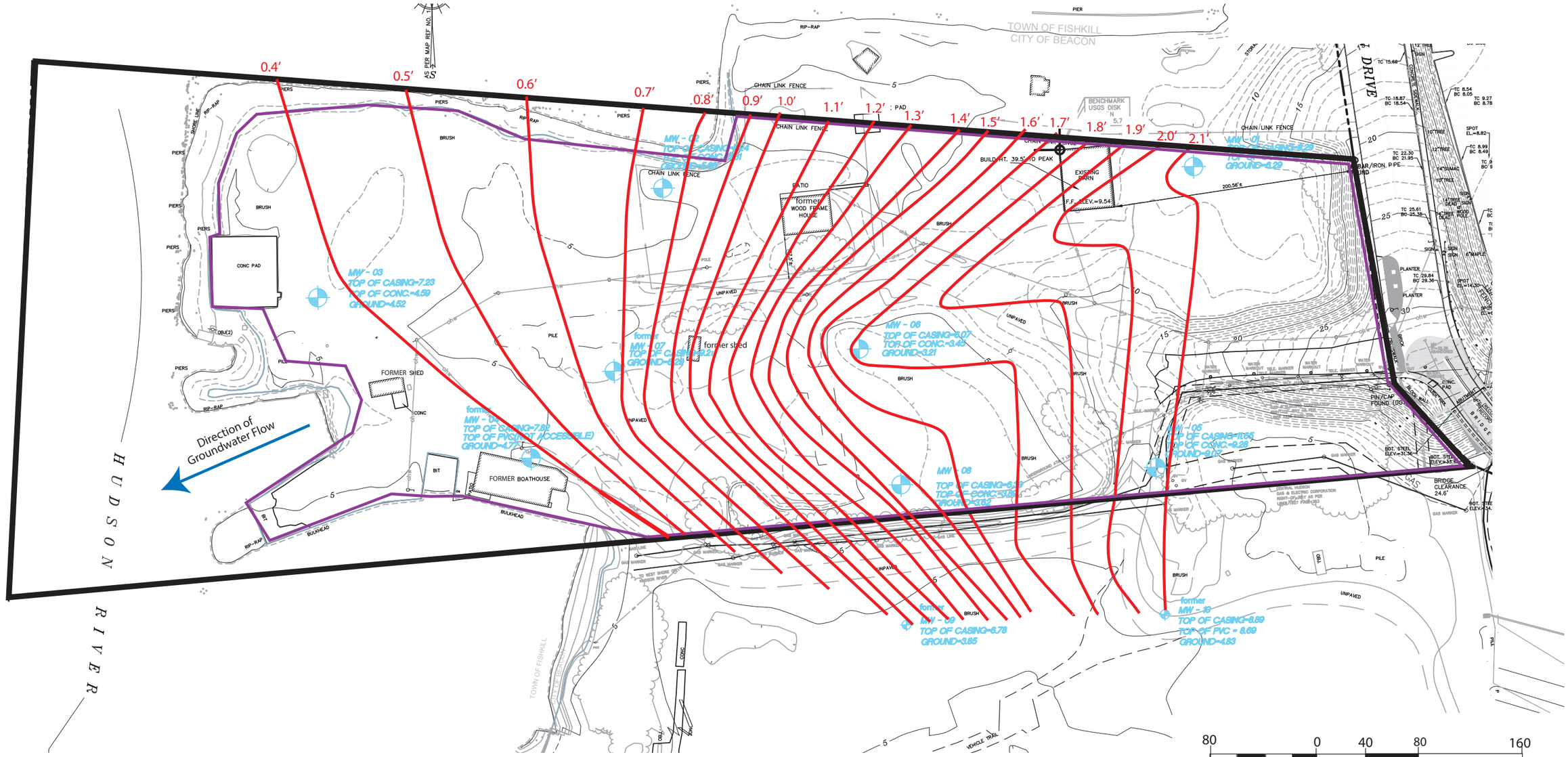


Figure 4: Groundwater Flow Map - Low Tide (August 16, 2007)

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

Legend:

- Site boundary
- Environmental easement boundary
- Monitoring Well
- 0.0′ Groundwater Isopleths, elevation in feet above mean sea level

File: SG96152.85
February 2023
Scale as shown
Appendix A

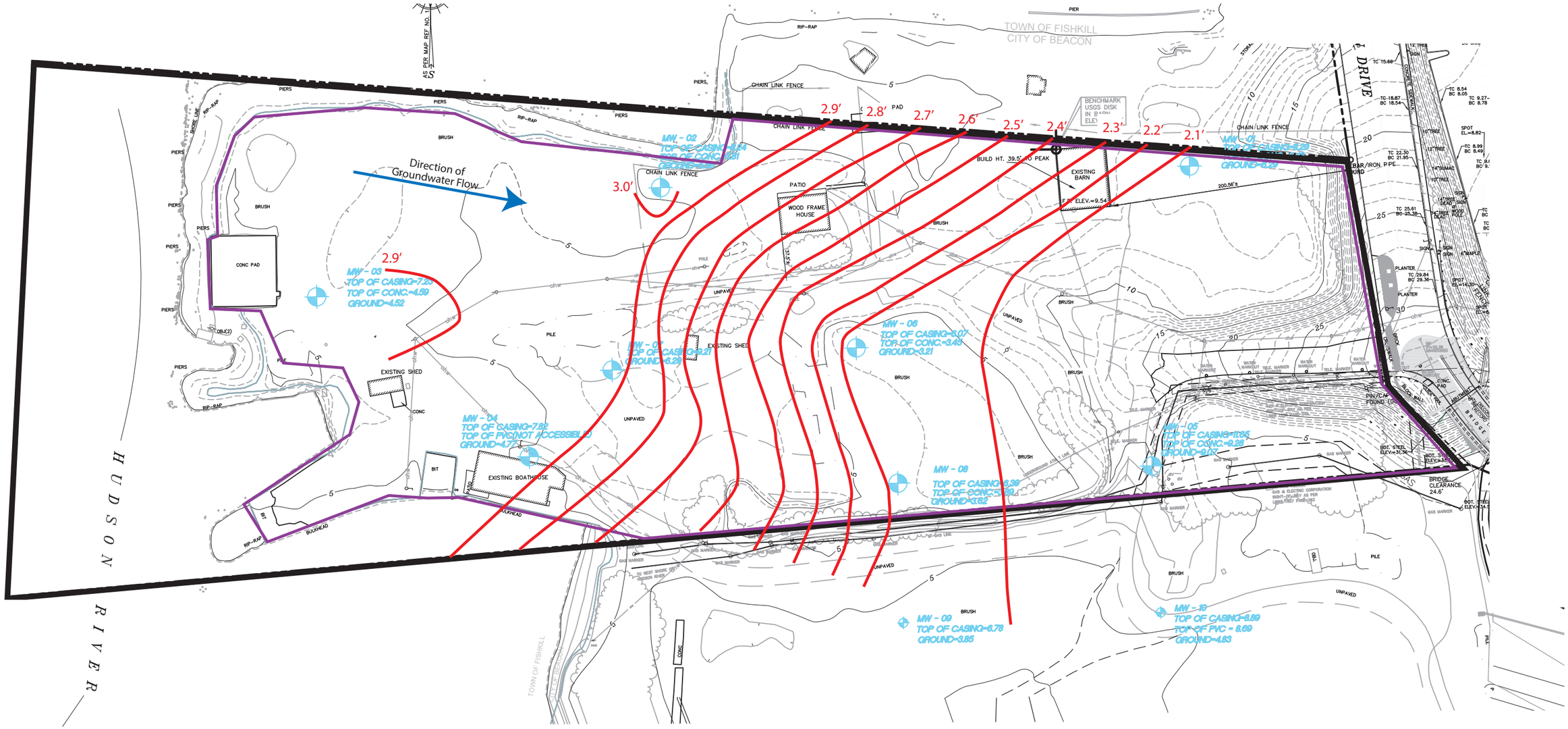


Figure 5: Groundwater Flow Map - High Tide (August 16, 2007)

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

Legend:

- Site boundary
- Environmental easement boundary
- Monitoring Well
- 0.0′ Groundwater Isopleths, evelvation in feet above mean sea level

File: SG96152.85
February 2023
Scale as shown
Appendix A

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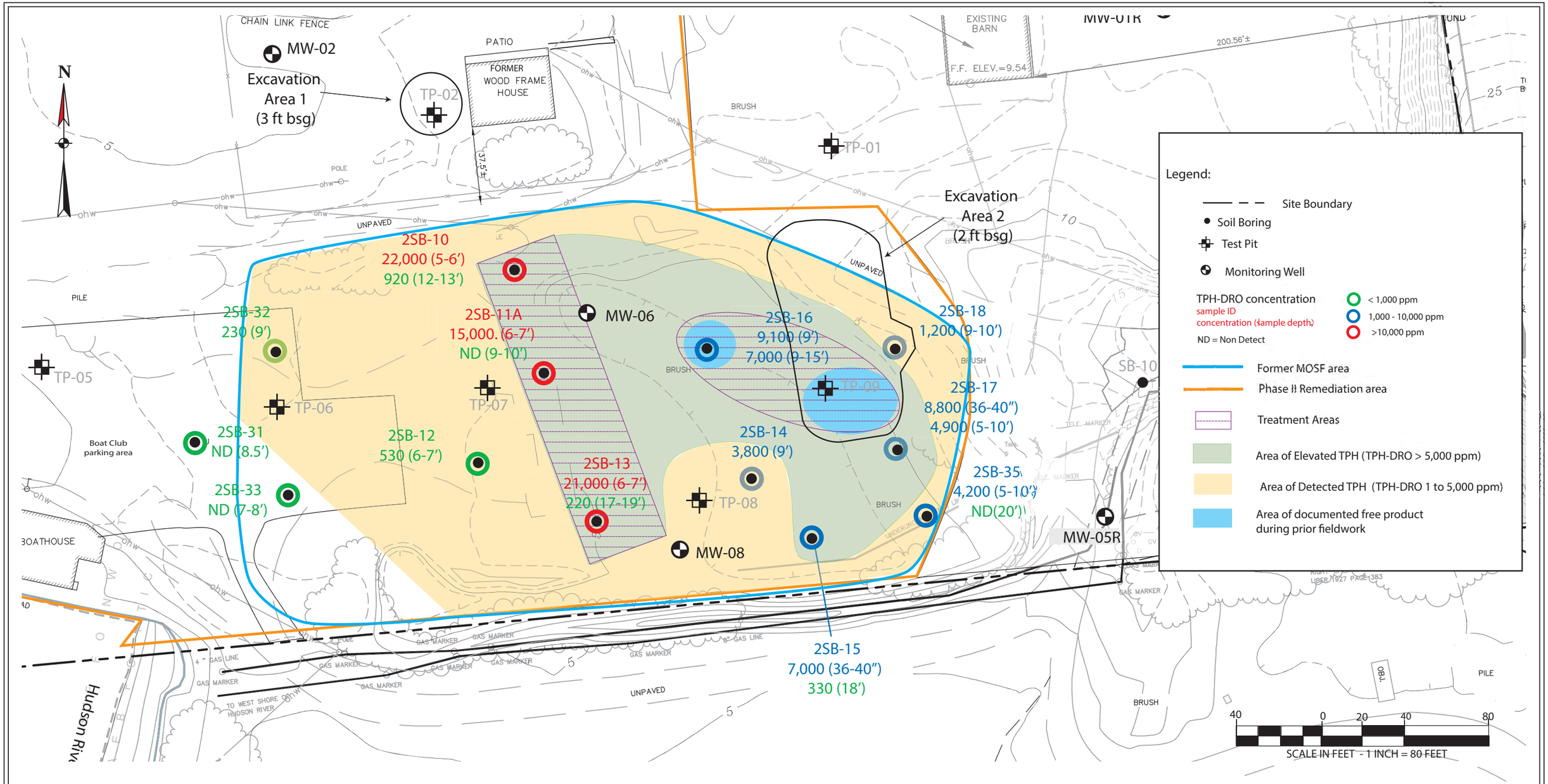
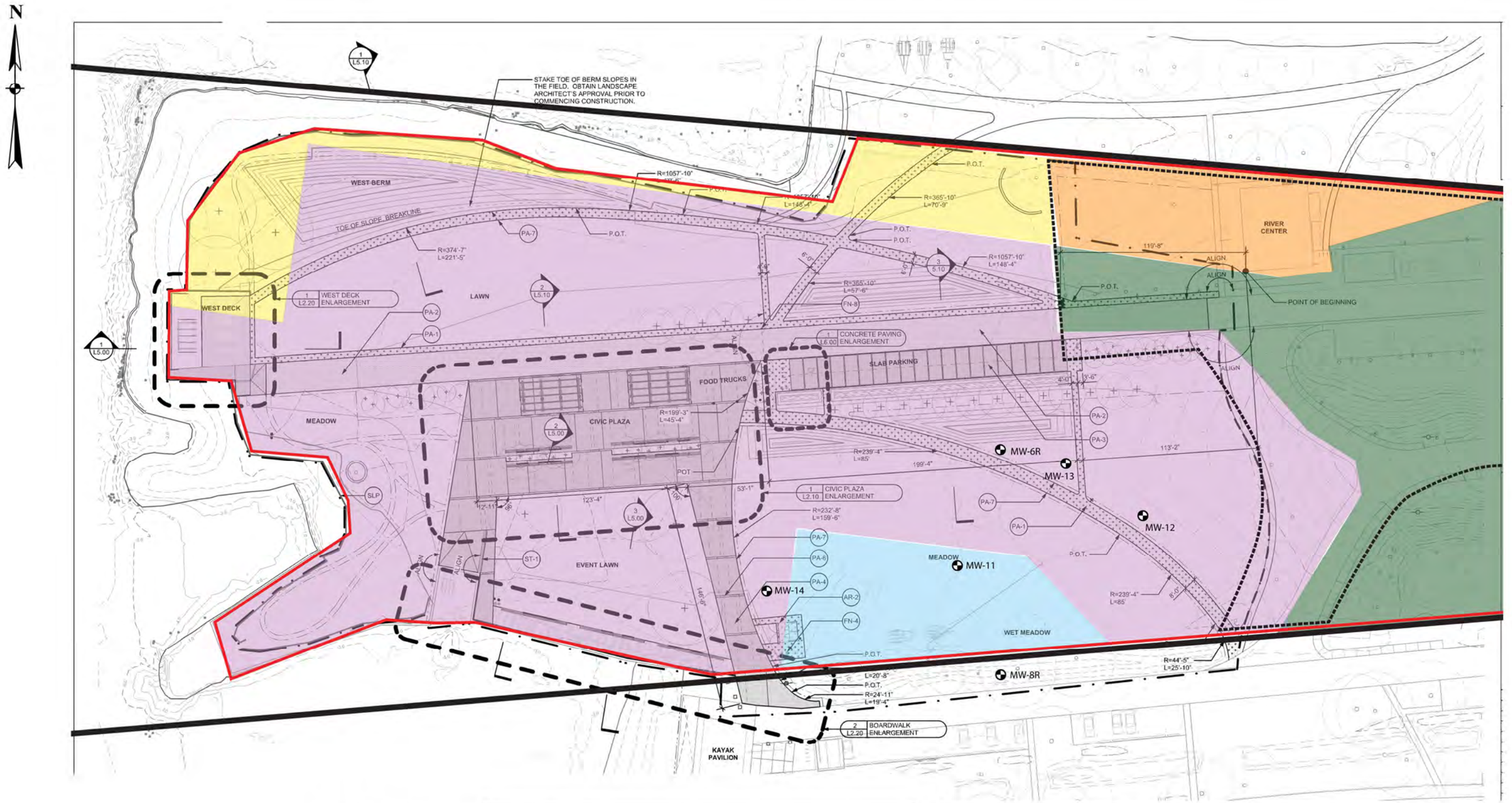


Figure 6: TPH-DRO in Soil (Former MOSF Area, 2007)

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

File: SG96152.85
February 2023
Scale as shown
Appendix A



0 50 100
SCALE IN FEET (APPROXIMATELY)

Legend:

- Site boundary
- Environmental easement boundary
- Phase I remediation area
- Parcel 1 area 0.41 acres
- Parcel 2 area 3.86 acres
- Parcel 3 area 0.30 acres
- Parcel 4 area 0.33 acres
- Parcel 5 area 1.54 acres
- monitoring well location

Note: Per the Environmental Easement, Parcels 1, 2 and 3 may be used for Commercial and Industrial Uses; Parcels 4 and 5 may be used for Restricted Residential, Commercial and Industrial Uses.

Base Map provided by Reed Hilderbrand L2.00 dated 03/03/17. All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Figure 6A: Site Map with Monitoring Well Locations

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

File: SG96152
Scale as shown
February 2023 | Appendix A

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N

Compound	Guidance Level	Background Concentrations	A-2 N-Sidewall 9/10/10
Arsenic	16	7.4	18.4

Compound	Guidance Level	Background Concentrations	C-1 N-Sidewall 9/7/10
Arsenic	16	7.4	16.1
Lead	400	72.5**	1,400

Compound	Guidance Level	Background Concentrations	A-1 N-Sidewall 9/10/10
Arsenic	16	7.4	19.4

Compound	Guidance Level	Background Concentrations	C-2 W-Sidewall 9/8/10	C-2 (R) W-Sidewall 10/25/10
Arsenic	16	7.4	31.2	33.5
Lead	400	72.5**	2,060	516

Compound	Guidance Level	Background Concentrations	A-6 E-Base (3' bsg) 9/13/10
Lead	400	72.5**	593

Compound	Guidance Level	Background Concentrations	C-3 N-Base (4' bsg) 9/13/10
Lead	400	72.5**	1,930

Compound	Guidance Level	Background Concentrations	A-15 N-Base (9' bsg) 10/27/10
Arsenic	16	7.4	18.0

Compound	Guidance Level	Background Concentrations	A-19 S-Sidewall (Deep Area) 10/27/10
Arsenic	16	7.4	40.2

Compound	Guidance Level	Background Concentrations	A-9 Base (4' bsg) 10/8/10	A-9 Base (R) (6' bsg) 10/25/10
Arsenic	16	7.4	81.1	71.7

Compound	Guidance Level	Background Concentrations	A-10 W-Sidewall 10/12/10
Arsenic	16	7.4	444

Compound	Guidance Level	Background Concentrations	A-11 W-Sidewall 10/12/10
Arsenic	16	7.4	35.8

Former House

Red Barn

Area A

Area B

Area C

HUDSON

RED FLYNN DRIVE

Legend:

- Sample Location
- Trench excavation area for utility placement
- x x x / x x x Portion of active park covered with dense vegetation to minimize soil contact.
- Deep excavation area
- Exceedance of Arsenic
- Exceedance of Arsenic

80 0 40 80 160

SCALE IN FEET

Figure 7A: Phase I Excavation Areas and Soil Exceedances

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

File: SG96152.85

Scale as shown

February 2023 | Appendix A



Legend:

- Monitoring well location 1R,2,3,5R,6 AND 8
- BCP Site boundary
- Fence
- Areas with 2' or more clean cover soil
- 1' of bituminous concrete paving (asphalt and subgrade)
- Gravel layer
- EASTERN MOSF AREA 2' CLEAN FILL WAS NOT VERIFIED

CERTIFICATION NOTES

1. THIS PLAN WAS REVIEWED BY MORRIS ASSOCIATES ENGINEERING CONSULTANTS, PLLC (HEREAFTER "MA") IN THE CONTEXT OF MAKING A DETERMINATION IF THE REPRESENTATIONS ON THIS MAP ARE ACCURATE WITH RESPECT TO MEETING THE CRITERIA FOR PHASE I OF THE REMEDIAL ACTION DESIGN FOR THE LONG DOCK BEACON PROJECT (BCP #314112). IT IS NOTED THAT MA WAS NOT THE REMEDIAL ENGINEER / ENGINEER OF RECORD DURING THE ACTUAL CONSTRUCTION. THIS DETERMINATION IS MADE ON THE BASIS OF THE FOLLOWING:

   A. VISUAL INSPECTION OF THE SURFACE FEATURES OBSERVED AT THE SUBJECT SITE.

   B. A LIMITED INVESTIGATION WITH TEST PIT AND CORE SAMPLES.

   C. REVIEW OF STATUS MEMOS AND PHOTOGRAPHIC DOCUMENTATION AS PREPARED BY ECOSYSTEMS STRATEGIES, INC. (ESI)

   D. REVIEW OF A DRAFT CONSTRUCTION COMPLETION REPORT (CCR) PREPARED BY ESI, DATED REVISED JUNE 2013.

2. SINCE THIS OFFICE WAS NOT INVOLVED DURING THE ACTUAL WORK , MA CANNOT ATTEST IN A SPECIFIC MANNER TO THE ACTUAL WORK LIMITS, COVERAGE AREA OR LAYER THICKNESS. THIS DRAWING IS NOT INTENDED TO REPRESENT THE AS-BUILT RECORD OF THE PRESENT CONDITIONS BUT IS A DEPICTION OF THE ENGINEERING CONTROLS (ECs) THAT HAVE BEEN IMPLEMENTED AT THE SITE. THEREFORE, BASED ON THE ABOVE INFORMATION, IT IS THE OPINION OF MA THAT THE PHASE I WORK WAS COMPLETED IN GENERAL CONFORMANCE WITH THE REPORT ENTITLED "REMEDIAL ACTION DESIGN DATED JUNE 2010"

3. AS NOTED ABOVE IN MY PROFESSIONAL OPINION AS A NYS LICENSED, PROFESSIONAL ENGINEER, THIS IS HEREBY CERTIFIED TO BE ACCURATE AND CORRECT TO THE BEST OF MY KNOWLEDGE

PETER D. SETARO
NYS PE #077008

11/5/13
DATE

MORRIS ASSOCIATES, PLLC
ENGINEERING CONSULTANTS
9 Elks Lane, Poughkeepsie, New York 12601
Phone No. (845) 454-3411 Fax No. (845) 473-1962
389 Fairview Ave, Hudson, New York 12534
Phone No. (518) 828-2300 Fax No. (518) 828-3963

DATE	SCALE		FILE No.
11/4/13	± 1" = 100'	DESIGNED BY: JPD DRAWN BY: MAL CHECKED BY: PDS	212015

REV.-NO.	DESCRIPTION	DATE	BY

SCENIC HUDSON
LONG DOCK PARK

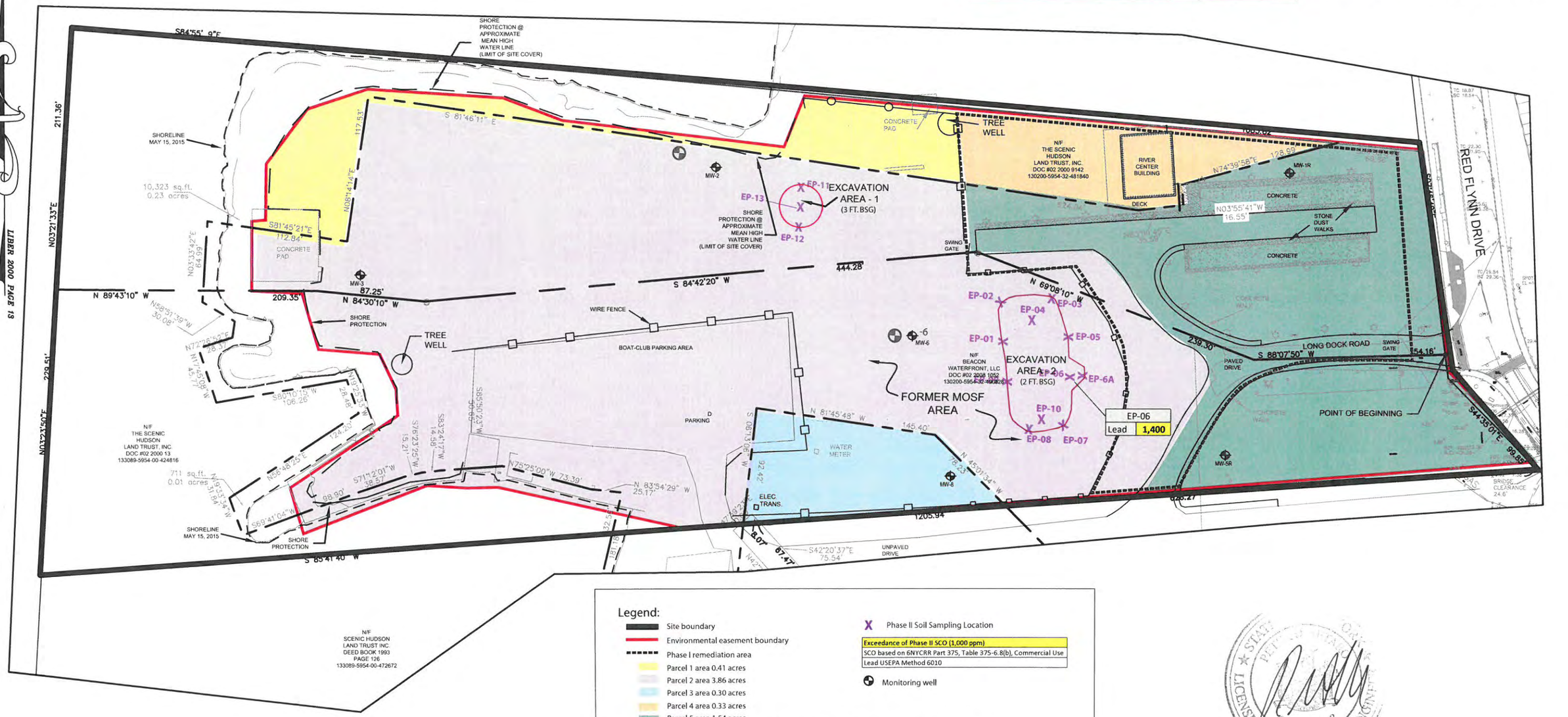
CITY OF BEACON — DUTCHESS COUNTY - NY

FIGURE 7B : ENGINEERING CONTROLS CERTIFICATION DRAWING

DWG 1-1

MORRIS ASSOCIATES
Engineering & Surveying Consultants, PLLC
ENGINEERS . PLANNERS . SURVEYORS

Ecosystems Strategies, Inc.



Legend:

- Site boundary
- Environmental easement boundary
- Phase I remediation area
- Parcel 1 area 0.41 acres
- Parcel 2 area 3.86 acres
- Parcel 3 area 0.30 acres
- Parcel 4 area 0.33 acres
- Parcel 5 area 1.54 acres

X Phase II Soil Sampling Location

Exceedance of Phase II SCO (1,000 ppm)
SCO based on 6NYCRR Part 375, Table 375-6.8(b), Commercial Use
Lead USEPA Method 6010

Monitoring well

Note: Per the Environmental Easement, Parcels 1, 2 and 3 may be used for Commercial and Industrial Uses; Parcels 4 and 5 may be used for Restricted Residential, Commercial and Industrial Uses.

0 80 160 FEET

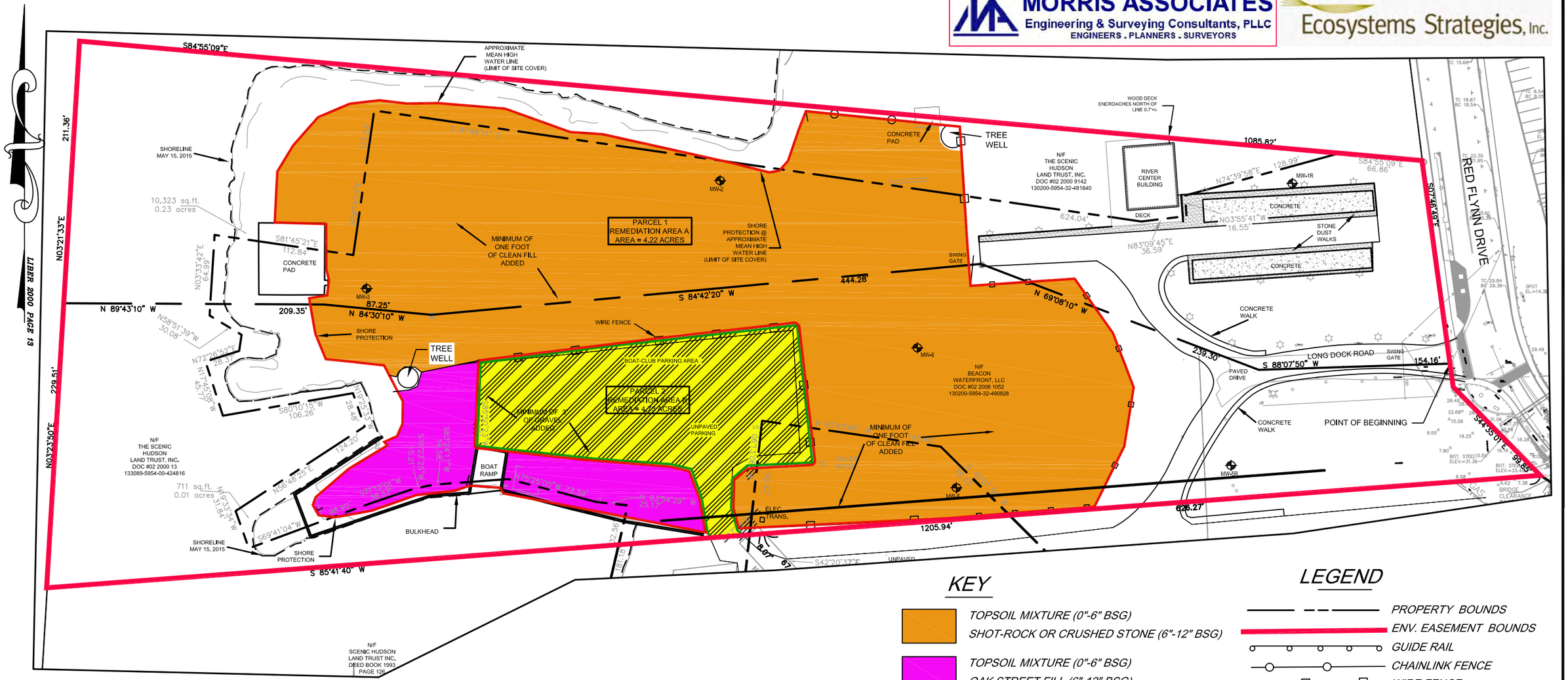
STATE OF NEW YORK
PETER A. FLYNN
077008
LICENSED PROFESSIONAL ENGINEER

Figure 8A : Phase II Excavation Areas

Scenic Hudson's Long Dock Park NYSDEC BCP Site: C314112 Red Flynn Drive City of Beacon Dutchess County, New York	Scale: AS SHOWN 212015.00 January 2017 | SG96152.85

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Ecosystems Strategies, Inc.



KEY

- TOPSOIL MIXTURE (0"-6" BSG)
- SHOT-ROCK OR CRUSHED STONE (6"-12" BSG)
- TOPSOIL MIXTURE (0"-6" BSG)
- OAK STREET FILL (6"-12" BSG)
- GRAVEL (0"-12" BSG)

LEGEND

- PROPERTY BOUNDS
- ENV. EASEMENT BOUNDS
- GUIDE RAIL
- CHAINLINK FENCE
- WIRE FENCE
- REMEDIATION AREA A
- REMEDIATION AREA B
- HYDRANT
- MONITORING WELL
- LIGHT POLE

0 80 160 Feet

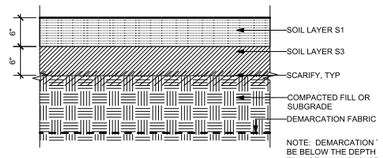
Figure 8B: Phase II Barrier Cover Locations

Scenic Hudson's Long Dock Park
NYSDEC BCP Site: C314112
Red Flynn Drive
City of Beacon
Dutchess County, New York

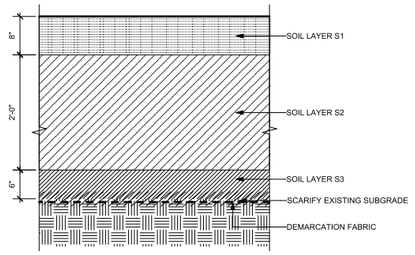
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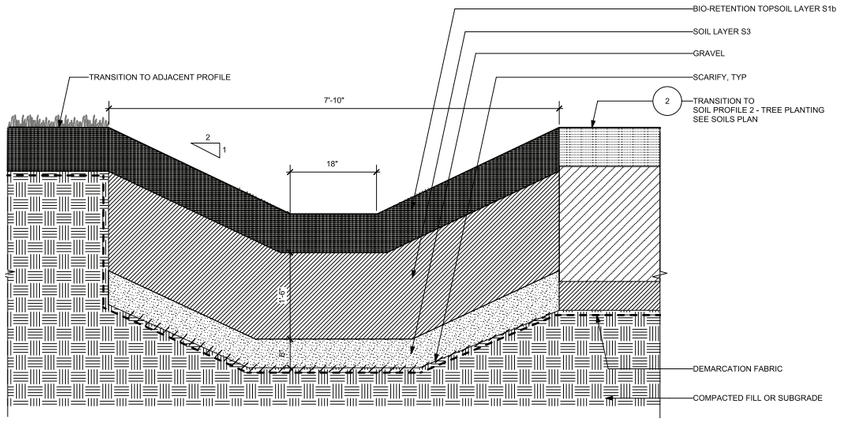
August 2016 | SG96152.85



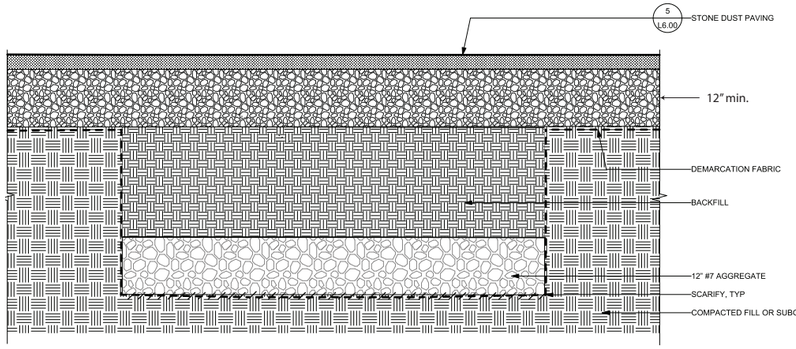
1 SOIL PROFILE 1 - HIGH USE LAWN SOIL
SCALE: 1" = 1'-0"



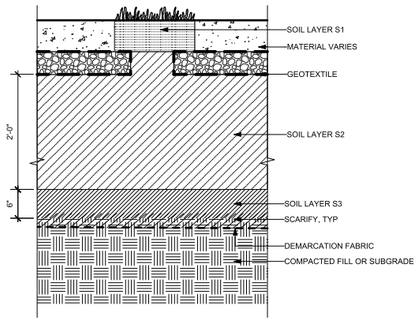
2 SOIL PROFILE 2 - TREE PLANTING SOIL PROFILE
SCALE: 1" = 1'-0"



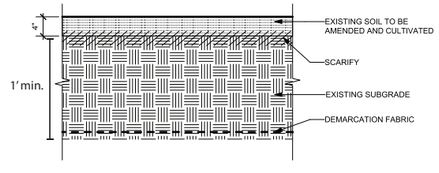
3 SOIL PROFILE 3 - BIORETENTION SOIL PROFILE
SCALE: 1" = 1'-0"



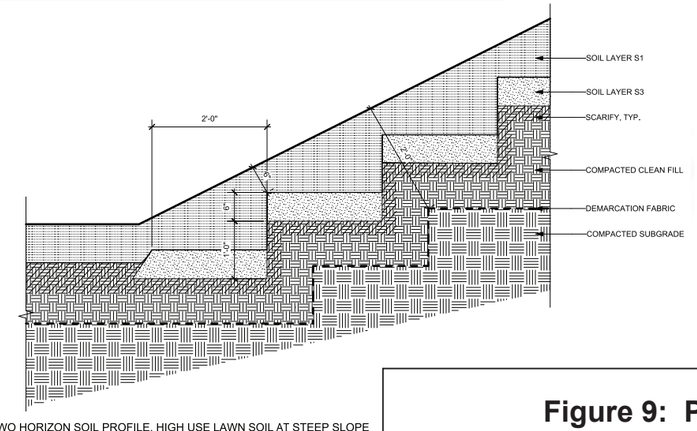
4 SOIL PROFILE 3 - BIORETENTION SOIL PROFILE AT STONE DUST PAVING PATH
SCALE: 1" = 1'-0"



5 SOIL PROFILE 4 - STRUCTURAL PLANTING SOIL PROFILE
SCALE: 1" = 1'-0"



6 SOIL PROFILE 5 - MEADOW PLANTING SOIL PROFILE
SCALE: 1" = 1'-0"



7 TWO HORIZON SOIL PROFILE, HIGH USE LAWN SOIL AT STEEP SLOPE
SCALE: 1" = 1'-0"

Base map provided by Reed-Hilderbrand - Soil Details L7.00 dated 03/03/17

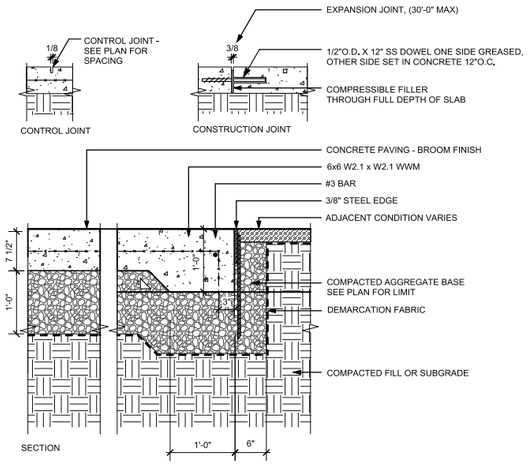
Figure 9: Phase II Barrier Cover Details

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

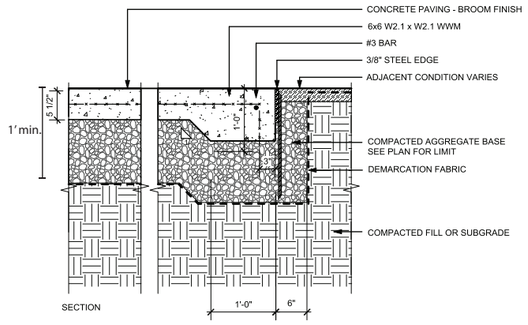
File: SG96152

February 2023

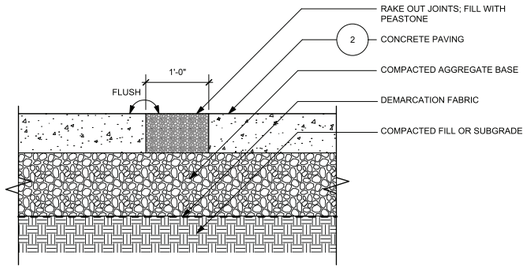
Appendix A



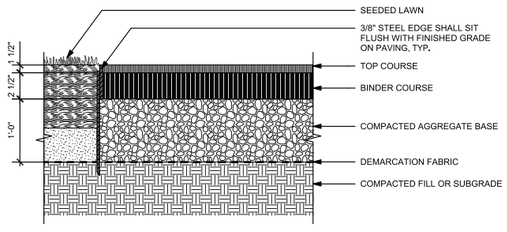
2 CONCRETE PAVING - VEHICULAR LOAD
SCALE: 1" = 1'-0"



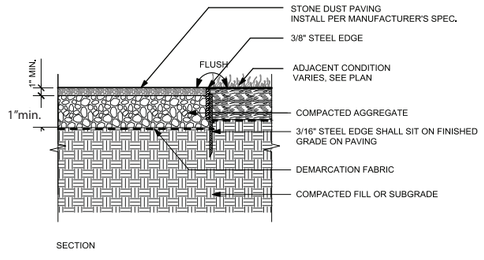
2-b CONCRETE PAVING - PEDESTRIAN LOAD
SCALE: 1" = 1'-0"



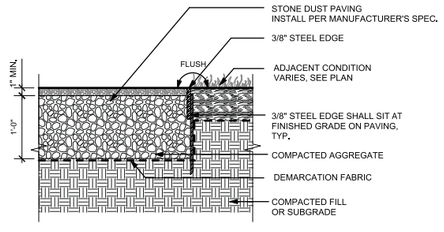
3 PEASTONE JOINT AT CONCRETE PAVING
SCALE: 1" = 1'-0"



4 BITUMINOUS CONCRETE PAVING - VEHICULAR
SCALE: 1" = 1'-0"



5 STONEDUST PAVING - PEDESTRIAN
SCALE: 1" = 1'-0"



6 STONEDUST PAVING - VEHICULAR
SCALE: 1" = 1'-0"

Base map provided by Reed-Hilderbrand - Site Paving Details L6.00 dated 03/03/17

Figure 9A: Phase I Barrier Cover Details

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

File: SG96152

February 2023 | Appendix A

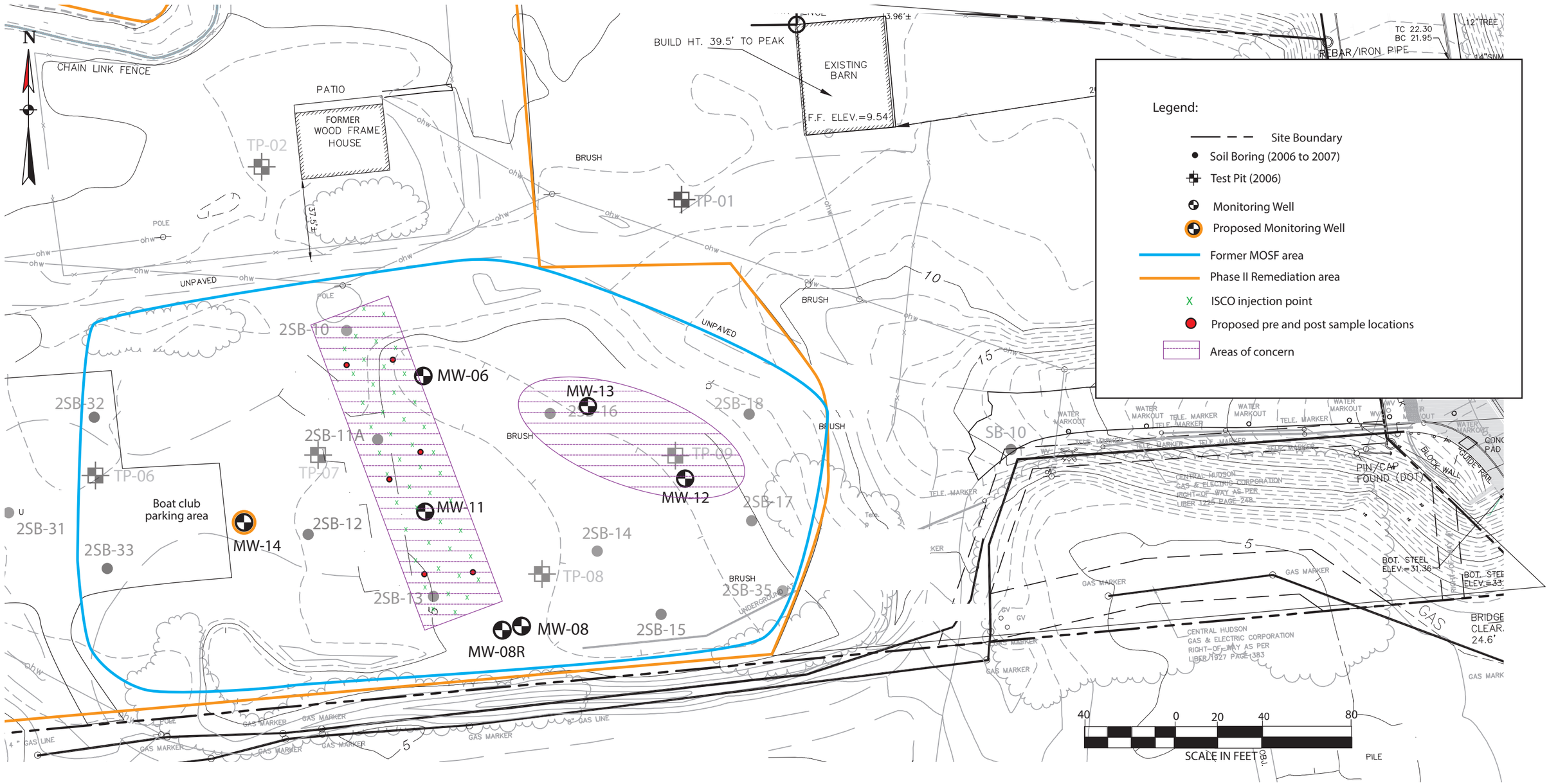


Figure 10: Fieldwork Map for Measuring ISCO Impacts and Monitoring Well Network

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

File: SG96152.85
February 2023
Scale as shown
Appendix A

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Ecosystems Strategies, Inc.

'20" W

444.28'

EDGE OF PAVEMENT

ISCO TREATMENT AREA

N 69°08'10" W

LIBER 2000 PAGE 19

\VED
KING

IP NE 1
IP NC 1
IP NA 1
IP ND 1
PT C MW 06
IP NB 1
IP NE 2
IP NA 2
4SB 01
IP NC 2
4SB 02
PT A MW 06
MW-06
IP NB 2
IP NE 3
IP NC 3
IP NA 3
IP ND 3
PT B MW 06
IP NE 4
IP NB 3
IP NC 4
IP NA 4
IP ND 4
4SB 03
IP NB 4
IP NE 5
IP NC 5
IP ND 5
PT A MW 11
IP NA 5
IP NE 6
IP NB 5
4SB 04
MW-11 (4SB-07)
IP NA 6
PT C MW 11
IP NC 6
IP ND 6
PT B MW 11
IP NB 6
IP SF 1
4SB 05
IP SD 1
IP SB 1
4SB 06
IP SC 1
IP SA 1
IP SF 2
IP SE 1
IP SB 2
IP SE 2
IP SC 2
IP SA 2
IP SD 3
IP SB 3
IP SC 3
IP SE 3
MW-08R
MW-8

MW-13
(4SB-09)

N/F
BEACON
WATERFRONT, LLC
DOC #02 2008 1052
130200-5954-32-490828

MW-12
(4SB-08)

W W W

Ecosystems Strategies, Inc.

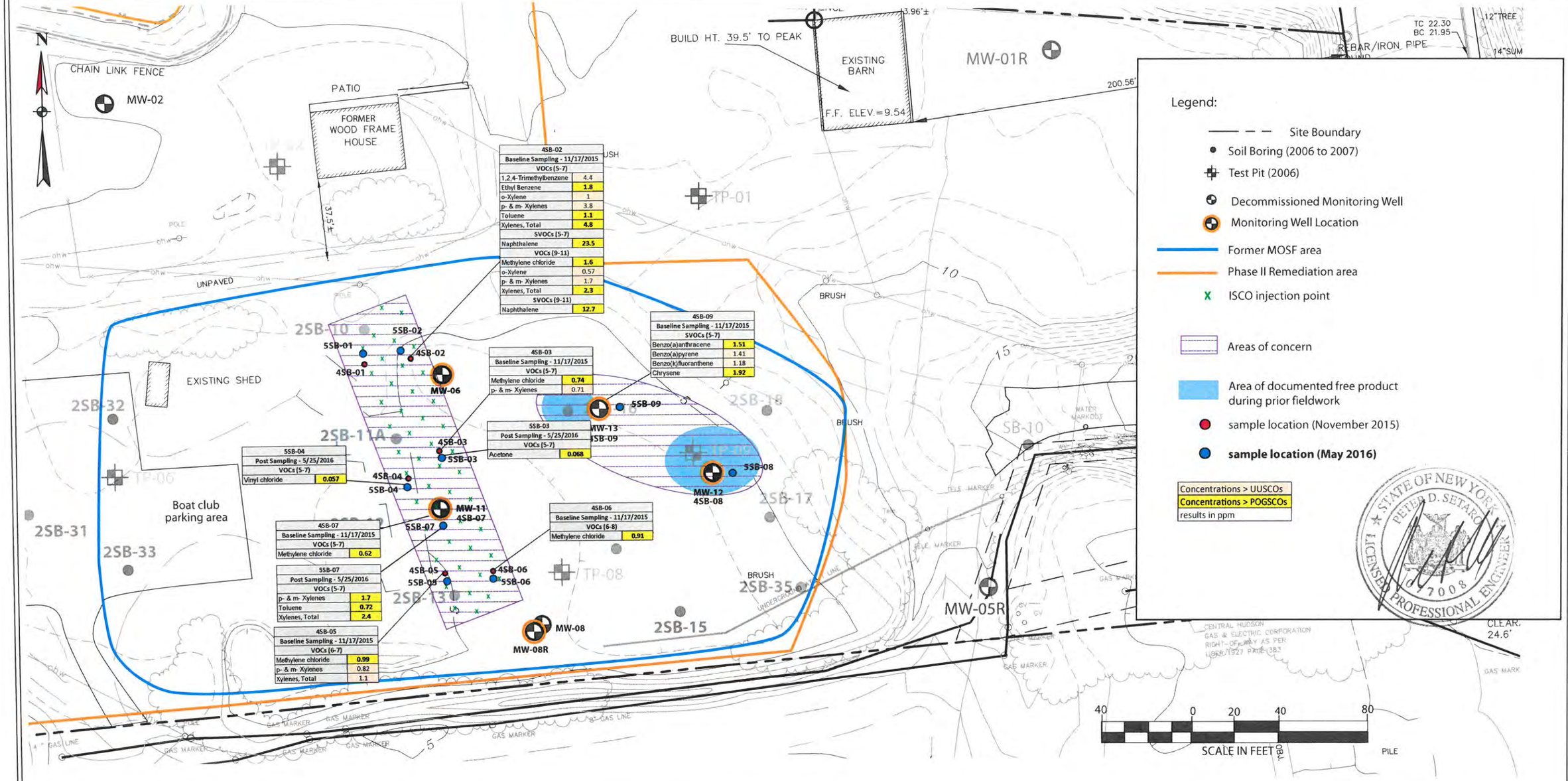


Figure 12: TPH-DRO in Soil (Baseline and Post-Treatment Sampling - November 2015 and May 2016)

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
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4SB-02	
Baseline Sampling - 11/17/2015	
VOCs (5-7)	
1,2,4-Trimethylbenzene	4.4
Ethyl Benzene	**1.8**
o-Xylene	1
p- & m- Xylenes	3.8
Toluene	**1.1**
Xylenes, Total	**4.8**
SVOCs (5-7)	
Naphthalene	**23.5**
VOCs (9-11)	
Methylene chloride	**1.6**
o-Xylene	0.57
p- & m- Xylenes	1.7
Xylenes, Total	**2.3**
SVOCs (9-11)	
Naphthalene	**12.7**

4SB-03	
Baseline Sampling - 11/17/2015	
VOCs (5-7)	
Methylene chloride	**0.74**
p- & m- Xylenes	0.71

4SB-09	
Baseline Sampling - 11/17/2015	
SVOCs (5-7)	
Benzo(a)anthracene	**1.51**
Benzo(a)pyrene	1.41
Benzo(k)fluoranthene	1.18
Chrysene	**1.92**

5SB-03	
Post Sampling - 5/25/2016	
VOCs (5-7)	
Acetone	**0.068**

5SB-04	
Post Sampling - 5/25/2016	
VOCs (5-7)	
Vinyl chloride	**0.057**

4SB-06	
Baseline Sampling - 11/17/2015	
VOCs (6-8)	
Methylene chloride	**0.91**

4SB-07	
Baseline Sampling - 11/17/2015	
VOCs (5-7)	
Methylene chloride	**0.62**

5SB-07	
Post Sampling - 5/25/2016	
VOCs (5-7)	
p- & m- Xylenes	**1.7**
Toluene	**0.72**
Xylenes, Total	**2.4**

4SB-05	
Baseline Sampling - 11/17/2015	
VOCs (6-7)	
Methylene chloride	**0.99**
p- & m- Xylenes	0.82
Xylenes, Total	1.1

Legend:

- Site Boundary
- Soil Boring (2006 to 2007)
- Test Pit (2006)
- Decommissioned Monitoring Well
- Monitoring Well Location
- Former MOSF area
- Phase II Remediation area
- X ISCO injection point
- Areas of concern
- Area of documented free product during prior fieldwork
- sample location (November 2015)
- **sample location (May 2016)**

Concentrations > UUSCOs
Concentrations > POGSCOs
results in ppm

STATE OF NEW YORK PETER D. SETARO LICENSED PROFESSIONAL ENGINEER 070008

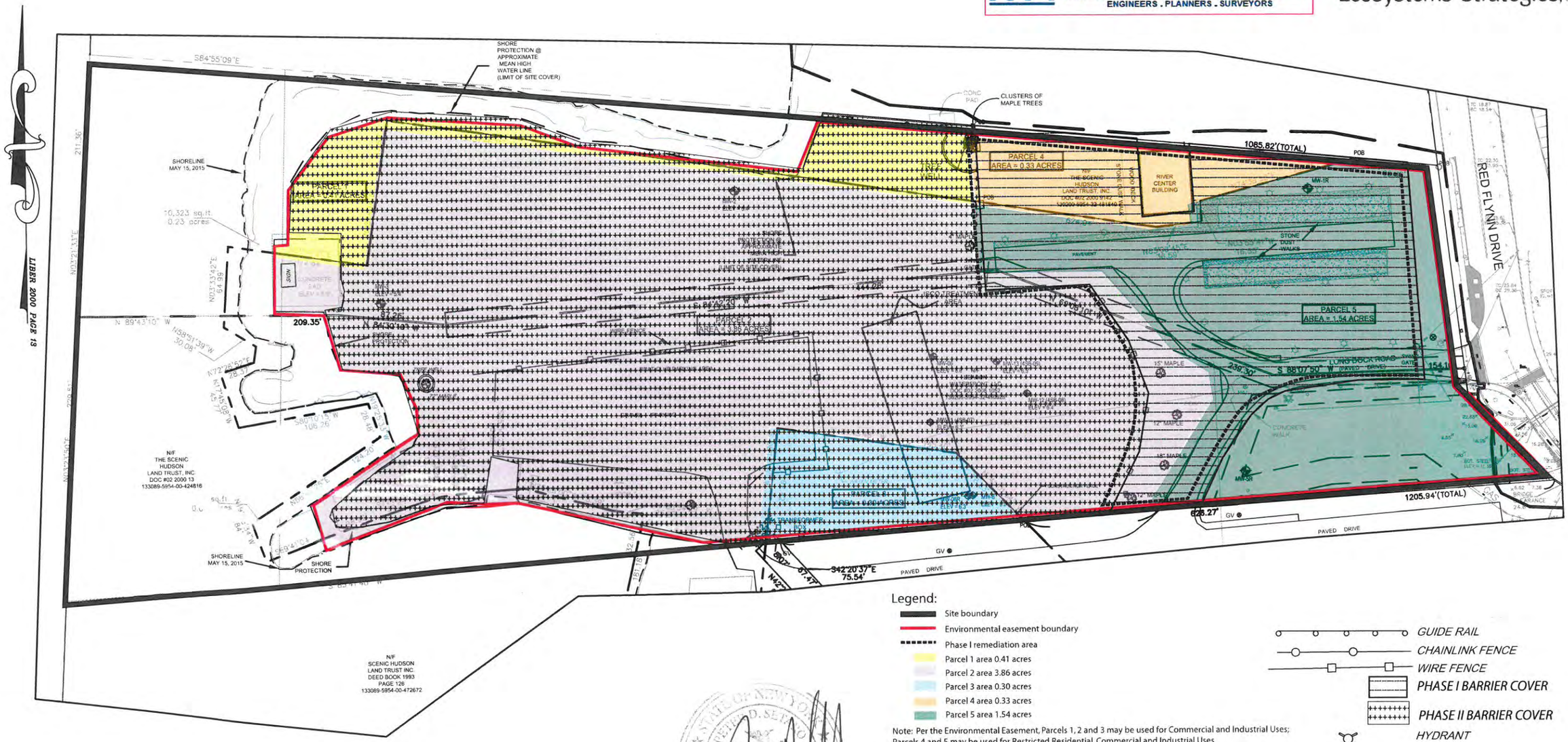
Figure 13: Exceedances of VOCs and SVOCs in Soils
(Baseline and Post-Treatment Sampling - November 2015 and May 2016)

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

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January 2017
Scale as shown
Appendix A

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Legend:

- Site boundary
- Environmental easement boundary
- Phase I remediation area
- Parcel 1 area 0.41 acres
- Parcel 2 area 3.86 acres
- Parcel 3 area 0.30 acres
- Parcel 4 area 0.33 acres
- Parcel 5 area 1.54 acres

Note: Per the Environmental Easement, Parcels 1, 2 and 3 may be used for Commercial and Industrial Uses; Parcels 4 and 5 may be used for Restricted Residential, Commercial and Industrial Uses.

- GUIDE RAIL
- CHAINLINK FENCE
- WIRE FENCE
- PHASE I BARRIER COVER
- PHASE II BARRIER COVER
- HYDRANT
- MONITORING WELL
- LIGHT POLE

0 80 160 FEET

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NOTE: THE SITE LIES WITHIN PORTIONS OF TAX PARCELS:

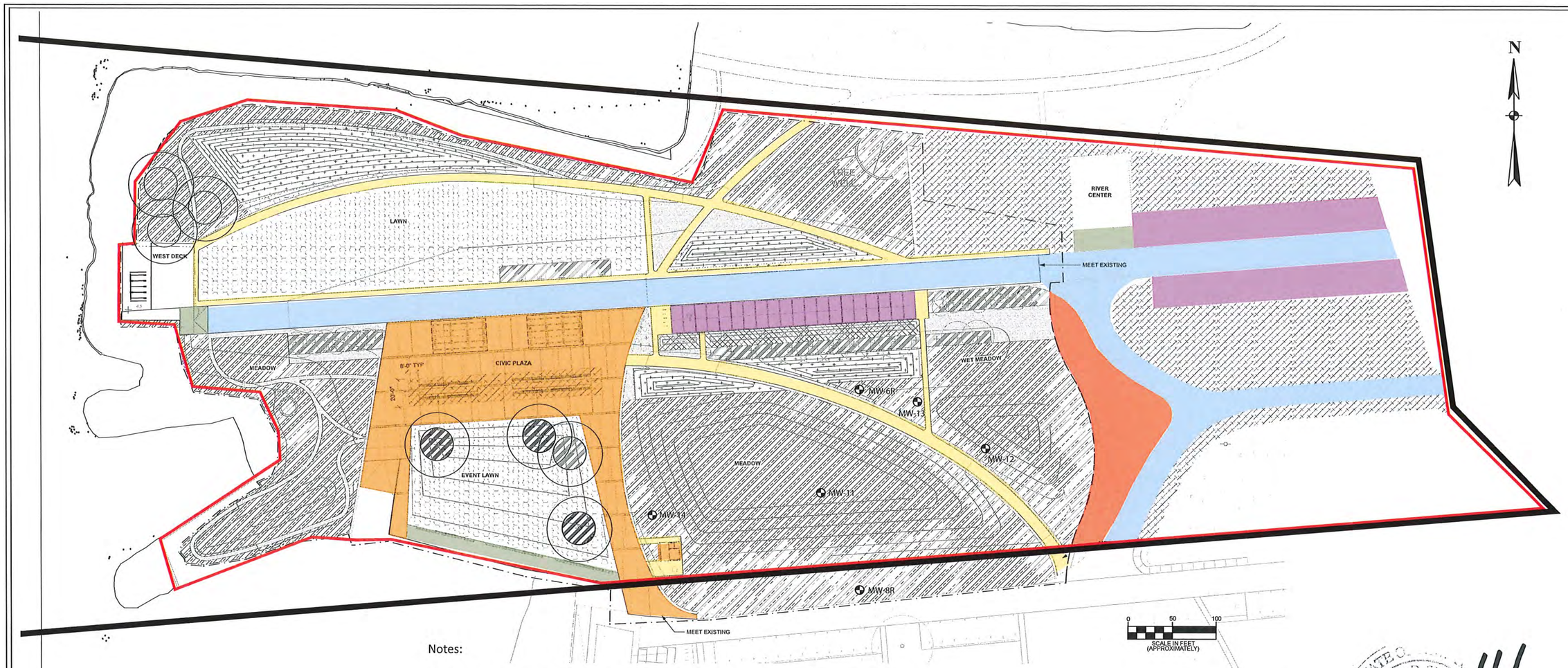
- 5954-32-481840
- 5954-32-490828
- 5954-32-537725

Figure 14: Institutional and Engineering Controls

Scenic Hudson's Long Dock Park NYSDEC BCP Site: C314112 Red Flynn Drive City of Beacon Dutchess County, New York	Scale: AS SHOWN 212015.00 January 2016 | SG96152.85

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SYMBOL	KEY	DESCRIPTION	DETAIL REF.	SPEC SECTION
— · —		LIMIT OF WORK		
— ···· —		EXISTING SHORELINE PROTECTION		
	SP-1	SOIL PROFILE 1 - HIGH USE LAWN	1 / L7.00	329100
	SP-1B	SOIL PROFILE 1B - LAWN	2 / CSK-01	329100
	SP-2	SOIL PROFILE 2 - TREE PLANTING	2 / L7.00	329100
	SP-3	SOIL PROFILE 3 - BIORETENTION	3 / L7.00	329110
	SP-4	SOIL PROFILE 4 - STRUCTURAL PLANTING	5 / L7.00	329100
	SP-5	SOIL PROFILE 5 - MEADOW PLANTING	6 / L7.00	329100
	SP-TH	TWO HORIZON SOIL PROFILE, LAWN SOIL AT STEEP SLOPE	1 / CSK-01	329100

NOTE:
1. LIMIT HEAVY EQUIPMENT TO LIMITS OF FUTURE PATH AND DRIVE, PROTECTING NEW SOILS

Notes:

1. Soil Profile 1 – High Use Lawn (6" Soil Layer S1, 6" Soil Layer S3 over demarcation fabric)
2. Soil Profile 1B – Lawn (6" topsoil over at least 6" compacted clean fill above demarcation fabric)
3. Soil Profile 2 – Tree Planting (8" Soil Layer S1, 2' Soil Layer S2, 6" Soil Layer S3 over existing subgrade above demarcation fabric)
4. Soil Profile 4 – Structural Fill (Varying depth Soil Layer S1, 2' Soil Layer S2, 6" Soil Layer S3 over demarcation fabric)
5. Soil Profile 5 – Meadow Planting (at least 1" of clean fill amended with 2-3" of compost above demarcation fabric)
6. Two Horizon Soil Profile, Lawn Soil at Steep Slope (6" Soil Layer at least 6" compacted clean fill for a total minimum of 1' above demarcation fabric)
7. Boardwalk – Three 18" square with 18" of crushed stone backfill between them above demarcation fabric.
8. West Deck – Twenty-one 30" diameter concrete footings surrounding a minimum 1'compacted crushed stone above demarcation fabric

Legend:

- Site boundary
- Environmental easement boundary
- stone dust paving
- bituminous concrete paving
- concrete paving at parking
- concrete paving
- boardwalk west deck
- monitoring well location
- unverified clean fill

Base map provided by Reed-Hilderbrand - L3.10 dated 07/31/17. All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.



Figure 15: Post-Construction Institutional and Engineering Controls

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

File: 23003-0018

Scale as shown

October 2023 | Appendix A



Figure 16: Truck Route Map

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

N

Legend:
truck route

File: SG96152.85

February 2023

Appendix A

APPENDIX B – TABLES

Ecosystems Strategies, Inc.

Table 5: Groundwater Elevations and Fluctuations (August 16, 2007)

			Low Tide			High Tide				
Monitoring Well Number	Surveyed Top of Casing (feet)	Distance from Top of PVC to Top of Casing (inches)	Time	Water Level from Top of PVC (feet)	Water Elevation (feet) MSL	Date	Time	Water Level from Top of PVC (feet)	Water Elevation (feet) MSL	Groundwater Fluctuation (feet)
MW-1**	8.29	13.60	10:43	5.03	2.13	8/16/2007	15:04	5.09	2.07	-0.06
MW-2	8.24	5.30	10:27	7.06	0.74	8/16/2007	15:09	4.79	3.01	2.27
MW-3	7.23	3.50	10:21	6.57	0.37	8/16/2007	15:12	4.07	2.87	2.50
MW-4**	7.82	5.50	10:17	7.11	0.25	8/16/2007	15:17	4.41	2.95	2.70
MW-6	6.07	4.50	10:31	3.87	1.83	8/16/2007	15:21	3.56	2.14	0.31
MW-7**	9.21	5.90	10:13	8.14	0.58	8/16/2007	15:16	5.79	2.93	2.35
MW-8	6.39	3.30	10:35	4.53	1.59	8/16/2007	15:23	3.98	2.14	0.55
MW-9**	6.78	2.50	10:10	5.63	0.94	8/16/2007	15:27	4.43	2.14	1.20
MW-10**	8.89	2.50	10:03	6.58	2.10	8/16/2007	15:30	6.62	2.06	-0.04

Notes:

* MW-5 was damaged and could not be measured (surveyed top of casing 11.65 feet).

** Former Well

NM = Not measured

ESI File: SG96152.85

Table 6: TPH-DRO in Soils (Former MOSF Area, 2007)

All results provided in mg/kg (parts per million).

Sample ID	Detected Concentrations	Zone
2SB-10(5-6')	22,000	Hot Zone
2SB-10(12-13')	920	Hot Zone
2 SB-11A(6-7')	15,000	Hot Zone
2 SB-11A(9-10')	ND	Hot Zone
2SB-13(6-7')	21,000	Hot Zone
2SB-13(17-19')	220	Hot Zone
2 SB-14(9')	4,250	Moderate Zone
2SB-15(36-40")	7,000	Moderate Zone
2SB-15(18')	330	Moderate Zone
2 SB-16(9')	9,100	Moderate Zone
2 SB-16(9-15')	7,000	Moderate Zone
2SB-17(36-40")	8,800	Moderate Zone
2SB-17(5-10')	4,900	Moderate Zone
2 SB-18(9-10')	1,200	Moderate Zone
2SB-35(5-10')	4,200	Moderate Zone
2SB-35(20')	ND	Moderate Zone
2 SB-12(6-7')	530	Low Zone
2 SB-31(8.5')	ND	Low Zone
2SB-32 (9')	230	Low Zone
2 SB-33(7-8')	ND	Low Zone

Notes:

Guidance levels for TPH-DRO have not been established.
ND = Not Detected
Detectable concentrations

ESI File: SG96152.85

Table 7: VOCs in Soils - Post-ISCO Treatment Sampling

Ecosystems Strategies, Inc.

ESI File: SG96152.86

All data in mg/Kg (ppm)		**Sample ID**	**5SB-01 (5-8)**		**5SB-02 (5-7)**		**5SB-03 (5-7)**		**5SB-04 (5-7)**	
U= Not Detected ≥ indicated value		Sample Date	(2016-05-25)		(2016-05-25)		(2016-05-25)		(2016-05-25)	
Data above SCOs shown in **Bold**		Dilution Factor	1		100		1		1	
VOCs, 8260	**UUSCO**	**POGSCO**	*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*
1,1,1,2-Tetrachloroethane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,1,1-Trichloroethane	0.68	0.68	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,1,2,2-Tetrachloroethane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,1,2-Trichloroethane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,1-Dichloroethane	0.27	0.27	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,1-Dichloroethylene (1,1-DCE)	0.33	0.33	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,2,3-Trichlorobenzene	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,2,3-Trichloropropane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,2,4-Trichlorobenzene	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,2,4-Trimethylbenzene	3.6	4	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,2-Dibromo-3-chloropropane	NA	NA	0.0022	*U*	0.55	*U*	0.0025	*U*	0.0039	*U*
1,2-Dibromoethane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,2-Dichlorobenzene	1.1	1.1	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,2-Dichloroethane	0.2	0.02	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,2-Dichloropropane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,3,5-Trimethylbenzene	8.4	8.4	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,3-Dichlorobenzene	2.4	2.4	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,4-Dichlorobenzene	1.8	1.8	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
1,4-Dioxane	0.1	0.1	0.044	*U*	5.5	*U*	0.05	*U*	0.078	*U*
2-Butanone (MEK)	0.12	0.12	0.0037	*J*	0.27	*U*	0.01		0.0054	*J*
2-Hexanone	NA	NA	0.0022	*U*	0.27	*U*	0.0029	*J*	0.0039	*U*
4-Methyl-2-pentanone	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Acetone	0.05	0.05	0.024		0.55	*U*	**0.068**		0.034	
Acrolein	NA	NA	0.0044	*U*	0.55	*U*	0.005	*U*	0.0078	*U*
Acrylonitrile	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Benzene	0.06	0.06	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Bromochloromethane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Bromodichloromethane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Bromoform	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Bromomethane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Carbon disulfide	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Carbon tetrachloride	0.76	0.76	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Chlorobenzene	1.1	1.1	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Chloroethane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Chloroform	0.37	0.37	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Chloromethane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
cis-1,2-Dichloroethylene (cis-DCE)	0.25	0.25	0.0022	*U*	0.27	*U*	0.0025	*U*	0.056	
cis-1,3-Dichloropropylene	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Cyclohexane	NA	NA	0.0022	*U*	0.27	*U*	0.0043	*J*	0.0039	*U*
Dibromochloromethane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Dibromomethane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Dichlorodifluoromethane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Ethyl Benzene	1	1	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Hexachlorobutadiene	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Isopropylbenzene	2.3	NA	0.0022	*U*	0.5	*JD*	0.0052		0.0039	*U*
Methyl acetate	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Methyl tert-butyl ether (MTBE)	0.93	0.93	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Methylcyclohexane	NA	NA	0.0022	*U*	1.9	*D*	0.016		0.0039	*U*
Methylene chloride	0.05	0.05	0.0044	*U*	0.55	*U*	0.005	*U*	0.0078	*U*
n-Butylbenzene	12	12	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
n-Propylbenzene	3.9	3.9	0.0022	*U*	0.77	*D*	0.0038	*J*	0.0039	*U*
o-Xylene	0.26	1.6	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
p- & m- Xylenes	0.26	1.6	0.0044	*U*	0.55	*U*	0.005	*U*	0.0078	*U*
p-Isopropyltoluene	10	NA	0.0022	*U*	0.48	*JD*	0.0035	*J*	0.0039	*U*
sec-Butylbenzene	11	11	0.0022	*U*	1.2	*D*	0.0097		0.0039	*U*
Styrene	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
tert-Butyl alcohol (TBA)	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
tert-Butylbenzene	5.9	5.9	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Tetrachloroethylene (PCE)	1.3	1.3	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Toluene	0.7	0.7	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
trans-1,2-Dichloroethylene (trans-DCE)	0.19	0.19	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0081	
trans-1,3-Dichloropropylene	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Trichloroethylene (TCE)	0.47	0.47	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0054	*J*
Trichlorofluoromethane	NA	NA	0.0022	*U*	0.27	*U*	0.0025	*U*	0.0039	*U*
Vinyl chloride (VC)	0.02	0.02	0.0022	*U*	0.27	*U*	0.0025	*U*	**0.057**	
Xylenes, Total	0.26	1.6	0.0065	*U*	0.82	*U*	0.0075	*U*	0.012	*U*
Total 8260 List Compounds			0.028		4.85		0.123		0.166	
Total TICs			0.029		103.3		0.654		0.046	
TOTAL VOCs			**0.057**		**108.15**		**0.777**		**0.212**	

Detected Concentrations
Concentrations > UUSCOs
Concentrations > POGSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Flags: J = approximate E = estimated B = detected in blank D = diluted

Table 7: VOCs in Soils - Post-ISCO Treatment Sampling

Ecosystems Strategies, Inc.

ESI File: SG96152.86

All data in mg/Kg (ppm)		**Sample ID**	**5SB-05 (5-7)**		**5SB-06 (5-8)**		**5SB-07 (5-7)**		**5SB-08 (5-7)**	
U= Not Detected ≥ indicated value		Sample Date	(2016-05-25)		(2016-05-25)		(2016-05-25)		(2016-05-25)	
Data above SCOs shown in **Bold**		Dilution Factor	100		100		100		1	
VOCs, 8260	**UUSCO**	**POGSCO**	*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*
1,1,1,2-Tetrachloroethane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,1,1-Trichloroethane	0.68	0.68	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,1,2,2-Tetrachloroethane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,1,2-Trichloroethane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,1-Dichloroethane	0.27	0.27	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,1-Dichloroethylene (1,1-DCE)	0.33	0.33	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,2,3-Trichlorobenzene	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,2,3-Trichloropropane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,2,4-Trichlorobenzene	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,2,4-Trimethylbenzene	3.6	4	0.28	*U*	0.36	*U*	1.2	*D*	0.0038	*J*
1,2-Dibromo-3-chloropropane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,2-Dibromoethane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,2-Dichlorobenzene	1.1	1.1	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,2-Dichloroethane	0.2	0.02	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,2-Dichloropropane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,3,5-Trimethylbenzene	8.4	8.4	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,3-Dichlorobenzene	2.4	2.4	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,4-Dichlorobenzene	1.8	1.8	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
1,4-Dioxane	0.1	0.1	5.6	*U*	7.2	*U*	9.5	*U*	0.057	*U*
2-Butanone (MEK)	0.12	0.12	0.28	*U*	0.36	*U*	0.47	*U*	0.0069	*J*
2-Hexanone	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
4-Methyl-2-pentanone	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Acetone	0.05	0.05	0.56	*U*	0.72	*U*	0.95	*U*	0.047	
Acrolein	NA	NA	0.56	*U*	0.72	*U*	0.95	*U*	0.0057	*U*
Acrylonitrile	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Benzene	0.06	0.06	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Bromochloromethane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Bromodichloromethane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Bromoform	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Bromomethane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Carbon disulfide	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Carbon tetrachloride	0.76	0.76	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Chlorobenzene	1.1	1.1	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Chloroethane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Chloroform	0.37	0.37	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Chloromethane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
cis-1,2-Dichloroethylene (cis-DCE)	0.25	0.25	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
cis-1,3-Dichloropropylene	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Cyclohexane	NA	NA	0.28	*U*	0.85	*D*	0.47	*U*	0.0029	*U*
Dibromochloromethane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Dibromomethane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Dichlorodifluoromethane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Ethyl Benzene	1	1	0.28	*U*	0.36	*U*	0.72	*JD*	0.0029	*U*
Hexachlorobutadiene	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Isopropylbenzene	2.3	NA	0.28	*U*	0.8	*D*	0.47	*U*	0.0029	*U*
Methyl acetate	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Methyl tert-butyl ether (MTBE)	0.93	0.93	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Methylcyclohexane	NA	NA	0.69	*D*	5.6	*D*	0.97	*D*	0.02	
Methylene chloride	0.05	0.05	0.56	*U*	0.72	*U*	0.95	*U*	0.0057	*U*
n-Butylbenzene	12	12	0.28	*U*	1.9	*D*	0.47	*U*	0.0029	*U*
n-Propylbenzene	3.9	3.9	0.28	*U*	1.6	*D*	0.89	*JD*	0.0029	*J*
o-Xylene	0.26	1.6	0.28	*U*	0.36	*U*	0.7	*JD*	0.0029	*U*
p- & m- Xylenes	0.26	1.6	0.56	*U*	0.72	*U*	**1.7**	*JD*	0.0057	*U*
p-Isopropyltoluene	10	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
sec-Butylbenzene	11	11	0.74	*D*	1.2	*D*	1.3	*D*	0.014	
Styrene	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
tert-Butyl alcohol (TBA)	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
tert-Butylbenzene	5.9	5.9	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Tetrachloroethylene (PCE)	1.3	1.3	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Toluene	0.7	0.7	0.28	*U*	0.36	*U*	**0.72**	*JD*	0.003	*J*
trans-1,2-Dichloroethylene (trans-DCE)	0.19	0.19	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
trans-1,3-Dichloropropylene	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Trichloroethylene (TCE)	0.47	0.47	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Trichlorofluoromethane	NA	NA	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Vinyl chloride (VC)	0.02	0.02	0.28	*U*	0.36	*U*	0.47	*U*	0.0029	*U*
Xylenes, Total	0.26	1.6	0.84	*U*	1.1	*U*	**2.4**	*JD*	0.0086	*U*
Total 8260 List Compounds			1.43		11.95		10.6		0.098	
Total TICs			22.3		43.4		46.8		0.734	
TOTAL VOCs			**23.73**		**55.35**		**57.4**		**0.832**	

Detected Concentrations
Concentrations > UUSCOs
Concentrations > POGSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Flags: J = approximate E = estimated B = detected in blank D = diluted

Table 7: VOCs in Soils - Post-ISCO Treatment Sampling

Ecosystems Strategies, Inc.

ESI File: SG96152.86

All data in mg/Kg (ppm)		**Sample ID**	**5SB-09 (5-7)**		**DUP-A-20160525**	
U= Not Detected ≥ indicated value		Sample Date	(2016-05-25)		(2016-05-25)	
Data above SCOs shown in **Bold**		Dilution Factor	1		1	
VOCs, 8260	**UUSCO**	**POGSCO**	*Result*	*Flag*	*Result*	*Flag*
1,1,1,2-Tetrachloroethane	NA	NA	0.0047	*U*	0.003	*U*
1,1,1-Trichloroethane	0.68	0.68	0.0047	*U*	0.003	*U*
1,1,2,2-Tetrachloroethane	NA	NA	0.0047	*U*	0.003	*U*
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	0.0047	*U*	0.003	*U*
1,1,2-Trichloroethane	NA	NA	0.0047	*U*	0.003	*U*
1,1-Dichloroethane	0.27	0.27	0.0047	*U*	0.003	*U*
1,1-Dichloroethylene (1,1-DCE)	0.33	0.33	0.0047	*U*	0.003	*U*
1,2,3-Trichlorobenzene	NA	NA	0.0047	*U*	0.003	*U*
1,2,3-Trichloropropane	NA	NA	0.0047	*U*	0.003	*U*
1,2,4-Trichlorobenzene	NA	NA	0.0047	*U*	0.003	*U*
1,2,4-Trimethylbenzene	3.6	4	0.0047	*U*	0.003	*U*
1,2-Dibromo-3-chloropropane	NA	NA	0.0047	*U*	0.003	*U*
1,2-Dibromoethane	NA	NA	0.0047	*U*	0.003	*U*
1,2-Dichlorobenzene	1.1	1.1	0.0047	*U*	0.003	*U*
1,2-Dichloroethane	0.2	0.02	0.0047	*U*	0.003	*U*
1,2-Dichloropropane	NA	NA	0.0047	*U*	0.003	*U*
1,3,5-Trimethylbenzene	8.4	8.4	0.0047	*U*	0.003	*U*
1,3-Dichlorobenzene	2.4	2.4	0.0047	*U*	0.003	*U*
1,4-Dichlorobenzene	1.8	1.8	0.0047	*U*	0.003	*U*
1,4-Dioxane	0.1	0.1	0.094	*U*	0.059	*U*
2-Butanone (MEK)	0.12	0.12	0.0047	*U*	0.003	*U*
2-Hexanone	NA	NA	0.0047	*U*	0.003	*U*
4-Methyl-2-pentanone	NA	NA	0.0047	*U*	0.003	*U*
Acetone	0.05	0.05	0.028		0.0059	*U*
Acrolein	NA	NA	0.0094	*U*	0.0059	*U*
Acrylonitrile	NA	NA	0.0047	*U*	0.003	*U*
Benzene	0.06	0.06	0.0047	*U*	0.003	*U*
Bromochloromethane	NA	NA	0.0047	*U*	0.003	*U*
Bromodichloromethane	NA	NA	0.0047	*U*	0.003	*U*
Bromoform	NA	NA	0.0047	*U*	0.003	*U*
Bromomethane	NA	NA	0.0047	*U*	0.003	*U*
Carbon disulfide	NA	NA	0.0047	*U*	0.003	*U*
Carbon tetrachloride	0.76	0.76	0.0047	*U*	0.003	*U*
Chlorobenzene	1.1	1.1	0.0047	*U*	0.003	*U*
Chloroethane	NA	NA	0.0047	*U*	0.003	*U*
Chloroform	0.37	0.37	0.0047	*U*	0.003	*U*
Chloromethane	NA	NA	0.0047	*U*	0.003	*U*
cis-1,2-Dichloroethylene (cis-DCE)	0.25	0.25	0.0047	*U*	0.003	*U*
cis-1,3-Dichloropropylene	NA	NA	0.0047	*U*	0.003	*U*
Cyclohexane	NA	NA	0.0047	*U*	0.003	*U*
Dibromochloromethane	NA	NA	0.0047	*U*	0.003	*U*
Dibromomethane	NA	NA	0.0047	*U*	0.003	*U*
Dichlorodifluoromethane	NA	NA	0.0047	*U*	0.003	*U*
Ethyl Benzene	1	1	0.0047	*U*	0.003	*U*
Hexachlorobutadiene	NA	NA	0.0047	*U*	0.003	*U*
Isopropylbenzene	2.3	NA	0.0047	*U*	0.003	*U*
Methyl acetate	NA	NA	0.0047	*U*	0.003	*U*
Methyl tert-butyl ether (MTBE)	0.93	0.93	0.0047	*U*	0.003	*U*
Methylcyclohexane	NA	NA	0.0047	*U*	0.003	*U*
Methylene chloride	0.05	0.05	0.0094	*U*	0.0059	*U*
n-Butylbenzene	12	12	0.0047	*U*	0.003	*U*
n-Propylbenzene	3.9	3.9	0.0047	*U*	0.003	*U*
o-Xylene	0.26	1.6	0.0047	*U*	0.003	*U*
p- & m- Xylenes	0.26	1.6	0.0094	*U*	0.0059	*U*
p-Isopropyltoluene	10	NA	0.0047	*U*	0.003	*U*
sec-Butylbenzene	11	11	0.0047	*U*	0.003	*U*
Styrene	NA	NA	0.0047	*U*	0.003	*U*
tert-Butyl alcohol (TBA)	NA	NA	0.0047	*U*	0.0059	*U*
tert-Butylbenzene	5.9	5.9	0.0047	*U*	0.003	*U*
Tetrachloroethylene (PCE)	1.3	1.3	0.0047	*U*	0.003	*U*
Toluene	0.7	0.7	0.0047	*U*	0.003	*U*
trans-1,2-Dichloroethylene (trans-DCE)	0.19	0.19	0.0047	*U*	0.003	*U*
trans-1,3-Dichloropropylene	NA	NA	0.0047	*U*	0.003	*U*
Trichloroethylene (TCE)	0.47	0.47	0.0047	*U*	0.003	*U*
Trichlorofluoromethane	NA	NA	0.0047	*U*	0.003	*U*
Vinyl chloride (VC)	0.02	0.02	0.0047	*U*	0.003	*U*
Xylenes, Total	0.26	1.6	0.014	*U*	0.0089	*U*
Total 8260 List Compounds			0.028		ND	
Total TICs			0.059		0.053	
TOTAL VOCs			**0.087**		**0.053**	

Detected Concentrations
Concentrations > UUSCOs
Concentrations > POGSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Flags: J = approximate E = estimated B = detected in blank D = diluted

Table 8: SVOCs in Soils - Post-ISCO Treatment Sampling

Ecosystems Strategies, Inc.

ESI File: SG96152.86

All data in mg/Kg (ppm)		**Sample ID**	**5SB-01 (5-8)**		**5SB-02 (5-7)**		**5SB-03 (5-7)**		**5SB-04 (5-7)**	
U= Not Detected ≥ indicated value		Sample Date	(2016-05-25)		(2016-05-25)		(2016-05-25)		(2016-05-25)	
Data above SCOs shown in **Bold**		Dilution Factor	2		20		20		10	
SVOCs, 8270	**UUSCO**	**POGSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,1'-Biphenyl	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0851	*JD*
1,2,4,5-Tetrachlorobenzene	NA	NA	0.1	*U*	0.944	*U*	0.98	*U*	0.0959	*U*
1,2,4-Trichlorobenzene	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
1,2-Dichlorobenzene	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
1,2-Diphenylhydrazine (Azobenzene)	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
1,3-Dichlorobenzene	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
1,4-Dichlorobenzene	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
2,3,4,6-Tetrachlorophenol	NA	NA	0.1	*U*	0.944	*U*	0.98	*U*	0.0959	*U*
2,4,5-Trichlorophenol	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
2,4,6-Trichlorophenol	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
2,4-Dichlorophenol	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
2,4-Dimethylphenol	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
2,4-Dinitrophenol	NA	100	0.1	*U*	0.944	*U*	0.98	*U*	0.0959	*U*
2,4-Dinitrotoluene	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
2,6-Dinitrotoluene	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
2-Chloronaphthalene	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
2-Chlorophenol	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
2-Methylnaphthalene	NA	NA	0.0501	*U*	1.69	*D*	4.77	*D*	0.511	*D*
2-Methylphenol	0.33	0.33	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
2-Nitroaniline	NA	NA	0.1	*U*	0.944	*U*	0.98	*U*	0.0959	*U*
2-Nitrophenol	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
3- & 4-Methylphenols	0.33	0.33	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
3,3'-Dichlorobenzidine	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
3-Nitroaniline	NA	NA	0.1	*U*	0.944	*U*	0.98	*U*	0.0959	*U*
4,6-Dinitro-2-methylphenol	NA	NA	0.1	*U*	0.944	*U*	0.98	*U*	0.0959	*U*
4-Bromophenyl phenyl ether	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
4-Chloro-3-methylphenol	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
4-Chloroaniline	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
4-Chlorophenyl phenyl ether	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
4-Nitroaniline	NA	NA	0.1	*U*	0.944	*U*	0.98	*U*	0.0959	*U*
4-Nitrophenol	NA	NA	0.1	*U*	0.944	*U*	0.98	*U*	0.0959	*U*
Acenaphthene	20	98	0.0501	*U*	0.473	*U*	0.491	*U*	0.648	*D*
Acenaphthylene	100	107	0.0501	*U*	0.473	*U*	0.491	*U*	0.705	*D*
Acetophenone	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Aniline	NA	NA	0.2	*U*	1.89	*U*	1.96	*U*	0.192	*U*
Anthracene	100	1,000	0.0501	*U*	0.838	*JD*	0.932	*JD*	1.73	*D*
Atrazine	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Benzaldehyde	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Benzidine	NA	NA	0.2	*U*	1.89	*U*	1.96	*U*	0.192	*U*
Benzo(a)anthracene	1	1	0.0501	*U*	0.473	*U*	0.491	*U*	**4.73**	*D*
Benzo(a)pyrene	1	22	0.0501	*U*	0.473	*U*	0.491	*U*	2.25	*D*
Benzo(b)fluoranthene	1	1.7	0.0501	*U*	0.473	*U*	0.491	*U*	1.54	*D*
Benzo(g,h,i)perylene	100	1,000	0.0501	*U*	0.473	*U*	0.491	*U*	1.42	*D*
Benzo(k)fluoranthene	0.8	1.7	0.0501	*U*	0.473	*U*	0.491	*U*	**1.73**	*D*
Benzoic acid	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Benzyl alcohol	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Benzyl butyl phthalate	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Bis(2-chloroethoxy)methane	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Bis(2-chloroethyl)ether	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Bis(2-chloroisopropyl)ether	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Bis(2-ethylhexyl)phthalate	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Caprolactam	NA	NA	0.1	*U*	0.944	*U*	0.98	*U*	0.0959	*U*
Carbazole	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.868	*D*
Chrysene	1	1	0.0501	*U*	0.473	*U*	0.491	*U*	**4.67**	*D*
Dibenzo(a,h)anthracene	0.33	1,000	0.0501	*U*	0.473	*U*	0.491	*U*	0.941	*D*
Dibenzofuran	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.433	*D*
Diethyl phthalate	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Dimethyl phthalate	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Di-n-butyl phthalate	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Di-n-octyl phthalate	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Fluoranthene	100	1,000	0.0501	*U*	0.473	*U*	0.491	*U*	9.84	*D*
Fluorene	30	386	0.0501	*U*	1.88	*D*	0.491	*U*	1.32	*D*
Hexachlorobenzene	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Hexachlorobutadiene	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Hexachlorocyclopentadiene	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Hexachloroethane	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Indeno(1,2,3-cd)pyrene	0.5	8.2	0.0501	*U*	0.473	*U*	0.491	*U*	1.51	*D*
Isophorone	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Naphthalene	12	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.467	*D*
Nitrobenzene	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
N-Nitrosodimethylamine	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
N-nitroso-di-n-propylamine	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
N-Nitrosodiphenylamine	NA	NA	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Pentachlorophenol	0.8	0.8	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Phenanthrene	100	1,000	0.0501	*U*	3.84	*D*	9.14	*D*	7.48	*D*
Phenol	0.33	0.33	0.0501	*U*	0.473	*U*	0.491	*U*	0.0481	*U*
Pyrene	100	1,000	0.0501	*U*	0.473	*U*	0.491	*U*	8.77	*D*
Total 8270 List Compounds			ND		8.25		14.84		51.65	
Total TICs			ND		ND		ND		1.53	
TOTAL SVOCs			**ND**		**8.25**		**14.84**		**53.18**	

Detected Concentrations
Concentrations > UUSCOs
Concentrations > POGSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 8: SVOCs in Soils - Post-ISCO Treatment Sampling

Ecosystems Strategies, Inc.

ESI File: SG96152.86

All data in mg/Kg (ppm)		**Sample ID**	**5SB-05 (5-7)**		**5SB-06 (5-8)**		**5SB-07 (5-7)**		**5SB-08 (5-7)**	
U= Not Detected ≥ indicated value		Sample Date	(2016-05-25)		(2016-05-25)		(2016-05-25)		(2016-05-25)	
Data above SCOs shown in **Bold**		Dilution Factor	2		20		10		2	
SVOCs, 8270	**UUSCO**	**POGSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,1'-Biphenyl	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
1,2,4,5-Tetrachlorobenzene	NA	NA	0.0969	*U*	1.04	*U*	0.555	*U*	0.0939	*U*
1,2,4-Trichlorobenzene	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
1,2-Dichlorobenzene	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
1,2-Diphenylhydrazine (Azobenzene)	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
1,3-Dichlorobenzene	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
1,4-Dichlorobenzene	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
2,3,4,6-Tetrachlorophenol	NA	NA	0.0969	*U*	1.04	*U*	0.555	*U*	0.0939	*U*
2,4,5-Trichlorophenol	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
2,4,6-Trichlorophenol	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
2,4-Dichlorophenol	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
2,4-Dimethylphenol	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
2,4-Dinitrophenol	NA	100	0.0969	*U*	1.04	*U*	0.555	*U*	0.0939	*U*
2,4-Dinitrotoluene	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
2,6-Dinitrotoluene	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
2-Chloronaphthalene	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
2-Chlorophenol	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
2-Methylnaphthalene	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.343	*D*
2-Methylphenol	0.33	0.33	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
2-Nitroaniline	NA	NA	0.0969	*U*	1.04	*U*	0.555	*U*	0.0939	*U*
2-Nitrophenol	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
3- & 4-Methylphenols	0.33	0.33	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
3,3'-Dichlorobenzidine	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
3-Nitroaniline	NA	NA	0.0969	*U*	1.04	*U*	0.555	*U*	0.0939	*U*
4,6-Dinitro-2-methylphenol	NA	NA	0.0969	*U*	1.04	*U*	0.555	*U*	0.0939	*U*
4-Bromophenyl phenyl ether	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
4-Chloro-3-methylphenol	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
4-Chloroaniline	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
4-Chlorophenyl phenyl ether	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
4-Nitroaniline	NA	NA	0.0969	*U*	1.04	*U*	0.555	*U*	0.0939	*U*
4-Nitrophenol	NA	NA	0.0969	*U*	1.04	*U*	0.555	*U*	0.0939	*U*
Acenaphthene	20	98	0.0486	*U*	0.522	*U*	0.278	*U*	0.288	*D*
Acenaphthylene	100	107	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Acetophenone	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Aniline	NA	NA	0.194	*U*	2.09	*U*	1.11	*U*	0.188	*U*
Anthracene	100	1,000	0.172	*D*	0.891	*JD*	0.471	*JD*	0.225	*D*
Atrazine	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Benzaldehyde	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Benzidine	NA	NA	0.194	*U*	2.09	*U*	1.11	*U*	0.188	*U*
Benzo(a)anthracene	1	1	0.111	*D*	0.522	*U*	0.278	*U*	0.0773	*JD*
Benzo(a)pyrene	1	22	0.112	*D*	0.522	*U*	0.278	*U*	0.0796	*JD*
Benzo(b)fluoranthene	1	1.7	0.0705	*JD*	0.522	*U*	0.278	*U*	0.0638	*JD*
Benzo(g,h,i)perylene	100	1,000	0.0898	*JD*	0.522	*U*	0.278	*U*	0.0578	*JD*
Benzo(k)fluoranthene	0.8	1.7	0.0929	*JD*	0.522	*U*	0.278	*U*	0.0623	*JD*
Benzoic acid	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Benzyl alcohol	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Benzyl butyl phthalate	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Bis(2-chloroethoxy)methane	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Bis(2-chloroethyl)ether	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Bis(2-chloroisopropyl)ether	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Bis(2-ethylhexyl)phthalate	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Caprolactam	NA	NA	0.0969	*U*	1.04	*U*	0.555	*U*	0.0939	*U*
Carbazole	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Chrysene	1	1	0.121	*D*	0.522	*U*	0.278	*U*	0.0916	*JD*
Dibenzo(a,h)anthracene	0.33	1,000	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Dibenzofuran	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Diethyl phthalate	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Dimethyl phthalate	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Di-n-butyl phthalate	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Di-n-octyl phthalate	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Fluoranthene	100	1,000	0.269	*D*	0.522	*U*	0.278	*U*	0.273	*D*
Fluorene	30	386	0.0486	*U*	0.522	*U*	0.278	*U*	0.554	*D*
Hexachlorobenzene	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Hexachlorobutadiene	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Hexachlorocyclopentadiene	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Hexachloroethane	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Indeno(1,2,3-cd)pyrene	0.5	8.2	0.0651	*JD*	0.522	*U*	0.278	*U*	0.0471	*U*
Isophorone	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Naphthalene	12	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Nitrobenzene	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
N-Nitrosodimethylamine	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
N-nitroso-di-n-propylamine	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
N-Nitrosodiphenylamine	NA	NA	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Pentachlorophenol	0.8	0.8	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Phenanthrene	100	1,000	0.634	*D*	5.44	*D*	2.45	*D*	1.11	*D*
Phenol	0.33	0.33	0.0486	*U*	0.522	*U*	0.278	*U*	0.0471	*U*
Pyrene	100	1,000	0.262	*D*	0.522	*U*	0.278	*U*	0.279	*D*
Total 8270 List Compounds			2.1		6.33		2.92		3.5	
Total TICs			ND		ND		ND		ND	
TOTAL SVOCs			**2.1**		**6.33**		**2.92**		**3.5**	

Detected Concentrations
Concentrations > UUSCOs
Concentrations > POGSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 8: SVOCs in Soils - Post-ISCO Treatment Sampling

Ecosystems Strategies, Inc.

ESI File: SG96152.86

All data in mg/Kg (ppm)		**Sample ID**	**5SB-09 (5-7)**		**DUP-A-20160525**	
U= Not Detected ≥ indicated value		Sample Date	(2016-05-25)		(2016-05-25)	
Data above SCOs shown in **Bold**		Dilution Factor	20		10	
SVOCs, 8270	**UUSCO**	**POGSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*
1,1'-Biphenyl	NA	NA	0.185	*D*	0.24	*U*
1,2,4,5-Tetrachlorobenzene	NA	NA	0.0946	*U*	0.478	*U*
1,2,4-Trichlorobenzene	NA	NA	0.0474	*U*	0.24	*U*
1,2-Dichlorobenzene	NA	NA	0.0474	*U*	0.24	*U*
1,2-Diphenylhydrazine (Azobenzene)	NA	NA	0.0474	*U*	0.24	*U*
1,3-Dichlorobenzene	NA	NA	0.0474	*U*	0.24	*U*
1,4-Dichlorobenzene	NA	NA	0.0474	*U*	0.24	*U*
2,3,4,6-Tetrachlorophenol	NA	NA	0.0946	*U*	0.478	*U*
2,4,5-Trichlorophenol	NA	NA	0.0474	*U*	0.24	*U*
2,4,6-Trichlorophenol	NA	NA	0.0474	*U*	0.24	*U*
2,4-Dichlorophenol	NA	NA	0.0474	*U*	0.24	*U*
2,4-Dimethylphenol	NA	NA	0.0474	*U*	0.24	*U*
2,4-Dinitrophenol	NA	100	0.0946	*U*	0.478	*U*
2,4-Dinitrotoluene	NA	NA	0.0474	*U*	0.24	*U*
2,6-Dinitrotoluene	NA	NA	0.0474	*U*	0.24	*U*
2-Chloronaphthalene	NA	NA	0.0474	*U*	0.24	*U*
2-Chlorophenol	NA	NA	0.0474	*U*	0.24	*U*
2-Methylnaphthalene	NA	NA	0.942	*D*	1.89	*D*
2-Methylphenol	0.33	0.33	0.0474	*U*	0.24	*U*
2-Nitroaniline	NA	NA	0.0946	*U*	0.478	*U*
2-Nitrophenol	NA	NA	0.0474	*U*	0.24	*U*
3- & 4-Methylphenols	0.33	0.33	0.0474	*U*	0.24	*U*
3,3'-Dichlorobenzidine	NA	NA	0.0474	*U*	0.24	*U*
3-Nitroaniline	NA	NA	0.0946	*U*	0.478	*U*
4,6-Dinitro-2-methylphenol	NA	NA	0.0946	*U*	0.478	*U*
4-Bromophenyl phenyl ether	NA	NA	0.0474	*U*	0.24	*U*
4-Chloro-3-methylphenol	NA	NA	0.0474	*U*	0.24	*U*
4-Chloroaniline	NA	NA	0.0474	*U*	0.24	*U*
4-Chlorophenyl phenyl ether	NA	NA	0.0474	*U*	0.24	*U*
4-Nitroaniline	NA	NA	0.0946	*U*	0.478	*U*
4-Nitrophenol	NA	NA	0.0946	*U*	0.478	*U*
Acenaphthene	20	98	2.21	*D*	0.24	*U*
Acenaphthylene	100	107	0.564	*D*	0.24	*U*
Acetophenone	NA	NA	0.0474	*U*	0.24	*U*
Aniline	NA	NA	0.19	*U*	0.958	*U*
Anthracene	100	1,000	4.32	*D*	0.615	*D*
Atrazine	NA	NA	0.0474	*U*	0.24	*U*
Benzaldehyde	NA	NA	0.0474	*U*	0.24	*U*
Benzidine	NA	NA	0.19	*U*	0.958	*U*
Benzo(a)anthracene	1	1	**5.9**	*D*	0.24	*U*
Benzo(a)pyrene	1	22	2.54	*D*	0.24	*U*
Benzo(b)fluoranthene	1	1.7	**2.47**	*D*	0.24	*U*
Benzo(g,h,i)perylene	100	1,000	1.54	*D*	0.24	*U*
Benzo(k)fluoranthene	0.8	1.7	**2.05**	*D*	0.24	*U*
Benzoic acid	NA	NA	0.0474	*U*	0.24	*U*
Benzyl alcohol	NA	NA	0.0474	*U*	0.24	*U*
Benzyl butyl phthalate	NA	NA	0.0474	*U*	0.24	*U*
Bis(2-chloroethoxy)methane	NA	NA	0.0474	*U*	0.24	*U*
Bis(2-chloroethyl)ether	NA	NA	0.0474	*U*	0.24	*U*
Bis(2-chloroisopropyl)ether	NA	NA	0.0474	*U*	0.24	*U*
Bis(2-ethylhexyl)phthalate	NA	NA	0.0474	*U*	0.24	*U*
Caprolactam	NA	NA	0.0946	*U*	0.478	*U*
Carbazole	NA	NA	1.21	*D*	0.24	*U*
Chrysene	1	1	**6.66**	*D*	0.24	*U*
Dibenzo(a,h)anthracene	0.33	1,000	1.08	*D*	0.24	*U*
Dibenzofuran	NA	NA	0.886	*D*	0.24	*U*
Diethyl phthalate	NA	NA	0.0474	*U*	0.24	*U*
Dimethyl phthalate	NA	NA	0.0474	*U*	0.24	*U*
Di-n-butyl phthalate	NA	NA	0.0474	*U*	0.24	*U*
Di-n-octyl phthalate	NA	NA	0.0474	*U*	0.24	*U*
Fluoranthene	100	1,000	14	*D*	0.24	*U*
Fluorene	30	386	3.93	*D*	0.24	*U*
Hexachlorobenzene	NA	NA	0.0474	*U*	0.24	*U*
Hexachlorobutadiene	NA	NA	0.0474	*U*	0.24	*U*
Hexachlorocyclopentadiene	NA	NA	0.0474	*U*	0.24	*U*
Hexachloroethane	NA	NA	0.0474	*U*	0.24	*U*
Indeno(1,2,3-cd)pyrene	0.5	8.2	1.56	*D*	0.24	*U*
Isophorone	NA	NA	0.0474	*U*	0.24	*U*
Naphthalene	12	NA	0.543	*D*	0.24	*U*
Nitrobenzene	NA	NA	0.0474	*U*	0.24	*U*
N-Nitrosodimethylamine	NA	NA	0.0474	*U*	0.24	*U*
N-nitroso-di-n-propylamine	NA	NA	0.0474	*U*	0.24	*U*
N-Nitrosodiphenylamine	NA	NA	0.0474	*U*	0.24	*U*
Pentachlorophenol	0.8	0.8	0.0474	*U*	0.24	*U*
Phenanthrene	100	1,000	19.2	*D*	4.21	*D*
Phenol	0.33	0.33	0.0474	*U*	0.24	*U*
Pyrene	100	1,000	15.2	*D*	0.24	*U*
		Total 8270 List Compounds	87		6.72	
		Total TICs	ND		ND	
		TOTAL SVOCs	**87**		**6.72**	

Detected Concentrations
Concentrations > UUSCOs
Concentrations > POGSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 9: VOC TICs in Soils - Post-ISCO Treatment Sampling

Ecosystems Strategies, Inc.

ESI File: SG96152.86

All data in mg/Kg (ppm)	**Sample ID**	**5SB-01 (5-8)**		**5SB-02 (5-7)**		**5SB-03 (5-7)**		**5SB-04 (5-7)**	
ND = not detected, J = estimated	Sample Date	(2016-05-25)		(2016-05-25)		(2016-05-25)		(2016-05-25)	
D = diluted, N = tenative ID	Dilution Factor	1		100		1		1	
VOCs, 8260		*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*
(butenyl) dimethyl benzene isomer		ND		ND		ND		ND	
(dimethylethyl) cyclohexanone isomer		ND		ND		ND		ND	
(methylethyl) heptane isomer		ND		ND		ND		ND	
1,2,4,5-tetramethylbenzene		ND		ND		0.087	*JN*	ND	
alkyl benzene isomers		ND		47	*JDN*	0.12	*JN*	ND	
benzeneactaldehyde isomer		ND		ND		0.026	*JN*	ND	
butyl cyclohexane isomer		ND		ND		ND		ND	
cuneatin isomer		ND		6	*JDN*	ND		ND	
cyclotetrasiloxane isomer		ND		ND		ND		ND	
decahydro naphthalene isomer		ND		ND		0.034	*JN*	ND	
decahydro dimethyl naphthalene isomer		ND		6.8	*JDN*	ND		ND	
dihydro dimethyl indene isomers		ND		30	*JDN*	0.15	*JN*	ND	
dihydro methyl indene isomer		ND		ND		ND		ND	
dihydro trimethyl indene isomer		ND		ND		ND		ND	
dimethyl ethyl benzene isomer		ND		ND		ND		ND	
dimethyl octane isomer		ND		ND		ND		ND	
dimethyl undecane isomer		ND		ND		ND		ND	
dimethylspiro isomers		ND		ND		0.044	*JN*	ND	
ethyl cyclohexene isomer		ND		ND		ND		ND	
ethyl methyl cyclohexane isomer		ND		ND		ND		ND	
ethyl octane isomer		ND		ND		ND		ND	
indane isomer		ND		ND		0.055	*JN*	ND	
methyl (methylethyl) benzene isomer		ND		ND		ND		ND	
methyl decane isomer		ND		ND		ND		ND	
methyl indan isomer		ND		ND		ND		ND	
methyl nonane isomer		ND		ND		ND		ND	
naphthalene		ND		ND		ND		ND	
nonane isomer		ND		ND		0.071	*JN*	ND	
nonene isomer		ND		6.4	*JDN*	ND		ND	
propyl cyclohexane isomer		ND		7.1	*JDN*	ND		ND	
pulegone isomer		ND		ND		0.037	*JN*	ND	
tert-butyl isopropylidenecyclopropyl ether isomer		ND		ND		ND		ND	
tetrahydro methyl naphthalene isomers		ND		ND		ND		ND	
tetramethyl benzene isomer		ND		ND		ND		ND	
tetramethyl cyclohexane isomer		ND		ND		ND		ND	
trimethyl cyclohexane isomer		ND		ND		ND		ND	
trimethyl hexane isomer		ND		ND		ND		ND	
trimethyl octane isomer		ND		ND		ND		ND	
undecane isomer		ND		ND		0.03	*JN*	ND	
unknown silan isomer		ND		ND		ND		ND	
unknown siloxane isomers		0.029	*JN*	ND		ND		0.046	*JN*
TOTAL TICs		**0.029**		**103.3**		**0.654**		**0.046**	

Table 9: VOC TICs in Soils - Post-ISCO Treatment Sampling

Ecosystems Strategies, Inc.

ESI File: SG96152.86

All data in mg/Kg (ppm)	**Sample ID**	**5SB-05 (5-7)**		**5SB-06 (5-8)**		**5SB-07 (5-7)**		**5SB-08 (5-7)**	
ND = not detected, J = estimated	Sample Date	(2016-05-25)		(2016-05-25)		(2016-05-25)		(2016-05-25)	
D = diluted, N = tenative ID	Dilution Factor	100		100		100		1	
VOCs, 8260		*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*
(butenyl) dimethyl benzene isomer		1.8	*JDN*	ND		ND		ND	
(dimethylethyl) cyclohexanone isomer		ND		3.7	*JDN*	ND		ND	
(methylethyl) heptane isomer		ND		ND		ND		0.062	*JN*
1,2,4,5-tetramethylbenzene		ND		ND		ND		ND	
alkyl benzene isomers		ND		ND		ND		ND	
benzeneactaldehyde isomer		ND		ND		ND		ND	
butyl cyclohexane isomer		1.9	*JDN*	ND		ND		ND	
cuneatin isomer		ND		ND		ND		ND	
cyclotetrasiloxane isomer		ND		ND		ND		ND	
decahydro naphthalene isomer		ND		ND		ND		ND	
decahydro dimethyl naphthalene isomer		ND		ND		ND		ND	
dihydro dimethyl indene isomers		8.1	*JDN*	12	*JDN*	19	*JDN*	ND	
dihydro methyl indene isomer		ND		3.5	*JDN*	ND		ND	
dihydro trimethyl indene isomer		1.8	*JDN*	ND		3.6	*JDN*	ND	
dimethyl ethyl benzene isomer		ND		ND		ND		ND	
dimethyl octane isomer		ND		4.3	*JDN*	ND		0.1	*JN*
dimethyl undecane isomer		ND		ND		ND		ND	
dimethylspiro isomers		ND		ND		ND		ND	
ethyl cyclohexene isomer		ND		4.3	*JDN*	ND		ND	
ethyl methyl cyclohexane isomer		2.1	*JDN*	4.7	*JDN*	ND		ND	
ethyl octane isomer		ND		ND		ND		0.063	*JN*
indane isomer		ND		ND		ND		ND	
methyl (methylethyl) benzene isomer		ND		4.2	*JDN*	ND		ND	
methyl decane isomer		ND		ND		ND		0.047	*JN*
methyl indan isomer		1.8	*JDN*	ND		ND		ND	
methyl nonane isomer		ND		ND		ND		0.053	*JN*
naphthalene		ND		ND		3.1	*JDN*	ND	
nonane isomer		ND		ND		ND		ND	
nonene isomer		ND		ND		ND		ND	
propyl cyclohexane isomer		2.7	*JDN*	6.7	*JDN*	ND		0.046	*JN*
pulegone isomer		ND		ND		ND		ND	
tert-butyl isopropylidenecyclopropyl ether isomer		ND		ND		ND		0.077	*JN*
tetrahydro methyl naphthalene isomers		ND		ND		11	*JDN*	ND	
tetramethyl benzene isomer		2.1	*JDN*	ND		ND		ND	
tetramethyl cyclohexane isomer		ND		ND		4	*JDN*	0.15	*JN*
trimethyl cyclohexane isomer		ND		ND		6.1	*JDN*	0.084	*JN*
trimethyl hexane isomer		ND		ND		ND		0.052	*JN*
trimethyl octane isomer		ND		ND		ND		ND	
undecane isomer		ND		ND		ND		ND	
unknown silan isomer		ND		ND		ND		ND	
unknown siloxane isomers		ND		ND		ND		ND	
TOTAL TICs		**22.3**		**43.4**		**46.8**		**0.734**	

Table 9: VOC TICs in Soils - Post-ISCO Treatment Sampling

Ecosystems Strategies, Inc.

ESI File: SG96152.86

All data in mg/Kg (ppm)	**Sample ID**	**5SB-09 (5-7)**		**DUP-A-20160525**	
ND = not detected, J = estimated	Sample Date	(2016-05-25)		(2016-05-25)	
D = diluted, N = tenative ID	Dilution Factor	1		1	
VOCs, 8260		*Result*	*Flag*	*Result*	*Flag*
(butenyl) dimethyl benzene isomer		ND		ND	
(dimethylethyl) cyclohexanone isomer		ND		ND	
(methylethyl) heptane isomer		ND		ND	
1,2,4,5-tetramethylbenzene		ND		ND	
alkyl benzene isomers		ND		ND	
benzeneactaldehyde isomer		ND		ND	
butyl cyclohexane isomer		ND		ND	
cuneatin isomer		ND		ND	
cyclotetrasiloxane isomer		ND		0.0076	*JN*
decahydro naphthalene isomer		ND		ND	
decahydro dimethyl naphthalene isomer		ND		ND	
dihydro dimethyl indene isomers		ND		0.013	*JN*
dihydro methyl indene isomer		ND		ND	
dihydro trimethyl indene isomer		ND		ND	
dimethyl ethyl benzene isomer		ND		0.0066	*JN*
dimethyl octane isomer		ND		ND	
dimethyl undecane isomer		ND		0.017	*JN*
dimethylspiro isomers		ND		ND	
ethyl cyclohexene isomer		ND		ND	
ethyl methyl cyclohexane isomer		ND		ND	
ethyl octane isomer		ND		ND	
indane isomer		ND		ND	
methyl (methylethyl) benzene isomer		ND		ND	
methyl decane isomer		ND		ND	
methyl indan isomer		ND		ND	
methyl nonane isomer		0.012	*JN*	ND	
naphthalene		ND		ND	
nonane isomer		ND		ND	
nonene isomer		ND		ND	
propyl cyclohexane isomer		ND		ND	
pulegone isomer		ND		ND	
tert-butyl isopropylidenecyclopropyl ether isomer		ND		ND	
tetrahydro methyl naphthalene isomers		ND		ND	
tetramethyl benzene isomer		ND		ND	
tetramethyl cyclohexane isomer		ND		ND	
trimethyl cyclohexane isomer		ND		ND	
trimethyl hexane isomer		ND		ND	
trimethyl octane isomer		ND		0.0087	*JN*
undecane isomer		ND		ND	
unknown silan isomer		0.022	*JN*	ND	
unknown siloxane isomers		0.025	*JN*	ND	
TOTAL TICs		**0.059**		**0.053**	

Table 10: SVOC TICs in Soils - Post-ISCO Treatment Sampling

Ecosystems Strategies, Inc.

ESI File: SG96152.86

All data in mg/Kg (ppm)	**Sample ID**	**5SB-01 (5-8)**		**5SB-02 (5-7)**		**5SB-03 (5-7)**	
ND = not detected, J = estimated	Sample Date	(2016-05-25)		(2016-05-25)		(2016-05-25)	
D = diluted, N = tenative ID	Dilution Factor	2		2			
SVOCs, 8270		*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*
anthracenedione isomer		ND		ND		ND	
methyl anthracene isomer		ND		ND		ND	
TOTAL TICs		**ND**		**ND**		**ND**	

All data in mg/Kg (ppm)	**Sample ID**	**5SB-04 (5-7)**		**5SB-05 (5-7)**		**5SB-06 (5-8)**	
ND = not detected, J = estimated	Sample Date	(2016-05-25)		(2016-05-25)		(2016-05-25)	
D = diluted, N = tenative ID	Dilution Factor	2		2		20	
SVOCs, 8270		*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*
anthracenedione isomer		0.69	*JD*	ND		ND	
methyl anthracene isomer		0.843	*JD*	ND		ND	
TOTAL TICs		**1.533**		**ND**		**ND**	

All data in mg/Kg (ppm)	**Sample ID**	**5SB-07 (5-7)**		**5SB-08 (5-7)**		**5SB-09 (5-7)**		**DUP-A-20160525**	
ND = not detected, J = estimated	Sample Date	(2016-05-25)		(2016-05-25)		(2016-05-25)		(2016-05-25)	
D = diluted, N = tenative ID	Dilution Factor	2		2		2		2	
SVOCs, 8270		*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*
anthracenedione isomer		ND		ND		ND		ND	
methyl anthracene isomer		ND		ND		ND		ND	
TOTAL TICs		**ND**		**ND**		**ND**		**ND**	

Table 11: Total Petroleum Hydrocarbons-DRO (C10-C28) in Soils - Post-ISCO Treatment Sampling

Ecosystems Strategies, Inc.

ESI File: SG96152.86

Sample ID	*Sample Date*	*Dilution Factor*	*Result*	*Qualifier*
5SB-01 5-8	5/25/2016	1	37.30	
5SB-02 5-7	5/25/2016	1	31,200	
5SB-03 5-7	5/25/2016	1	23,400	
5SB-04 5-7	5/25/2016	1	1,710	
5SB-05 5-7	5/25/2016	1	8,360	
5SB-06 5-7	5/25/2016	1	35,300	
5SB-07 5-7	5/25/2016	1	24,100	
5SB-08 5-7	5/25/2016	1	6,310	
5SB-09 5-7	5/25/2016	1	872	
DUP-A-2016-0525	5/25/2016	1	20,300	

All data in mg/Kg (ppm)

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 12: VOCs in Groundwater - Post-ISCO Treatment Sampling

Ecosystems Strategies, Inc.

ESI File: SG96152.86

All data in µg/L (parts per billion, ppb)	**Sample ID**	**MW-06 (20160525)**		**MW-08R (20160525)**		**MW-11 (20160525)**		**DUP-B-20160525**	
U= Not Detected ≥ indicated value	Sample Date	(2016-05-25)		(2016-05-25)		(2016-05-25)		(2016-05-25)	
Data above AWQS shown in **Bold**	Dilution Factor	1		1		1		1	
VOCs, 8260	**AWQS**	*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*
1,1,1,2-Tetrachloroethane	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,1,1-Trichloroethane	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,1,2,2-Tetrachloroethane	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,1,2-Trichloro-1,2,2-trifluoroethane	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,1,2-Trichloroethane	1	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,1-Dichloroethane	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,1-Dichloroethylene (1,1-DCE)	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,2,3-Trichlorobenzene	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,2,3-Trichloropropane	0.04	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,2,4-Trichlorobenzene	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,2,4-Trimethylbenzene	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,2-Dibromo-3-chloropropane	0	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,2-Dibromoethane	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,2-Dichlorobenzene	3	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,2-Dichloroethane	0.6	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,2-Dichloropropane	1	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,3,5-Trimethylbenzene	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,3-Dichlorobenzene	3	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,4-Dichlorobenzene	3	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
1,4-Dioxane	NA	40	*U*	40	*U*	40	*U*	40	*U*
2-Butanone (MEK)	50	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
2-Hexanone	50	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
4-Methyl-2-pentanone	NA	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Acetone	50	1.5	*J*	1.5	*J*	1.6	*J*	1.5	*J*
Acrolein	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Acrylonitrile	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Benzene	1	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Bromochloromethane	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Bromodichloromethane	50	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Bromoform	50	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Bromomethane	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Carbon disulfide	NA	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Carbon tetrachloride	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Chlorobenzene	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Chloroethane	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Chloroform	7	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Chloromethane	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
cis-1,2-Dichloroethylene (cis-DCE)	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
cis-1,3-Dichloropropylene	0.4	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Cyclohexane	NA	0.2	*U*	0.47	*J*	0.2	*U*	0.33	*J*
Dibromochloromethane	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Dibromomethane	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Dichlorodifluoromethane	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Ethyl Benzene	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Hexachlorobutadiene	0.5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Isopropylbenzene	5	0.2	*U*	0.39	*J*	0.2	*U*	0.26	*J*
Methyl acetate	NA	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Methyl tert-butyl ether (MTBE)	10	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Methylcyclohexane	NA	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Methylene chloride	5	1	*U*	1	*U*	1	*U*	1	*U*
n-Butylbenzene	5	0.2	*U*	0.21	*J*	0.2	*U*	0.2	*U*
n-Propylbenzene	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
o-Xylene	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
p- & m- Xylenes	5	0.5	*U*	0.5	*U*	0.5	*U*	0.5	*U*
p-Isopropyltoluene	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
sec-Butylbenzene	5	0.2	*U*	0.6		0.2	*U*	0.42	*J*
Styrene	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
tert-Butyl alcohol (TBA)	NA	0.99	*J*	1.7		0.5	*U*	1.4	
tert-Butylbenzene	5	0.2	*U*	0.3	*J*	0.2	*U*	0.24	*J*
Tetrachloroethylene (PCE)	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Toluene	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
trans-1,2-Dichloroethylene (trans-DCE)	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
trans-1,3-Dichloropropylene	0.4	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Trichloroethylene (TCE)	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Trichlorofluoromethane	5	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Vinyl chloride (VC)	2	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Xylenes, Total	5	0.6	*U*	0.6	*U*	0.6	*U*	0.6	*U*
Total 8260 List Compounds		2.49		5.17		1.6		4.15	
Total TICs		6.1		95.6		5.1		55.5	
TOTAL VOCs		**8.59**		**100.77**		**6.7**		**59.65**	

Detected Concentrations
Concentrations > AWQS

Notes: AWQS based on NYSDEC TOGS 1.1.1 NA = not available
Result Flags: J = approximate E = estimated B = detected in blank D = diluted

Table 13: SVOCs in Groundwater - Post-ISCO Treatment Sampling

Ecosystems Strategies, Inc.

ESI File: SG96152.86

All data in µg/L (parts per billion, ppb)	**Sample ID**	**MW-06 (20160525)**		**MW-08R (20160525)**		**MW-11 (20160525)**		**DUP-B-20160525**	
U= Not Detected ≥ indicated value	Sample Date	(2016-05-25)		(2016-05-25)		(2016-05-25)		(2016-05-25)	
Data above AWQS shown in **Bold**	Dilution Factor	1		1		1		1	
SVOCs, 8270	**AWQS**	*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*	*Result*	*Flag*
1,1'-Biphenyl	5	2.5	U	2.5	U	2.5	U	2.5	U
1,2,4,5-Tetrachlorobenzene	5	2.5	U	2.5	U	2.5	U	2.5	U
1,2,4-Trichlorobenzene	5	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Dichlorobenzene	3	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Diphenylhydrazine (Azobenzene)	ND	2.5	U	2.5	U	2.5	U	2.5	U
1,3-Dichlorobenzene	3	2.5	U	2.5	U	2.5	U	2.5	U
1,4-Dichlorobenzene	3	2.5	U	2.5	U	2.5	U	2.5	U
2,3,4,6-Tetrachlorophenol	NA	2.5	U	2.5	U	2.5	U	2.5	U
2,4,5-Trichlorophenol	NA	2.5	U	2.5	U	2.5	U	2.5	U
2,4,6-Trichlorophenol	NA	2.5	U	2.5	U	2.5	U	2.5	U
2,4-Dichlorophenol	5	2.5	U	2.5	U	2.5	U	2.5	U
2,4-Dimethylphenol	50	2.5	U	2.5	U	2.5	U	2.5	U
2,4-Dinitrophenol	10	2.5	U	2.5	U	2.5	U	2.5	U
2,4-Dinitrotoluene	5	2.5	U	2.5	U	2.5	U	2.5	U
2,6-Dinitrotoluene	5	2.5	U	2.5	U	2.5	U	2.5	U
2-Chloronaphthalene	10	2.5	U	2.5	U	2.5	U	2.5	U
2-Chlorophenol	NA	2.5	U	2.5	U	2.5	U	2.5	U
2-Methylnaphthalene	NA	2.5	U	2.5	U	2.5	U	2.5	U
2-Methylphenol	NA	2.5	U	2.5	U	2.5	U	2.5	U
2-Nitroaniline	5	2.5	U	2.5	U	2.5	U	2.5	U
2-Nitrophenol	NA	2.5	U	2.5	U	2.5	U	2.5	U
3- & 4-Methylphenols	NA	2.5	U	2.5	U	2.5	U	2.5	U
3,3'-Dichlorobenzidine	5	2.5	U	2.5	U	2.5	U	2.5	U
3-Nitroaniline	5	2.5	U	2.5	U	2.5	U	2.5	U
4,6-Dinitro-2-methylphenol	NA	2.5	U	2.5	U	2.5	U	2.5	U
4-Bromophenyl phenyl ether	NA	2.5	U	2.5	U	2.5	U	2.5	U
4-Chloro-3-methylphenol	NA	2.5	U	2.5	U	2.5	U	2.5	U
4-Chloroaniline	5	2.5	U	2.5	U	2.5	U	2.5	U
4-Chlorophenyl phenyl ether	NA	2.5	U	2.5	U	2.5	U	2.5	U
4-Nitroaniline	5	2.5	U	2.5	U	2.5	U	2.5	U
4-Nitrophenol	5	2.5	U	2.5	U	2.5	U	2.5	U
Acenaphthene	20	0.37		1.68		0.05	U	1.41	
Acenaphthylene	NA	0.05	U	0.57		0.05	U	0.47	
Acetophenone	NA	2.5	U	2.5	U	2.5	U	2.5	U
Aniline	5	2.5	U	2.5	U	2.5	U	2.5	U
Anthracene	50	0.05	U	0.22		0.05	U	0.05	U
Atrazine	7.5	0.5	U	0.5	U	0.5	U	0.5	U
Benzaldehyde	NA	2.5	U	2.5	U	2.5	U	2.5	U
Benzidine	5	10	U	10	U	10	U	10	U
Benzo(a)anthracene	0.002	0.05	U	0.05	U	0.05	U	0.05	U
Benzo(a)pyrene	NA	0.05	U	0.05	U	0.05	U	0.05	U
Benzo(b)fluoranthene	0.002	0.05	U	0.05	U	0.05	U	0.05	U
Benzo(g,h,i)perylene	NA	0.05	U	0.05	U	0.05	U	0.05	U
Benzo(k)fluoranthene	0.002	0.05	U	0.05	U	0.05	U	0.05	U
Benzoic acid	NA	25	U	25	U	25	U	25	U
Benzyl alcohol	NA	2.5	U	2.5	U	2.5	U	2.5	U
Benzyl butyl phthalate	50	2.5	U	2.5	U	2.5	U	2.5	U
Bis(2-chloroethoxy)methane	5	2.5	U	2.5	U	2.5	U	2.5	U
Bis(2-chloroethyl)ether	1	2.5	U	2.5	U	2.5	U	2.5	U
Bis(2-chloroisopropyl)ether	NA	2.5	U	2.5	U	2.5	U	2.5	U
Bis(2-ethylhexyl)phthalate	5	0.5	U	0.5	U	0.5	U	0.5	U
Caprolactam	NA	2.5	U	2.5	U	2.5	U	2.5	U
Carbazole	NA	2.5	U	2.5	U	2.5	U	2.5	U
Chrysene	0.002	0.05	U	0.05	U	0.05	U	0.05	U
Dibenzo(a,h)anthracene	NA	0.05	U	0.05	U	0.05	U	0.05	U
Dibenzofuran	NA	2.5	U	2.5	U	2.5	U	2.5	U
Diethyl phthalate	50	2.5	U	2.5	U	2.5	U	2.5	U
Dimethyl phthalate	50	2.5	U	2.5	U	2.5	U	2.5	U
Di-n-butyl phthalate	50	2.5	U	2.5	U	2.5	U	2.5	U
Di-n-octyl phthalate	50	2.5	U	2.5	U	2.5	U	2.5	U
Fluoranthene	50	0.05	U	0.08		0.05	U	0.07	
Fluorene	50	0.06		3.5		0.05	U	2.91	
Hexachlorobenzene	0.04	0.02	U	0.02	U	0.02	U	0.02	U
Hexachlorobutadiene	0.5	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorocyclopentadiene	5	2.5	U	2.5	U	2.5	U	2.5	U
Hexachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U
Indeno(1,2,3-cd)pyrene	0.002	0.05	U	0.05	U	0.05	U	0.05	U
Isophorone	50	2.5	U	2.5	U	2.5	U	2.5	U
Naphthalene	10	0.05	U	0.26		0.05	U	0.24	
Nitrobenzene	0.4	0.25	U	0.25	U	0.25	U	0.25	U
N-Nitrosodimethylamine	50	0.5	U	0.5	U	0.5	U	0.5	U
N-nitroso-di-n-propylamine	NA	2.5	U	2.5	U	2.5	U	2.5	U
N-Nitrosodiphenylamine	50	2.5	U	2.5	U	2.5	U	2.5	U
Pentachlorophenol	1	0.25	U	0.25	U	0.25	U	0.25	U
Phenanthrene	50	0.05	U	0.32		0.05	U	0.05	U
Phenol	1	2.5	U	2.5	U	2.5	U	2.5	U
Pyrene	50	0.05	U	0.05	U	0.05	U	0.1	
Total 8270 List Compounds		0.43		6.63		ND		5.2	
Total TICs		ND		ND		ND		ND	
TOTAL VOCs		**0.43**		**6.63**		**ND**		**5.2**	

Detected Concentrations

Concentrations > AWQS

Notes: AWQS based on NYSDEC TOGS 1.1.1 NA = not available

Result Flags: J = approximate E = estimated B = detected in blank D = diluted

Table 14: Total Petroleum Hydrocarbons-DRO (C10-C28) in Groundwate
Post-ISCO Treatment Sampling

Ecosystems Strategies, Inc.

ESI File: SG96152.86

Sample ID		MW-06 (20160525)		MW-08R (20160525)	
All data in µg/L (parts per billion, ppb)	Sample Date	(2016-05-25)		(2016-05-25)	
U= Not Detected ≥ indicated value	Dilution Factor	1		1	
		Result	*Flag*	*Result*	*Flag*
TPH-DRO (C10-C28)		298		700	

Sample ID		MW-11 (20160525)		DUP-B-20160525	
	Sample Date	(2016-05-25)		(2016-05-25)	
	Dilution Factor	1		1	
		Result	*Flag*	*Result*	*Flag*
TPH-DRO (C10-C28)		100	*U*	604	

Detected Concentrations

Notes: AWQS based on NYSDEC TOGS 1.1.1 NA = not available
Result Flags: J = approximate E = estimated B = detected in blank D = diluted

APPENDIX C – LIST OF SITE CONTACTS

Name	Contact Information
Parag Amin, P.E. NYSDEC Project Manager	Tel: (518) 402-9648 Email: parag.amin@dec.ny.gov
Daniel Bendell, P.E. (NYSDEC, Department's Region 3 Hazardous Waste Engineer)	Tel: (845)-265-3000 Email: daniel.bendell@dec.ny.gov
Anthony Perretta (NYSDOH, Project Manager)	Tel: (518) 402-7860 Email: BEEI@health.ny.gov
Kelly A. Lewandowski, P.E. (NYSDEC, Chief of Site Control)	Tel: (518) 402-9553 Email: kelly.lewandowski@dec.ny.gov
Seth McKee Executive Director The Scenic Hudson Land Trust, Inc. Site Owner/Remedial Party	Tel: (845) 473-4440 Email: smckee@scenichudson.org
Joe Kiernan, Senior Park Project Manager The Scenic Hudson Land Trust, Inc. Site Owner/Remedial Party	Tel: (845) 473-4440 jkiernan@scenichudson.org
Peter D. Setaro, PE CPL Architecture, Engineering, Planning Remedial Engineer	Tel: (845) 686-2302 Email: psetaro@cpleteam.com
Victoria Panico, CHMM Gallagher Bassett Technical Services QEP	Tel: (845) 452-1658 Email: victoria_panico@gbtpa.com
Audrey Friedrichsen, Esq., LL.M Land Use & Environmental Advocacy The Scenic Hudson Land Trust, Inc. Remedial Party Attorney	Tel: (845) 473-4440 Email: afriedrichsen@scenichudson.org

APPENDIX D
RESPONSIBILITIES of
OWNER and REMEDIAL PARTY

Responsibilities

The responsibilities for implementing the Site Management Plan ("SMP") for the Long Dock Beacon site (the "site"), number Site Number C314112, are divided between the site owner(s) and a Remedial Party, as defined below. The owner(s) is/are currently listed as:

The Scenic Hudson Land Trust, Inc. [Seth McKee, Executive Director, One Civic Center Plaza, Suite 200, Poughkeepsie, NY 12601] (the "owner").

Solely for the purposes of this document and based upon the facts related to a particular site and the remedial program being carried out, the term Remedial Party ("RP") refers to any of the following: certificate of completion holder, volunteer, applicant, responsible party, and, in the event the New York State Department of Environmental Conservation ("NYSDEC") is carrying out remediation or site management, the NYSDEC and/or an agent acting on its behalf. The RP is:

The Scenic Hudson Land Trust, Inc. [Seth McKee, Executive Director, One Civic Center Plaza, Suite 200, Poughkeepsie, NY 12601]

Nothing on this page shall supersede the provisions of an Environmental Easement, Consent Order, Consent Decree, agreement, or other legally binding document that affects rights and obligations relating to the site.

Site Owner's Responsibilities:

1) The owner shall follow the provisions of the SMP as they relate to future construction and excavation at the site.
2) In accordance with a periodic time frame determined by the NYSDEC, the owner shall periodically certify, in writing, that all Institutional Controls set forth in a(n) Environmental Easement remain in place and continue to be complied with. The owner shall provide a written certification to the RP, upon the RP's request, in order to allow the RP to include the certification in the site's Periodic Review Report (PRR) certification to the NYSDEC.
3) In the event the site is delisted, the owner remains bound by the Environmental Easement and shall submit, upon request by the NYSDEC, a written certification that the Environmental Easement is still in place and has been complied with.

4) The owner shall grant access to the site to the RP and the NYSDEC and its agents for the purposes of performing activities required under the SMP and assuring compliance with the SMP.

5) The owner is responsible for assuring the security of the remedial components located on its property to the best of its ability. In the event that damage to the remedial components or vandalism is evident, the owner shall notify the site's RP and the NYSDEC in accordance with the timeframes indicated in Section 1.3 - Notifications.

6) In the event some action or inaction by the owner adversely and materially impacts the site, the owner must notify the site's RP and the NYSDEC in accordance with the time frame indicated in Section 1.3- Notifications and (ii) coordinate the performance of necessary corrective actions with the RP.

7) The owner must notify the RP and the NYSDEC of any change in ownership of the site property (identifying the tax map numbers in any correspondence) and provide contact information for the new owner of the site properties. 6 NYCRR Part contains notification requirements applicable to any construction or activity changes and changes in ownership. Among the notification requirements is the following: Sixty days prior written notification must be made to the NYSDEC. Notification is to be submitted to the NYSDEC Division of Environmental Remediation's Site Control Section. Notification requirements for a change in use are detailed in Section 2.4 of the SMP. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.

8) The owner will maintain the property's appearance through normal landscaping activities (e.g., mowing, trimming of plantings, and maintenance of shoreline vegetation) on behalf of the RP. The RP remains ultimately responsible for maintaining the engineering controls.

9) The owner will be prepared to install vapor mitigation systems under any structures constructed on the Site where soil vapor testing demonstrates the presence of vapors at levels warranting mitigation. Once any system has been installed, the owner shall operate the system, pay for the utilities for the system's operation, and report any maintenance issues to the RP and the NYSDEC until the NYSDEC determines the vapor system to be unnecessary.

Remedial Party Responsibilities

1) The RP must follow the SMP provisions regarding any construction and/or excavation it undertakes at the site.

2) The RP shall report to the NYSDEC all activities required for remediation, operation, maintenance, monitoring, and reporting. Such reporting includes, but is not limited to, periodic review reports and certifications, electronic data deliverables, corrective action work plans and reports, and updated SMPs.

3) Before accessing the site property to undertake a specific activity, the RP shall provide the owner advance notification that shall include an explanation of the work expected to be completed. The RP shall provide to (i) the owner, upon the owner's request, (ii) the NYSDEC, and (iii) other entities, if required by the SMP, a copy of the data required to be generated during the site visit and/or any final report produced, in each case in accordance with the SMP.

4) If the NYSDEC determines that an update of the SMP is necessary, the RP shall update the SMP and obtain final approval from the NYSDEC. Within 5 business days after NYSDEC approval, the RP shall submit a copy of the approved SMP to the owner(s).

5) The RP shall notify the NYSDEC and the owner of any changes in RP ownership and/or control and of any changes in the party/entity responsible for the operation, maintenance, and monitoring of and reporting with respect to any remedial system (Engineering Controls). The RP shall provide contact information for the new party/entity. Such activity constitutes a Change of Use pursuant to 375-1.11(d) and requires 60-days prior notice to the NYSDEC. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.

6) The RP shall notify the NYSDEC of any damage to or modification of the systems as required under Section 1.3- Notifications of the SMP.

7) The RP is responsible for the proper installation and maintenance of any installed vapor intrusion mitigation systems associated with the site, as required in Section 3.2.

8) Prior to a change in use that impacts the remedial system or requirements and/or responsibilities for implementing the SMP, the RP shall submit to the NYSDEC for approval an amended SMP.

9) Any change in use, change in ownership, change in site classification (*e.g.*, delisting), reduction or expansion of remediation, and other significant changes related to the site may result in a change in responsibilities and, therefore, necessitate an update to the SMP and/or updated legal documents. The RP shall contact the Department to discuss the need to update such documents.

Change in RP ownership and/or control and/or site ownership does not affect the RP's obligations under the SMP with respect to the site unless a legally binding document executed by the NYSDEC releases the RP of its obligations.

Future site owners and RPs and their successors and assigns are required to carry out the activities set forth above.

APPENDIX E ENVIRONMENTAL EASEMENT

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

THIS INDENTURE made this 3RD day of NOVEMBER, 2016, between Owner(s) Beacon Waterfront, LLC, (the "Grantor") having an office at One Civic Center Plaza, Suite 200, Poughkeepsie, New York 12601, County of Dutchess, State of New York, and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

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

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

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

WHEREAS, Grantor, is the owner of real property located at the address of 23 Long Dock Road in the City of Beacon, County of Dutchess and State of New York, known and designated on the tax map of the County Clerk of Dutchess as tax map parcel number: Section 5954 Block 32 Lot 490828, being a portion of the property conveyed to Grantor by deed dated January 28, 2008 and recorded in the Dutchess County Clerk's Office as Document #22008-1052. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 3.86 +/- acres, and is hereinafter more fully described in the Land Title Survey dated May 18, 2015 and last revised May 20, 2016 prepared by Jonathan J. Verderber, L.L.S. of Morris Associates, Engineering & Surveying Consultants, PLLC, which will be attached to the Site Management Plan. The Controlled Property descriptions are set forth in and attached hereto as Schedule A (Parcel 2); and

WHEREAS, Grantor, is the owner of real property located at the address of 23 Long Dock Road in the City of Beacon, County of Dutchess and State of New York, known and designated on the tax map of the County Clerk of Dutchess as tax map parcel number: Section 5954 Block 32 Lot 490828, being a portion of the property conveyed to Grantor by deed dated January 28, 2008 and recorded in the Dutchess County Clerk's Office as Document #22008-1052. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 1.54 +/- acres, and is hereinafter more fully described in the Land Title Survey dated May 18, 2015 and last revised May 20, 2016 prepared by Jonathan J. Verderber, L.L.S. of Morris Associates, Engineering & Surveying Consultants, PLLC, which will be attached to the Site Management Plan. The Controlled Property descriptions are set forth in and attached hereto as Schedule A (Parcel 5); and

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

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: W3-1038-04-12 as amended July 20, 2012, 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 portion of the Controlled Property identified in Schedule A as "Parcel 2" 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), and the portion of the Controlled Property described in Schedule A as "Parcel 5" may be used for Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv);**

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

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

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Dutchess 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 portion of the Controlled Property identified in Schedule A as "Parcel 2" shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), the portion of the Controlled Property identified in Schedule A herein as "Parcel 5" shall not be used for Residential purposes as defined in 6 NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

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

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

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

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

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

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

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

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

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

(i) are in-place;

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

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

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

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

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

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

(7) the information presented is accurate and complete.

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

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

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

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

5. Enforcement

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

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

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

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

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

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

Parties shall address correspondence to:

Site Number: C314112
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

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

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

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

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

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

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

Remainder of Page Intentionally Left Blank

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

The Scenic Hudson Land Trust, Inc. as
sole member of Beacon Waterfront, LLC:

By: _____

Print Name: Steve Rosenberg

Title: Executive Director, Date: 10/26/16
The Scenic Hudson Land Trust, Inc.

Grantor's Acknowledgment

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

On the 26th day of October in the year 2016, before me, the undersigned, personally appeared Steve Rosenberg, 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.

Gail L. Krein Clearwater
Notary Public - State of New York

GAIL L KREIN CLEARWATER
Notary Public, State of New York
No. 01KR6111621
Qualified in Ulster County
Commission Expires June 14, 2020

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

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

Grantee's Acknowledgment

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

On the 3rd day of November, in the year 2016, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

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

SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT PARCEL OF LAND SITUATE IN THE CITY OF BEACON, COUNTY OF DUTCHESS AND STATE OF NEW YORK BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

PARCEL 2
HEREIN DESCRIBED PARCEL IS FOR THE ENVIRONMENTAL & COMMERCIAL USE EASEMENT FOR THE BEACON WATERFRONT, LLC.

BEGINNING AT A POINT ON THE WESTERLY ROAD BOUNDARY OF RED FLYNN DRIVE, SAID POINT BEING THE DIVISION LINE BETWEEN LANDS OF NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 22000 PG. 9142) TO THE SOUTH AND THE LANDS NOW OR FORMERLY OF CITY OF BEACON (L.1186 PG. 13) TO THE NORTH; THENCE RUNNING WESTERLY ON THE AFOREMENTIONED DIVISION LINE NORTH 84°-55'-09" WEST, A DISTANCE OF 374.18 FEET TO A POINT; THENCE LEAVING THE AFOREMENTIONED DIVISION LINE TURNING SOUTHERLY ON THE DIVISION LINE BETWEEN PARCEL 1 & 4 SOUTH 03°-39'-45" EAST, A DISTANCE OF 61.69 FEET TO THE POINT OF BEGINNING OF THE PARCEL HEREIN DESCRIBED;

THENCE RUNNING SOUTHERLY ALONG THE DIVISION LINE BETWEEN PARCEL 2 & 5 THROUGH THE AFOREMENTIONED SCENIC HUDSON PROPERTY AND THE LANDS NOW OR FORMERLY BEACON WATERFRONT, LLC (L. 22008, PG. 1052) THE FOLLOWING (7) SEVEN COURSES AND DISTANCES:

1. SOUTH 03°-39'-45" EAST, A DISTANCE OF 57.39 FEET TO A POINT;
2. NORTH 87°-17'-34" EAST, A DISTANCE OF 103.01 FEET TO A POINT;
3. SOUTH 40°-19'-54" EAST, A DISTANCE OF 94.24 FEET TO A POINT;
4. SOUTH 66°-15'-23" EAST, A DISTANCE OF 29.08 FEET TO A POINT;
5. SOUTH 04°-42'-00"EAST, A DISTANCE OF 26.32 FEET TO A POINT;
6. SOUTH 34°-12'-01" WEST, A DISTANCE OF 24.38 FEET TO A POINT;
7. SOUTH 30°-07'-43" WEST, A DISTANCE OF 77.12 FEET TO A POINT AT THE SOUTHEASTERLY CORNER OF THE HEREIN DESCRIBED PARCEL; THENCE TURNING WESTERLY ON THE DIVISION LINE OF THE AFOREMENTIONED BEACON WATERFRONT PROPERTY TO THE NORTH AND THE LANDS NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 1993 PG. 126) TO THE SOUTH, SOUTH 85°-41'-40" WEST, A DISTANCE OF 107.75 FEET TO A POINT; THENCE RUNNING ALONG THE DIVISION LINE BETWEEN PARCEL 2 & 3 THROUGH THE AFOREMENTIONED BEACON WATERFRONT PROPERTY THE FOLLOWING (3) THREE COURSES AND DISTANCE:

1. NORTH 45°-01'-33" WEST, A DISTANCE OF 78.23 FEET TO A POINT;
2. NORTH 81°-45'-48" WEST, A DISTANCE OF 145.40 FEET TO A POINT;
3. SOUTH 06°-13'-06" WEST, A DISTANCE OF 92.42 FEET TO A POINT; THENCE RUNNING WESTERLY AND NORTHERLY THROUGH THE AFOREMENTIONED BEACON WATERFRONT PROPERTY AND THE SCENIC HUDSON PROPERTY (L. 22000 PG. 9142) THE FOLLOWING (14) FOURTEEN COURSES AND DISTANCE:

1. SOUTH 85°-41'-40" WEST, A DISTANCE OF 33.45 FEET TO A POINT;
2. NORTH 80°-55'-29" WEST, A DISTANCE OF 65.70 FEET TO A POINT;
3. NORTH 75°-47'-18" WEST, A DISTANCE OF 103.86 FEET TO A POINT;
4. SOUTH 84°-15'-24" WEST, A DISTANCE OF 25.66 FEET TO A POINT;
5. NORTH 89°-43'-11" WEST, A DISTANCE OF 31.80 FEET TO A POINT;
6. SOUTH 71°-17'-04" WEST, A DISTANCE OF 103.00 FEET TO A POINT;
7. NORTH 20°-47'-15" WEST, A DISTANCE OF 37.30 FEET TO A POINT;
8. NORTH 56°-59'-04" EAST, A DISTANCE OF 104.49 FEET TO A POINT;
9. NORTH 00°-43'-04" EAST, A DISTANCE OF 17.88 FEET TO A POINT;
10. NORTH 27°-33'-52" WEST, A DISTANCE OF 32.62 FEET TO A POINT;
11. NORTH 84°-00'-22" WEST, A DISTANCE OF 47.11 FEET TO A POINT;
12. NORTH 15°-37'-26" WEST, A DISTANCE OF 48.55 FEET TO A POINT;
13. NORTH 88°-37'-21" WEST, A DISTANCE OF 39.63 FEET TO A POINT;
14. NORTH 00°-09'-52" EAST, A DISTANCE OF 46.99 FEET TO A POINT AT THE NORTHWESTERLY CORNER OF THE HEREIN DESCRIBE PARCEL; THENCE TURNING EASTERLY ALONG THE DIVISION LINE BETWEEN PARCEL 2 & 1 THROUGH THE AFOREMENTIONED SCENIC HUDSON PROPERTY THE FOLLOWING (3) THREE COURSES AND DISTANCES:

1. SOUTH 81°-45'-21" EAST, A DISTANCE OF 75.41 FEET TO A POINT;
2. NORTH 08°-14'-15" EAST, A DISTANCE OF 117.53 FEET TO A POINT;
3. SOUTH 81°-46'-11" EAST, A DISTANCE OF 479.95 FEET TO THE POINT OR PLACE OF BEGINNING.

CONTAINING 3.86 ACRES MORE OR LESS.

PARCEL 5
HEREIN DESCRIBED PARCEL IS FOR THE ENVIRONMENTAL & RESTRICTED RESIDENTIAL USE EASEMENT FOR BEACON WATERFRONT, LLC.

BEGINNING AT A POINT ON THE WESTERLY ROAD BOUNDARY OF RED FLYNN DRIVE, SAID POINT BEING THE DIVISION LINE BETWEEN LANDS OF NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 22000 PG. 9142) TO THE SOUTH AND THE LANDS NOW OR FORMERLY OF CITY OF BEACON (L.1186 PG. 13) TO THE NORTH; THENCE RUNNING SOUTHERLY ALONG THE WESTERLY ROAD LINE OF RED FLYNN DRIVE THE FOLLOWING (2) TWO COURSES AND DISTANCES:

1. SOUTH 07°-46'-49" EAST, A DISTANCE OF 183.98 FEET TO A POINT;
2. SOUTH 44°-34'-57" EAST, A DISTANCE OF 99.85 FEET TO A POINT; SAID POINT BEING THE DIVISION LINE LANDS NOW OR FORMERLY OF BEACON WATERFRONT, LLC (L. 22008 PG. 1052) TO THE NORTH AND LANDS NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 1993 PG.126) TO THE SOUTH; THENCE TURNING WESTERLY ON THE AFOREMENTIONED DIVISION LINE SOUTH 85°-41'-40" WEST, A DISTANCE OF 320.76 FEET TO A POINT AT THE SOUTHWESTERLY CORNER OF HEREIN DESCRIBED PARCEL; THENCE TURNING NORTHERLY LEAVING AFOREMENTIONED DIVISION LINE ALONG THE DIVISION LINE BETWEEN PARCEL 5 & 2 THROUGH THE AFOREMENTIONED LANDS OF BEACON WATERFRONT, LLC AND THE SCENIC HUDSON PROPERTY THE FOLLOWING (7) SEVEN COURSES AND DISTANCES:

1. NORTH 30°-07'-43" EAST, A DISTANCE OF 77.12 FEET TO A POINT;
2. NORTH 34°-12'-01" EAST, A DISTANCE OF 24.38 FEET TO A POINT;
3. NORTH 04°-42'-00" WEST, A DISTANCE OF 26.32 FEET TO A POINT;
4. NORTH 66°-15'-23" WEST, A DISTANCE OF 29.08 FEET TO A POINT;
5. NORTH 40°-19'-54" WEST, A DISTANCE OF 94.24 FEET TO A POINT;
6. SOUTH 87°-17'-34" WEST, A DISTANCE OF 103.01 FEET TO A POINT;
7. NORTH 03°-39'-45" WEST, A DISTANCE OF 57.39 FEET TO A POINT AT THE NORTHWESTERLY CORNER OF THE HEREIN DESCRIBED PARCEL; THENCE TURNING EASTERLY THE FOLLOWING (4) FOUR COURSES AND DISTANCES:

1. SOUTH 81°-46'-11" EAST, A DISTANCE OF 144.08 FEET TO A POINT;
2. NORTH 83°-09'-46" EAST, A DISTANCE OF 36.59 FEET TO A POINT;
3. NORTH 03°-55'-41" WEST, A DISTANCE OF 16.55 FEET TO A POINT;
4. NORTH 74°-39'-59" EAST, A DISTANCE OF 128.97 FEET TO A POINT; SAID POINT BEING ON THE AFOREMENTIONED DIVISION LINE BETWEEN CITY OF BEACON TO THE NORTH AND THE SCENIC HUDSON LAND TRUST, INC. TO THE SOUTH; THENCE RUNNING ALONG THE SAID DIVISION LINE SOUTH 84°-55'-09" EAST, A DISTANCE OF 66.86 FEET TO THE POINT OR PLACE OF BEGINNING.

CONTAINING 1.54 ACRES MORE OR LESS.

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

THIS INDENTURE made this 3RD day of NOVEMBER, 20 16 between Owner(s) The Scenic Hudson Land Trust, Inc., (the "Grantor") having an office at One Civic Center Plaza, Suite 200, Poughkeepsie, New York 12601, County of Dutchess, State of New York, and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

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

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

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

WHEREAS, Grantor, is the owner of real property located at the address of 8 Long Dock Road in the City of Beacon, County of Dutchess and State of New York, known and designated on the tax map of the County Clerk of Dutchess as tax map parcel number: Section 5954 Block 32 Lot 481840, being a portion of the property conveyed to Grantor by deed dated October 10, 2010 and recorded in the Dutchess County Clerk's Office as Document #22000-9142. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.41 +/- acres, and is hereinafter more fully described in the Land Title Survey dated May 18, 2015 and last revised May 20, 2016 prepared by Jonathan J. Verderber, L.L.S. of Morris Associates, Engineering & Surveying Consultants, PLLC, which will be attached to the Site Management Plan. The Controlled Property descriptions are set forth in and attached hereto as Schedule A (Parcel 1); and

WHEREAS, Grantor, is the owner of real property located at the address of Long Dock Road in the City of Beacon, County of Dutchess and State of New York, known and designated on the tax map of the County Clerk of Dutchess as tax map parcel number: Section 5954 Block 32 Lot 537725, being a portion of the property conveyed to Grantor by deed dated April 24, 1997 and recorded in the Dutchess County Clerk's Office at Liber and Page 1993/126. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.30 +/- acres, and is hereinafter more fully described in the Land Title Survey dated May 18, 2015 and last revised May 20, 2016 prepared by Jonathan J. Verderber, L.L.S. of Morris Associates, Engineering & Surveying Consultants, PLLC, which will be attached to the Site Management Plan. The Controlled Property descriptions are set forth in and attached hereto as Schedule A (Parcel 3); and

WHEREAS, Grantor, is the owner of real property located at the address of 8 Long Dock Road in the City of Beacon, County of Dutchess and State of New York, known and designated on the tax map of the County Clerk of Dutchess as tax map parcel number: Section 5954 Block 32 Lot 481840, being a portion of the property conveyed to Grantor by deed dated October 10, 2010 and recorded in the Dutchess County Clerk's Office as Document #22000-9142. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.33 +/- acres, and is hereinafter more fully described in the Land Title Survey dated May 18, 2015 and last revised May 20, 2016 prepared by Jonathan J. Verderber, L.L.S. of Morris Associates, Engineering & Surveying Consultants, PLLC, which will be attached to the Site Management Plan. The Controlled Property descriptions are set forth in and attached hereto as Schedule A (Parcel 4); and

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

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: W3-1038-04-12 as amended July 20, 2012, 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 portion of the Controlled Property identified in Schedule A as "Parcels 1 and 3" 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), and the portion of the Controlled Property described in Schedule A as "Parcel 4" may be used for Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)**

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

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

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Dutchess 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 portion of the Controlled Property identified in Schedule A as "Parcels 1 and 3" shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), the portion of the Controlled Property identified in Schedule A herein as

"Parcel 4" shall not be used for Residential purposes as defined in 6 NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

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

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

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

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

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

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

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

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

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

(i) are in-place;

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

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

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

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

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

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

(7) the information presented is accurate and complete.

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

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

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

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

5. Enforcement

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

B. If any person violates this Environmental Easement, the Grantee may revoke the

Certificate of Completion with respect to the Controlled Property.

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

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

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

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

Parties shall address correspondence to:

Site Number: C314112
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

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

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

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

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

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

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

Remainder of Page Intentionally Left Blank

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

The Scenic Hudson Land Trust, Inc.:

By: _____

Print Name: Steve Rosenberg

Title: Executive Director, Date: 10/26/16
The Scenic Hudson Land Trust, Inc.

Grantor's Acknowledgment

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

On the 26th day of October, in the year 2016, before me, the undersigned, personally appeared Steve Rosenberg, 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.

Gail L. Krein-Clearwater
Notary Public - State of New York

GAIL L KREIN CLEARWATER
Notary Public, State of New York
No. 01KR6111621
Qualified in Ulster County
Commission Expires June 14, 2020

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

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

Grantee's Acknowledgment

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

On the 3rd day of November, in the year 2016, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

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

SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT PARCEL OF LAND SITUATE IN THE CITY OF BEACON, COUNTY OF DUTCHESS AND STATE OF NEW YORK BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

PARCEL 1
HEREIN DESCRIBED PARCEL IS FOR THE ENVIRONMENTAL & COMMERCIAL USE EASEMENT FOR THE SCENIC HUDSON LAND TRUST INC.

BEGINNING AT A POINT ON THE WESTERLY ROAD BOUNDARY OF RED FLYNN DRIVE, SAID POINT BEING THE DIVISION LINE BETWEEN LANDS OF NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 22000 PG. 9142) TO THE SOUTH AND THE LANDS NOW OR FORMERLY OF CITY OF BEACON (L.1186 PG. 13) TO THE NORTH; THENCE RUNNING WESTERLY ON THE AFOREMENTIONED DIVISION LINE NORTH 84°-55'-09" WEST, A DISTANCE OF 374.18 FEET TO THE POINT OF BEGINNING OF THE PARCEL HEREIN DESCRIBED;

THENCE TURNING SOUTHERLY ALONG THE DIVISION LINE BETWEEN PARCEL 1 & 4 THROUGH THE LAND OF THE AFOREMENTIONED SCENIC HUDSON PROPERTY, SOUTH 03°-39'-45" EAST, A DISTANCE OF 61.69 FEET TO A PONT AT THE SOUTHEASTERLY CORNER OF HEREIN DESCRIBED PARCEL; THENCE TURNING WESTERLY ALONG THE DIVISION LINE BETWEEN PARCEL 1 & 2 THROUGH THE AFOREMENTIONED SCENIC HUDSON PROPERTY THE FOLLOWING (3) THREE COURSES AND DISTANCES:

1. NORTH 81°-46'-11" WEST, A DISTANCE OF 479.95 FEET TO A POINT;
2. SOUTH 08°-14'-15" WEST, A DISTANCE OF 117.53 FEET TO A POINT;
3. NORTH 81°-45'-21" WEST, A DISTANCE OF 75.41 FEET TO A POINT AT THE SOUTHWESTERLY CORNER OF HEREIN DESCRIBED PARCEL; THENCE NORTHERLY AND EASTERLY ALONG THE LANDS NOW AND FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 2000 PG. 13) THE FOLLOWING (11) ELEVEN COURSES AND DISTANCES:

1. NORTH 00°-09'-52" EAST, A DISTANCE OF 10.80 FEET TO A POINT;
2. NORTH 88°-01'-32" EAST, A DISTANCE OF 11.34 FEET TO A POINT;
3. NORTH 02°-38'-43" EAST, A DISTANCE OF 45.15 FEET TO A POINT;
4. NORTH 36°-46'-55" EAST, A DISTANCE OF 54.57 FEET TO A POINT;
5. NORTH 74°-24'-36" EAST, A DISTANCE OF 51.17 FEET TO A POINT;
6. SOUTH 87°-10'-58" EAST, A DISTANCE OF 46.94 FEET TO A POINT;
7. SOUTH 85°-21'-36" EAST, A DISTANCE OF 54.58 FEET TO A POINT;
8. SOUTH 70°-18'-38" EAST, A DISTANCE OF 56.09 FEET TO A POINT;
9. SOUTH 85°-55'-40" EAST, A DISTANCE OF 23.16 FEET TO A POINT;
10. SOUTH 81°-59'-30" EAST, A DISTANCE OF 153.56 FEET TO A POINT;
11. NORTH 19°-44'-03" EAST, A DISTANCE OF 46.86 FEET TO A POINT AT THE NORTHWESTERLY CORNER OF THE HEREIN DESCRIBED PARCEL; THENCE EASTERLY ON THE AFOREMENTIONED DIVISION LINE BETWEEN CITY OF BEACON TO THE NORTH AND THE SCENIC HUDSON TRUST LAND INC. TO THE

SOUTH, SOUTH 84°-55'-09" EAST, A DISTANCE OF 122.54 FEET TO THE POINT OR PLACE OF BEGINNING.

CONTAINING 0.41 ACRES MORE OR LESS.

PARCEL 3
HEREIN DESCRIBED PARCEL IS FOR THE ENVIRONMENTAL & COMMERCIAL USE EASEMENT FOR THE SCENIC HUDSON LAND TRUST INC.

BEGINNING AT A POINT ON THE WESTERLY ROAD BOUNDARY OF RED FLYNN DRIVE, SAID POINT BEING THE DIVISION LINE BETWEEN LANDS OF NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 22000 PG. 9142) TO THE SOUTH AND THE LANDS NOW OR FORMERLY OF CITY OF BEACON (L.1186 PG. 13) TO THE NORTH; THENCE RUNNING SOUTHERLY ON THE WESTERLY ROAD BOUNDARY OF RED FLYNN DRIVE THE FOLLOWING (2) TWO COURSES AND DISTANCE:

1. SOUTH 07°-46'-49" EAST, A DISTANCE OF 183.98 FEET TO A POINT;
2. SOUTH 44°-34'-57" EAST, A DISTANCE OF 99.85 FEET TO A POINT; SAID POINT BEING ON THE DIVISION LINE LANDS NOW OR FORMERLY OF BEACON WATERFRONT, LLC (L. 22008 PG. 1052) TO THE NORTH AND THE LANDS NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 1993 PG. 126) TO THE SOUTH, THENCE TURNING WESTERLY ON THE AFOREMENTIONED DIVISION LINE SOUTH 85°-41'-40" WEST, A DISTANCE OF 428.51 FEET TO A POINT OF BEGINNING OF THE PARCEL HEREIN DESCRIBED;

THENCE RUNNING ALONG THE AFOREMENTIONED DIVISION LINE SOUTH 85°-41'-40" WEST, A DISTANCE OF 209.84 FEET TO A POINT; THENCE TURNING NORTHERLY ALONG THE DIVISION LINE BETWEEN PARCEL 3 & 2 THROUGH THE AFOREMENTIONED BEACON WATERFRONT PROPERTY THE FOLLOWING (3) THREE COURSES AND DISTANCES:

1. NORTH 06°-13'-06" EAST, A DISTANCE OF 92.42 FEET TO A POINT;
2. SOUTH 81°-45'-48" EAST, A DISTANCE OF 145.40 FEET TO A POINT;
3. SOUTH 45°-01'-33" EAST, A DISTANCE OF 78.23 FEET TO THE POINT OR PLACE OF BEGINNING.

CONTAINING 0.30 ACRES MORE OR LESS.

PARCEL 4

HEREIN DESCRIBED PARCEL IS FOR THE ENVIRONMENTAL & RESTRICTED RESIDENTIAL USE EASEMENT FOR THE SCENIC HUDSON LAND TRUST INC.

BEGINNING AT A POINT ON THE WESTERLY ROAD BOUNDARY OF RED FLYNN DRIVE, SAID POINT BEING THE DIVISION LINE BETWEEN LANDS OF NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 22000 PG. 9142) TO THE SOUTH AND THE LANDS NOW OR FORMERLY OF CITY OF BEACON (L.1186 PG. 13) TO THE NORTH; THENCE RUNNING WESTERLY ON THE AFOREMENTIONED DIVISION LINE NORTH 84°-55'-09" WEST, A DISTANCE OF 66.86 FEET TO A POINT OF BEGINNING OF THE PARCEL HEREIN DESCRIBED;

THENCE LEAVING THE AFOREMENTIONED DIVISION LINE TURNING SOUTHWESTERLY ALONG THE DIVISION LINE BETWEEN PARCEL 4 & 5 THROUGH THE AFOREMENTIONED SCENIC HUDSON PROPERTY THE FOLLOWING (4) FOUR COURSES AND DISTANCE:

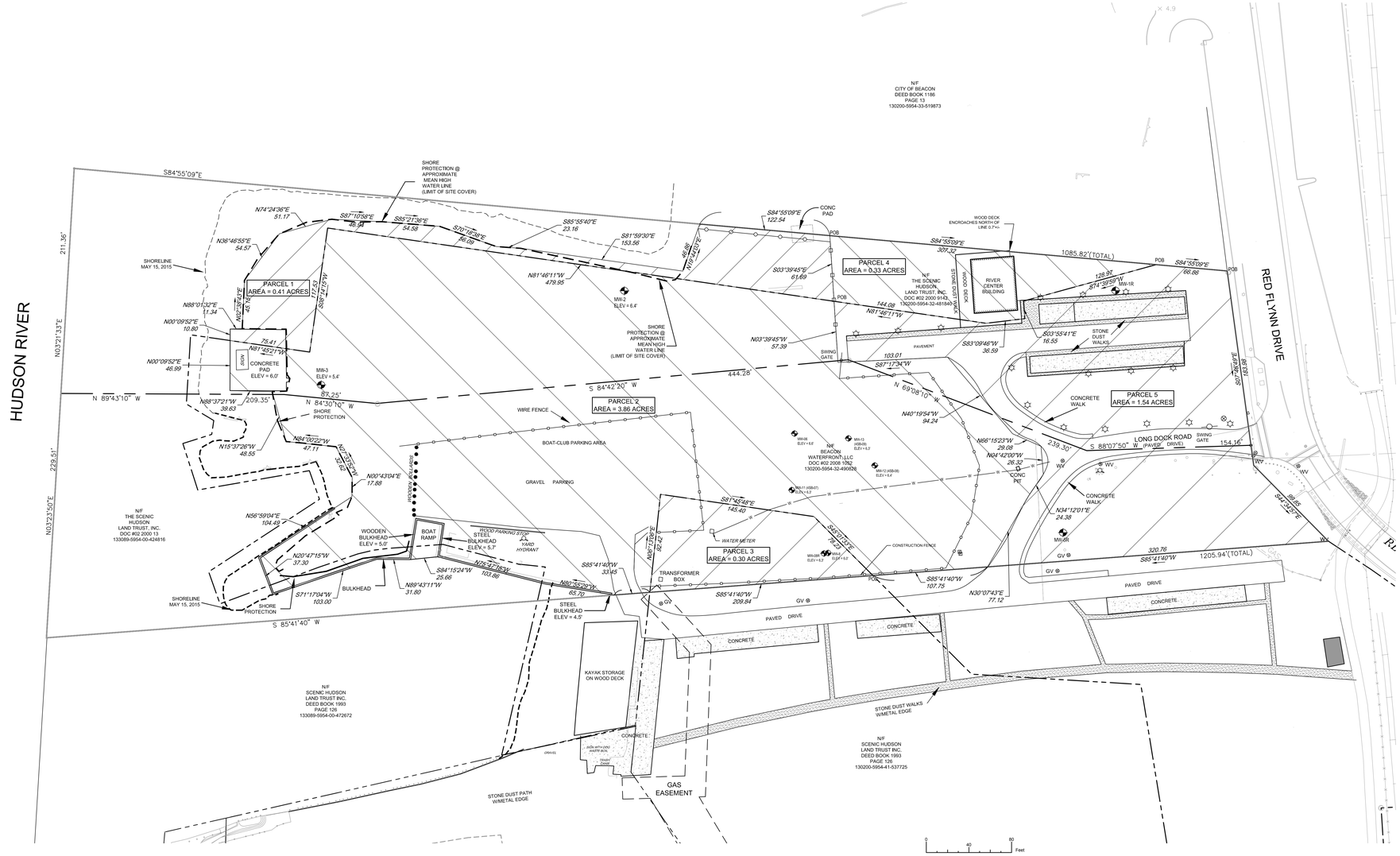
1. SOUTH 74°-39'-59" WEST, A DISTANCE OF 128.97 FEET TO A POINT;
2. SOUTH 03°-55'-41" EAST, A DISTANCE OF 16.55 FEET TO A POINT;
3. SOUTH 83°-09'-46" WEST, A DISTANCE OF 36.59 FEET TO A POINT;
4. NORTH 81°-46'-11" WEST, A DISTANCE OF 144.08 FEET TO A POINT; THENCE TURNING NORTHERLY ALONG THE DIVISION LINE BETWEEN PARCEL 4 & 1, NORTH 03°-39'-45" WEST, A DISTANCE OF 61.69 FEET TO A POINT; THENCE TURNING EASTERLY ALONG THE AFOREMENTIONED DIVISION LINE BETWEEN CITY OF BEACON TO THE NORTH AND THE SCENIC HUDSON PROPERTY TO THE SOUTH, SOUTH 84°-55'-09" EAST, A DISTANCE OF 307.32 FEET TO THE POINT OR PLACE OF BEGINNING.

CONTAINING 0.33 ACRES MORE OR LESS.

LIBER 8008 PAGE 13



VICINITY MAP 1:800



0 40 80 Feet

LEGEND

- PROPERTY BOUNDS
- OH OVERHEAD WIRES
- GUIDE RAIL
- CHAINLINK FENCE
- WIRE FENCE
- UTILITY POLE
- CATCH BASIN
- GUY
- NO EVIDENCE FOUND
- ROAD SIGN
- HYDRANT
- MONITORING WELL
- LIGHT POLE

PARCEL NUMBER	PERMITTED USES
1	COMMERCIAL
2	COMMERCIAL
3	COMMERCIAL
4	RESTRICTED RESIDENTIAL
5	RESTRICTED RESIDENTIAL

METES AND BOUNDS DESCRIPTION

ALL THAT PARCEL OF LAND SITUATE IN THE CITY OF BEACON, COUNTY OF DUTCHESS AND STATE OF NEW YORK BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

PARCEL 1

HEREIN DESCRIBED PARCEL IS FOR THE ENVIRONMENTAL & COMMERCIAL USE EASEMENT FOR THE SCENIC HUDSON LAND TRUST INC..

BEGINNING AT A POINT ON THE WESTERLY ROAD BOUNDARY OF RED FLYNN DRIVE, SAID POINT BEING THE DIVISION LINE BETWEEN LANDS OF NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 22000 PG. 9142) TO THE SOUTH AND THE LANDS NOW OR FORMERLY OF CITY OF BEACON (L.1186 PG. 13) TO THE NORTH; THENCE RUNNING WESTERLY ON THE AFOREMENTIONED DIVISION LINE NORTH 84 °-55'-09" WEST, A DISTANCE OF 374.18 FEET TO THE POINT OF BEGINNING OF THE PARCEL HEREIN DESCRIBED;

THENCE TURNING SOUTHERLY ALONG THE DIVISION LINE BETWEEN PARCEL 1 & 4 THROUGH THE LAND OF THE AFOREMENTIONED SCENIC HUDSON PROPERTY, SOUTH 03 °-39'-45" EAST, A DISTANCE OF 61.69 FEET TO A PONT AT THE SOUTHEASTERLY CORNER OF HEREIN DESCRIBED PARCEL; THENCE TURNING WESTERLY ALONG THE DIVISION LINE BETWEEN PARCEL 1 & 2 THROUGH THE AFOREMENTIONED SCENIC HUDSON PROPERTY THE FOLLOWING (3) THREE COURSES AND DISTANCES:

1. NORTH 81 °-46'-11" WEST, A DISTANCE OF 479.95 FEET TO A POINT;
2. SOUTH 08 °-14'-15" WEST, A DISTANCE OF 117.53 FEET TO A POINT;
3. NORTH 81 °-45'-21" WEST, A DISTANCE OF 75.41 FEET TO A POINT AT THE SOUTHWESTERLY CORNER OF HEREIN DESCRIBED PARCEL; THENCE NORTHERLY AND EASTERLY ALONG THE LANDS NOW AND FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 2000 PG. 13) THE FOLLOWING (11) ELEVEN COURSES AND DISTANCES:

1. NORTH 00 °-09'-52" EAST, A DISTANCE OF 10.80 FEET TO A POINT;
2. NORTH 88 °-01'-32" EAST, A DISTANCE OF 11.34 FEET TO A POINT;
3. NORTH 02 °-38'-43" EAST, A DISTANCE OF 45.15 FEET TO A POINT;
4. NORTH 36 °-46'-55" EAST, A DISTANCE OF 54.57 FEET TO A POINT;
5. NORTH 74 °-24'-36" EAST, A DISTANCE OF 51.17 FEET TO A POINT;
6. SOUTH 87 °-10'-58" EAST, A DISTANCE OF 46.94 FEET TO A POINT;
7. SOUTH 85 °-21'-36" EAST, A DISTANCE OF 54.58 FEET TO A POINT;
8. SOUTH 70 °-18'-38" EAST, A DISTANCE OF 56.09 FEET TO A POINT;
9. SOUTH 85 °-55'-40" EAST, A DISTANCE OF 23.16 FEET TO A POINT;
10. SOUTH 81 °-59'-30" EAST, A DISTANCE OF 153.56 FEET TO A POINT;
11. NORTH 19 °-44'-03" EAST, A DISTANCE OF 46.86 FEET TO A POINT AT THE NORTHWESTERLY CORNER OF THE HEREIN DESCRIBED PARCEL; THENCE EASTERLY ON THE AFOREMENTIONED DIVISION LINE BETWEEN CITY OF BEACON TO THE NORTH AND THE SCENIC HUDSON TRUST LAND INC. TO THE SOUTH, SOUTH 84 °-55'-09" EAST, A DISTANCE OF 122.54 FEET TO THE POINT OR PLACE OF BEGINNING.

CONTAINING 0.41 ACRES MORE OR LESS.

PARCEL 2

HEREIN DESCRIBED PARCEL IS FOR THE ENVIRONMENTAL & COMMERCIAL USE EASEMENT FOR THE BEACON WATERFRONT, LLC.

BEGINNING AT A POINT ON THE WESTERLY ROAD BOUNDARY OF RED FLYNN DRIVE, SAID POINT BEING THE DIVISION LINE BETWEEN LANDS OF NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 22000 PG. 9142) TO THE SOUTH AND THE LANDS NOW OR FORMERLY OF CITY OF BEACON (L.1186 PG. 13) TO THE NORTH; THENCE RUNNING SOUTHERLY ON THE AFOREMENTIONED DIVISION LINE NORTH 84 °-55'-09" WEST, A DISTANCE OF 374.18 FEET TO A POINT; THENCE LEAVING THE AFOREMENTIONED DIVISION LINE TURNING SOUTHERLY ON THE DIVISION LINE BETWEEN PARCEL 1 & 4 SOUTH 03 °-39'-45" EAST, A DISTANCE OF 61.69 FEET TO THE POINT OF BEGINNING OF THE PARCEL HEREIN DESCRIBED;

THENCE RUNNING SOUTHERLY ALONG THE DIVISION LINE BETWEEN PARCEL 2 & 5 THROUGH THE AFOREMENTIONED SCENIC HUDSON PROPERTY AND THE LANDS NOW OR FORMERLY BEACON WATERFRONT, LLC (L. 22008, PG. 1052) THE FOLLOWING (7) SEVEN COURSES AND DISTANCES:

1. SOUTH 03 °-39'-45" EAST, A DISTANCE OF 57.39 FEET TO A POINT;
2. NORTH 87 °-17'-34" EAST, A DISTANCE OF 103.01 FEET TO A POINT;
3. SOUTH 40 °-19'-54" EAST, A DISTANCE OF 94.24 FEET TO A POINT;
4. SOUTH 66 °-15'-23" EAST, A DISTANCE OF 29.08 FEET TO A POINT;
5. SOUTH 04 °-42'-00"EAST, A DISTANCE OF 26.32 FEET TO A POINT;
6. SOUTH 34 °-12'-01" WEST, A DISTANCE OF 24.38 FEET TO A POINT;
7. SOUTH 30 °-07'-43" WEST, A DISTANCE OF 77.12 FEET TO A POINT AT THE SOUTHEASTERLY CORNER OF THE HEREIN DESCRIBED PARCEL; THENCE TURNING WESTERLY ON THE DIVISION LINE OF THE AFOREMENTIONED BEACON WATERFRONT PROPERTY TO THE NORTH AND THE LANDS NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 1993 PG. 126) TO THE SOUTH, SOUTH 85 °-41'-40" WEST, A DISTANCE OF 107.75 FEET TO A POINT; THENCE RUNNING ALONG THE DIVISION LINE BETWEEN PARCEL 2 & 3 THROUGH THE AFOREMENTIONED BEACON WATERFRONT PROPERTY THE FOLLOWING (3) THREE COURSES AND DISTANCE:

1. NORTH 45 °-01'-33" WEST, A DISTANCE OF 78.23 FEET TO A POINT;
2. NORTH 81 °-45'-48" WEST, A DISTANCE OF 145.40 FEET TO A POINT;
3. SOUTH 06 °-13'-06" WEST, A DISTANCE OF 92.42 FEET TO A POINT; THENCE RUNNING WESTERLY AND NORTHERLY THROUGH THE AFOREMENTIONED BEACON WATERFRONT PROPERTY AND THE SCENIC HUDSON PROPERTY (L. 22000 PG. 9142) THE FOLLOWING (14) FOURTEEN COURSES AND DISTANCE:

1. SOUTH 85 °-41'-40" WEST, A DISTANCE OF 33.45 FEET TO A POINT;
2. NORTH 80 °-55'-29" WEST, A DISTANCE OF 65.70 FEET TO A POINT;
3. NORTH 75 °-47'-18" WEST, A DISTANCE OF 103.86 FEET TO A POINT;
4. SOUTH 84 °-15'-24" WEST, A DISTANCE OF 25.66 FEET TO A POINT;
5. NORTH 89 °-43'-11" WEST, A DISTANCE OF 31.80 FEET TO A POINT;
6. SOUTH 71 °-17'-04" WEST, A DISTANCE OF 103.00 FEET TO A POINT;
7. NORTH 20 °-47'-15" WEST, A DISTANCE OF 37.30 FEET TO A POINT;
8. NORTH 56 °-59'-04" EAST, A DISTANCE OF 104.49 FEET TO A POINT;
9. NORTH 00 °-43'-04" EAST, A DISTANCE OF 17.88 FEET TO A POINT;
10. NORTH 27 °-33'-52" WEST, A DISTANCE OF 32.62 FEET TO A POINT;
11. NORTH 84 °-00'-22" WEST, A DISTANCE OF 47.11 FEET TO A POINT;
12. NORTH 15 °-37'-26" WEST, A DISTANCE OF 48.55 FEET TO A POINT;
13. NORTH 88 °-37'-21" WEST, A DISTANCE OF 39.63 FEET TO A POINT;
14. NORTH 00 °-09'-52" EAST, A DISTANCE OF 46.99 FEET TO A POINT AT THE NORTHWESTERLY CORNER OF THE HEREIN DESCRIBE PARCEL; THENCE TURNING EASTERLY ALONG THE DIVISION LINE BETWEEN PARCEL 2 & 1 THROUGH THE AFOREMENTIONED SCENIC HUDSON PROPERTY THE FOLLOWING (3) THREE COURSES AND DISTANCES:

1. SOUTH 81 °-45'-21" EAST, A DISTANCE OF 75.41 FEET TO A POINT;
2. NORTH 08 °-14'-15" EAST, A DISTANCE OF 117.53 FEET TO A POINT;
3. SOUTH 81 °-46'-11" EAST, A DISTANCE OF 479.95 FEET TO THE POINT OR PLACE OF BEGINNING.

CONTAINING 3.86 ACRES MORE OR LESS.

PARCEL 3

HEREIN DESCRIBED PARCEL IS FOR THE ENVIRONMENTAL & COMMERCIAL USE EASEMENT FOR THE SCENIC HUDSON LAND TRUST INC..

BEGINNING AT A POINT ON THE WESTERLY ROAD BOUNDARY OF RED FLYNN DRIVE, SAID POINT BEING THE DIVISION LINE BETWEEN LANDS OF NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 22000 PG. 9142) TO THE SOUTH AND THE LANDS NOW OR FORMERLY OF CITY OF BEACON (L.1186 PG. 13) TO THE NORTH; THENCE RUNNING SOUTHERLY ON THE AFOREMENTIONED DIVISION LINE NORTH 84 °-55'-09" WEST, A DISTANCE OF 374.18 FEET TO A POINT; THENCE LEAVING THE AFOREMENTIONED DIVISION LINE TURNING SOUTHERLY ON THE DIVISION LINE BETWEEN PARCEL 1 & 4 SOUTH 03 °-39'-45" EAST, A DISTANCE OF 61.69 FEET TO THE POINT OF BEGINNING OF THE PARCEL HEREIN DESCRIBED;

THENCE RUNNING SOUTHERLY ALONG THE DIVISION LINE BETWEEN PARCEL 2 & 5 THROUGH THE AFOREMENTIONED SCENIC HUDSON PROPERTY AND THE LANDS NOW OR FORMERLY BEACON WATERFRONT, LLC (L. 22008, PG. 1052) THE FOLLOWING (7) SEVEN COURSES AND DISTANCES:

1. SOUTH 03 °-39'-45" EAST, A DISTANCE OF 57.39 FEET TO A POINT;
2. NORTH 87 °-17'-34" EAST, A DISTANCE OF 103.01 FEET TO A POINT;
3. SOUTH 40 °-19'-54" EAST, A DISTANCE OF 94.24 FEET TO A POINT;
4. SOUTH 66 °-15'-23" EAST, A DISTANCE OF 29.08 FEET TO A POINT;
5. SOUTH 04 °-42'-00"EAST, A DISTANCE OF 26.32 FEET TO A POINT;
6. SOUTH 34 °-12'-01" WEST, A DISTANCE OF 24.38 FEET TO A POINT;
7. SOUTH 30 °-07'-43" WEST, A DISTANCE OF 77.12 FEET TO A POINT AT THE SOUTHEASTERLY CORNER OF THE HEREIN DESCRIBED PARCEL; THENCE TURNING WESTERLY ON THE DIVISION LINE OF THE AFOREMENTIONED BEACON WATERFRONT PROPERTY TO THE NORTH AND THE LANDS NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 1993 PG. 126) TO THE SOUTH, SOUTH 85 °-41'-40" WEST, A DISTANCE OF 107.75 FEET TO A POINT; THENCE RUNNING ALONG THE DIVISION LINE BETWEEN PARCEL 2 & 3 THROUGH THE AFOREMENTIONED BEACON WATERFRONT PROPERTY THE FOLLOWING (3) THREE COURSES AND DISTANCES:

1. NORTH 45 °-01'-33" WEST, A DISTANCE OF 78.23 FEET TO A POINT;
2. NORTH 81 °-45'-48" WEST, A DISTANCE OF 145.40 FEET TO A POINT;
3. SOUTH 06 °-13'-06" WEST, A DISTANCE OF 92.42 FEET TO A POINT;

CONTAINING 0.30 ACRES MORE OR LESS.

PARCEL 4

HEREIN DESCRIBED PARCEL IS FOR THE ENVIRONMENTAL & RESTRICTED RESIDENTIAL USE EASEMENT FOR THE SCENIC HUDSON LAND TRUST INC..

BEGINNING AT A POINT ON THE WESTERLY ROAD BOUNDARY OF RED FLYNN DRIVE, SAID POINT BEING THE DIVISION LINE BETWEEN LANDS OF NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 22000 PG. 9142) TO THE SOUTH AND THE LANDS NOW OR FORMERLY OF CITY OF BEACON (L.1186 PG. 13) TO THE NORTH; THENCE RUNNING WESTERLY ON THE AFOREMENTIONED DIVISION LINE NORTH 84 °-55'-09" WEST, A DISTANCE OF 66.86 FEET TO A POINT OF BEGINNING OF THE PARCEL HEREIN DESCRIBED;

THENCE LEAVING THE AFOREMENTIONED DIVISION LINE TURNING SOUTHWESTERLY ALONG THE DIVISION LINE BETWEEN PARCEL 4 & 5 THROUGH THE AFOREMENTIONED SCENIC HUDSON PROPERTY THE FOLLOWING (4) FOUR COURSES AND DISTANCE:

1. SOUTH 74 °-39'-59" WEST, A DISTANCE OF 128.97 FEET TO A POINT;
2. SOUTH 03 °-55'-41" EAST, A DISTANCE OF 16.55 FEET TO A POINT;
3. SOUTH 83 °-09'-46" WEST, A DISTANCE OF 36.59 FEET TO A POINT;
4. NORTH 81 °-46'-11" WEST, A DISTANCE OF 144.08 FEET TO A POINT; THENCE TURNING NORTHERLY ALONG THE DIVISION LINE BETWEEN PARCEL 4 & 1, NORTH 03 °-39'-45" WEST, A DISTANCE OF 61.69 FEET TO A POINT; THENCE TURNING EASTERLY ALONG THE AFOREMENTIONED DIVISION LINE BETWEEN CITY OF BEACON TO THE NORTH AND THE SCENIC HUDSON PROPERTY TO THE SOUTH, SOUTH 84 °-55'-09" EAST, A DISTANCE OF 307.32 FEET TO THE POINT OR PLACE OF BEGINNING.

CONTAINING 0.33 ACRES MORE OR LESS.

PARCEL 5

HEREIN DESCRIBED PARCEL IS FOR THE ENVIRONMENTAL & RESTRICTED RESIDENTIAL USE EASEMENT FOR BEACON WATERFRONT, LLC.

BEGINNING AT A POINT ON THE WESTERLY ROAD BOUNDARY OF RED FLYNN DRIVE, SAID POINT BEING THE DIVISION LINE BETWEEN LANDS OF NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 22000 PG. 9142) TO THE SOUTH AND THE LANDS NOW OR FORMERLY OF CITY OF BEACON (L.1186 PG. 13) TO THE NORTH; THENCE RUNNING SOUTHERLY ALONG THE WESTERLY ROAD LINE OF RED FLYNN DRIVE THE FOLLOWING (2) TWO COURSES AND DISTANCES:

1. SOUTH 07 °-46'-49" EAST, A DISTANCE OF 183.98 FEET TO A POINT;
2. SOUTH 44 °-34'-57" EAST, A DISTANCE OF 99.85 FEET TO A POINT; SAID POINT BEING THE DIVISION LINE LANDS NOW OR FORMERLY OF BEACON WATERFRONT, LLC (L. 22008 PG. 1052) TO THE NORTH AND LANDS NOW OR FORMERLY OF THE SCENIC HUDSON LAND TRUST INC. (L. 1993 PG.126) TO THE SOUTH; THENCE TURNING WESTERLY ON THE AFOREMENTIONED DIVISION LINE SOUTH 85 °-41'-40" WEST, A DISTANCE OF 320.76 FEET TO A POINT AT THE SOUTHWESTERLY CORNER OF HEREIN DESCRIBED PARCEL; THENCE TURNING NORTHERLY LEAVING AFOREMENTIONED DIVISION LINE ALONG THE DIVISON LINE BETWEEN PARCEL 5 & 2 THROUGH THE AFOREMENTIONED LANDS OF BEACON WATERFRONT, LLC AND THE SCENIC HUDSON PROPERTY THE FOLLOWING (7) SEVEN COURSES AND DISTANCES:

1. NORTH 30 °-07'-43" EAST, A DISTANCE OF 77.12 FEET TO A POINT;
2. NORTH 34 °-12'-01" EAST, A DISTANCE OF 24.38 FEET TO A POINT;
3. NORTH 04 °-42'-00" WEST, A DISTANCE OF 26.32 FEET TO A POINT;
4. NORTH 66 °-15'-23" WEST, A DISTANCE OF 29.08 FEET TO A POINT;
5. NORTH 40 °-19'-54" WEST, A DISTANCE OF 94.24 FEET TO A POINT;
6. SOUTH 87 °-17'-34" WEST, A DISTANCE OF 103.01 FEET TO A POINT;
7. NORTH 03 °-39'-45" WEST, A DISTANCE OF 57.39 FEET TO A POINT AT THE NORTHWESTERLY CORNER OF THE HEREIN DESCRIBED PARCEL; THENCE TURNING EASTERLY THE FOLLOWING (4) FOUR COURSES AND DISTANCES:

1. SOUTH 81 °-46'-11" EAST, A DISTANCE OF 144.08 FEET TO A POINT;
2. NORTH 83 °-09'-46" EAST, A DISTANCE OF 36.59 FEET TO A POINT;
3. NORTH 03 °-55'-41" WEST, A DISTANCE OF 16.55 FEET TO A POINT;
4. NORTH 74 °-39'-59" EAST, A DISTANCE OF 128.97 FEET TO A POINT; SAID POINT BEING ON THE AFOREMENTIONED DIVISION LINE BETWEEN CITY OF BEACON TO THE NORTH AND THE SCENIC HUDSON LAND TRUST, INC. TO THE SOUTH; THENCE RUNNING ALONG THE SAID DIVISION LINE SOUTH 84 °-55'-09" EAST, A DISTANCE OF 66.86 FEET TO THE POINT OR PLACE OF BEGINNING.

CONTAINING 1.54 ACRES MORE OR LESS.

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 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@gw.dec.state.ny.us

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

ONLY COPIES OF THE ORIGINAL OF THIS SURVEY MAP MARKED WITH AN ORIGINAL OF THE LAND SURVEYOR'S INKED SEAL OR HIS EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

IT IS HEREBY CERTIFIED THAT THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE EXISTING CODE OF PRACTICE FOR LAND SURVEYORS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS.

CERTIFICATIONS INDICATED HEREON SIGNIFY THAT THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE EXISTING CODE OF PRACTICE FOR LAND SURVEYORS. SAID CERTIFICATIONS SHALL RUN ONLY TO THE PERSON FOR WHOM THE SURVEY IS PREPARED, AND ON HIS BEHALF TO THE TITLE COMPANY, LENDING INSTITUTION, AND THE GOVERNMENTAL AGENCY LISTED HEREON, AND TO THE ASSIGNEES OF THE LENDING INSTITUTION. CERTIFICATIONS ARE NON TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.

SURVEYED AS PER MAPS AND DEEDS OF RECORD AND AS IN INDICATED POSSESSION ON OR BEFORE MAY 15, 2015.

THIS SURVEY WAS PREPARED WITHOUT BENEFIT OF AN ABSTRACT OF TITLE REPORT AND IS SUBJECT TO WHATEVER STATE OF FACTS SUCH A REPORT MAY REVEAL.

CERTIFIED TO:

- NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
-SCENIC HUDSON LAND TRUST, INC.
-BEACON WATERFRONT, LLC

No.	REVISION OF ENVIROMENTAL CONSERVATION EASEMENTS	5/20/2016	KS
REV. No.	DESCRIPTION	DATE	BY

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER THESE PLANS, SPECIFICATIONS OR REPORTS IN ANY WAY, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL LAND SURVEYOR.

23 LONG DOCK ROAD
LONG DOCK PARK

CITY OF BEACON — **DUTCHESS COUNTY, NY**

NYSDEC BCP SITE ID:C314112
ENVIRONMENTAL EASEMENT MAP

MORRIS ASSOCIATES, PLLC
ENGINEERING & SURVEYING CONSULTANTS
9 Elks Lane, Poughkeepsie, New York 12601
Phone No. (845) 454-3411 Fax No. (845) 473-1962
64 Green Street - Suite 1, Hudson, New York 12534
Phone No. (518) 828-2300 Fax No. (518) 828-3963

DATE	SCALE	DESIGNED BY: JJV	FILE No.	DRAWING NO.
5/18/15	1"=40'	DRAWN BY: JJV	212015	1 OF 1
		CHECKED BY: JJV		

SRVY

H:\SDSK\PROJ\212015 LONG DOCK\DWG\212015SVY.DWG Jul 06, 2016 - 2:45pm

Dutchess County Clerk
22 Market Street
Poughkeepsie, NY 12601
(845) 486-2134
www.dutchessny.gov/countyclerk

Receipt #: 42500 **Date:** 12/20/2016 1:51 PM **Batch #:** 278
Received From: SNEERINGER MONAHAN PROVOST REDGRAVE **User:** cha

Payment Type	Amount	Card Holder
Check # 207132	$220.00	
Payment Total:	**$220.00**	

Account # - Description	Cost Per Unit	Quantity	Amount
1 - Deed	Instrument Type: EASE		
Document #: 02-2016-9041	Municipality: City of Beacon		
010 - Record Deeds - Page Fee	$5.00	13	$65.00
010 - Record Deeds - Cover Page	$25.00	1	$25.00
030 - Reference	$0.00	1	$0.00
070 - Records Mgmt - Local Fee	$1.00	1	$1.00
504 - Records Mgmt - State Fee	$4.75	1	$4.75
511 - Cultural Ed - State Fee	$14.25	1	$14.25
		Item Total:	**$110.00**

Grantor: SCENIC HUDSON LAND TRUST INC
Grantee: NYS DEPT OF ENVIRONMENTAL CONSERVATION

2 - Transfer Tax	Transfer Tax #: 3331		
Document #: 02-2016-9041	Municipality: City of Beacon		
290 - Real Estate Transfer Tax	$0.00	1	$0.00
291 - Mansion Tax	$0.00	1	$0.00
		Item Total:	**$0.00**

3 - TP584			
Document #: 02-2016-9041	Municipality: City of Beacon		
030 - Affidavit	$5.00	1	$5.00
		Item Total:	**$5.00**

4 - Deed	Instrument Type: EASE		
Document #: 02-2016-9042	Municipality: City of Beacon		
010 - Record Deeds - Page Fee	$5.00	11	$55.00
010 - Record Deeds - Cover Page	$25.00	1	$25.00
030 - Reference	$0.00	1	$0.00
070 - Records Mgmt - Local Fee	$1.00	1	$1.00
504 - Records Mgmt - State Fee	$4.75	1	$4.75
511 - Cultural Ed - State Fee	$14.25	1	$14.25
		Item Total:	**$100.00**

Grantor: BEACON WATERFRONT LLC
Grantee: NYS DEPT ENVIRONMENTAL CONSERVATION

Dutchess County Clerk
22 Market Street
Poughkeepsie, NY 12601
(845) 486-2134
www.dutchessny.gov/countyclerk

Receipt #: 42500 **Date:** 12/20/2016 1:51 PM **Batch #:** 278
Received From: SNEERINGER MONAHAN PROVOST REDGRAVE **User:** cha

Account # - Description	Cost Per Unit	Quantity	Amount
5 - Transfer Tax	Transfer Tax #: 3332		
Document #: 02-2016-9042	Municipality: City of Beacon		
290 - Real Estate Transfer Tax	$0.00	1	$0.00
291 - Mansion Tax	$0.00	1	$0.00
		Item Total:	**$0.00**
6 - TP584			
Document #: 02-2016-9042	Municipality: City of Beacon		
030 - Affidavit	$5.00	1	$5.00
		Item Total:	**$5.00**

APPENDIX F
FIELDWORK STANDARD OPERATING PROCEDURES (SOPs)

Ecosystems Strategies, Inc.
24 Davis Avenue, Poughkeepsie, NY 12603
phone 845.452.1658 | fax 845.485.7083 | ecosystemsstrategies.com

STANDARD OPERATING PROCEDURES

Field Equipment Decontamination

1.0 Objectives

The objective of this standard operating procedure (SOP) is to establish consistent methods to reduce or eliminate: a) contamination and cross-contamination of environmental samples by sample equipment, other samples or personnel, and b) health and environmental risk caused by the spread of contaminants.

Decontamination will occur any time a sampling tool or instrument used in field investigations contacts sampled media or personnel using the equipment. This procedure will be used in conjunction with all non-dedicated (i.e. reusable) equipment used during the handling, sampling or measuring of environmental media. These procedures will be implemented primarily on-site at the point of use or at a designated equipment decontamination station at the project site. Examples of equipment usually requiring decontamination include pumps, depth gauges, hand augers, macro-core sampling barrels and other related equipment used for the collection of samples or the measurement of field parameters.

2.0 Required Materials

The equipment and supplies required for this SOP include the following:

- Plastic sheeting for the decontamination area
- Properly labeled drums to hold waste decontamination solutions and expendable supplies
- Plastic bags and/or aluminum foil to keep decontaminated equipment clean until the next use
- Gloves, aprons, safety glasses, and any other PPE required in the Site HASP
- Disposable towels and wipes
- Clean buckets or tubs to hold wash and rinse solutions, of a size appropriate to the equipment to be decontaminated
- Long-handled brushes for scrubbing and flat-bladed scrapers
- Dispensing bottles
- Tap water
- Deionized or distilled water (grade determined by project requirements)
- Non-phosphate detergent such as Alconox or Liqui-Nox
- Methanol, nitric acid, etc. as required by the project work plan or quality assurance plan

Some Work Plans may include additional equipment rinses based on the contaminants being investigated. Examples of this are 0.1N nitric acid when cross-contamination from metals is a concern, and solvents such as methanol, isopropanol, or hexane, when cross-contamination from organics is a concern. If these are required, labeled inert dispensing bottles and Material Safety Data Sheets (MSDS) for these rinses will be filed on site.

3.0 Methods

A decontamination station will be established for small equipment decontamination and PPE decontamination, either in the contaminant reduction zone or at the sampling location or well (if contamination zones are not established). A separate station may be utilized in close proximity to any mechanized apparatus, as practical, for the decontamination of relatively large or heavy equipment such as Geoprobe macro-core barrels and metal rods. Containers with cleaning solutions and clean buckets or tubs (5 gallon buckets are most common) will be used for this station. Containers and buckets will be placed on plastic sheeting to prevent spillage to the ground, and to help keep the decontamination area and equipment as clean as possible.

Decontamination procedures (scrapping, brushing, washing and rinsing) will be performed over buckets in order to catch all scrapings and spent rinsate. In conjunction with this procedure, pre-rinsing with water (as warranted) and/or cleaning with a detergent/water mixture may be accomplished by immersion within a clean bucket containing the cleaning solution (overflow due to submersion should be avoided). The buckets will not be allowed to accumulate waste liquids above three quarters of their capacity.

The decontamination sequence will be as follows (not all steps apply):

- Scrape, brush and wipe as warranted to removed bulk materials
- Pre-rinse with water
- Brush and/or rinse with a detergent/tap water mixture (e.g., Alconox or Liqui-Nox, made up as directed by the manufacturer)
- Rinse with tap water to remove soap residue
- Rinse with 2% nitric acid solution (if required, depending on work plan), followed by tap water
- Rinse with methanol or hexane (if required, depending on work plan) followed by tap water
- Final rinse with deionized or distilled water
- Allow to air dry on clean plastic or foil
- Cover dry equipment to keep clean

Submersible pumps may be allowed to run fully submerged in water and detergent/water mixes in order to clean and rinse all internal parts (care must be taken to avoid accidental discharge of water outside of the container).

Disposable gloves will be worn during all decontamination procedures (gloves will be changed frequently). All disposable supplies (gloves, towels, absorbent pads, etc.) will be placed into heavy-duty plastic garbage bags.

4.0 Disposal of Waste from Decontamination Procedures

All waste (solid and liquid) generated during decontamination will be handled and stored (as necessary) in accordance with provisions of the applicable site-specific Work Plan. If not otherwise specified, any materials remaining on-site will be placed into appropriate containers (e.g., approved drums) that are properly labeled and secured. Any materials that may be disposed as municipal wastes (e.g., garbage bags with minimally impacted gloves and towels) will be removed from the site daily.

Ecosystems Strategies, Inc.
24 Davis Avenue, Poughkeepsie, NY 12603
phone 845.452.1658 | fax 845.485.7083 | ecosystemsstrategies.com

STANDARD OPERATING PROCEDURES

Monitoring Well Installation, Development and Sampling

1.0 Monitoring Well Installation

Bore holes for the installation of monitoring wells will be extended with mechanized equipment, preferentially using direct push technology (DPT). The small size of DPT rigs allows for well installation in tight spaces and areas that are sensitive to the use of heavy equipment. DPT can be used for installation of monitoring wells in overburden soils where the soil texture allows for direct push of sampling equipment. A hollow stem auger (HSA) rig will be utilized if significant subsurface obstructions are encountered (e.g., large cobbles, boulders, concrete, etc).

The DPT rig will utilize a 4" macro-core sampling barrel, resulting in a 4" borehole. Soil sampling will be conducted during well installation, resulting in removal of soil. If utilized, the HSA rig will use a continuous hollow stem auger with a bit on the bottom and split-spoon or Shelby tube samplers. This system drives the drill cuttings to the surface as drilling progresses.

The well casing, filter pack and seal are installed inside the sampling barrel or auger, which will be withdrawn slightly ahead of backfilling as filter pack and sealant are added.

Monitoring wells will be constructed of two-inch PVC casing with a ten-foot length of 0.01-inch slotted PVC well screening across the water table. No glue will be used to thread the casing lengths. The wells will be constructed such that a minimum of 2.0 foot of screening will extend above the water table and approximately 8.0 feet of screening will extend below the water table. Attached is a well installation detail for an existing monitoring well in the proposed work area at the project site (see Figure 1 – Monitoring Well MW-08 Installation Detail).

The annular space between the well screen and the borehole will be backfilled with clean #1 silica sand to one foot above the well screen, with the remaining upper portion of the borehole sealed with one foot of hydrated bentonite above the sand pack followed by concrete grout extending to the surface. A locked cap will be installed at the top of the PVC riser and the well will be protected by a concrete collar and secure "drive-over" metal cover. The elevation of the top of the PVC well riser will be determined relative to a permanent on-site marker using a surveyor's transit. Monitoring well location and relative elevation will be recorded in field logs and indicated on all fieldwork maps.

A licensed subcontractor will be utilized for all well installation activities and equipment will be selected based on anticipated subsurface conditions. All field activities will be executed in accordance with manufacturers' operating manuals and specifications.

2.0 General Fieldwork Methodology

Fieldwork at monitoring wells will begin at the potentially least contaminated well (as determined from well location and/or previous data) and proceed to the potentially most contaminated well. All field observations and relevant notes will be recorded in the field logbook and/or groundwater sampling logs. Basic climatological data (e.g., temperature, precipitation, etc.) will be noted. New disposable nitrile gloves will be worn by the sampler at each well location (gloves will be changed frequently, as required by field conditions).

The field technician will check and record the condition of the monitoring well for damage or evidence of tampering and will lay out polyethylene sheeting around the well to minimize the likelihood of contamination of sampling/purging equipment from the soil. All monitoring, purging and sampling equipment will be placed on the sheeting.

The headspace of the monitoring well at the rim of the casing will be monitored for volatile organic compounds (VOC) with a photo-ionization detector (PID) and results recorded in the logbook.

Depth to water will be measured to nearest 0.01 feet (relative to a reference measuring point on the well casing) with an electronic water level indicator and recorded in the logbook or ground-water sampling log. If no pre-existing reference point is found, a reference point will be marked on the inner casing and noted in the field logbook. A second depth to water measurement will be taken to confirm the initial measurement. The water level meter will be decontaminated after gauging each well.

3.0 Monitoring Well Development

The wells will be developed approximately one week following installation. The wells will be developed with a properly decontaminated mechanical pump and dedicated polyethylene tubing in order to clear fine-grained material that may have settled around the well screen and to enhance the natural hydraulic connection between the well screen and the surrounding soils. Well development will begin at the top of the saturated portion of the screened interval to prevent clogging of the pump within the well casing. The submersible pump will be utilized as a surge block, and be repeatedly raised and lowered through an interval of several feet to drive water through the well screen. The process will be repeated over intervals descending from the top to the bottom of the well.

The wells will be developed until the discharge water is free of obvious sediment. A Horiba U-50 series water quality analyzer with flow-through cell (or similar equipment) will then be used to measure field indicator parameters (pH, temperature, turbidity, dissolved oxygen, and specific conductivity); well development will be considered complete once indicator parameters have stabilized and the turbidity of the discharged water is below 50 NTUs. Upon completion, the pump assembly will be removed from the well while the pump is still running to avoid discharge of purged water back into the well. All development water will be securely stored on-site pending the analytical results of groundwater sampling.

4.0 Groundwater Sampling Methodology

All site monitoring wells will be sampled using USEPA Low-Stress (a/k/a Low-Flow) purging methodology.

4.1 Low-Stress Purging of Monitoring Wells

Low-stress purging of wells will be accomplished using a variable-speed, low-flow sampling pump and polyethylene tubing. Dedicated disposable tubing will be used at each monitoring well to eliminate the potential for cross contamination. A non-submersible peristaltic pump may be utilized for wells of approximately 25 feet deep or less. If a submersible pump is utilized for deeper wells, the pump will be gently lowered into the well in order to not disturb any sediments at the well bottom. The bottom of the sampling tubing (or intake of the submersible pump) will be placed approximately 2-3 feet above the bottom of the screened interval.

Collection tubing from the well will be attached to a Horiba U-50 series water quality analyzer with flow-through cell (or similar equipment). The pump will be started and the well will be pumped at a rate of 100 to 200 milliliters per minute. Flow rate will be determined by directing the discharge from the flow-through cell into a graduated 500 ml (minimum) cylinder and adjusting the pump rate as required. The water level will be measured before the pump is started and every five minutes thereafter to ensure that stabilization (drawdown of 0.3' or less) is achieved.

The water quality analyzer will be used during pumping to measure field indicator parameters (i.e. turbidity, temperature, specific conductance, pH, redox potential, and dissolved oxygen), which will be monitored and recorded approximately every five minutes.

The well will be considered stabilized when the following indicator parameters have stabilized for three consecutive readings, in accordance with the following USEPA criteria:

Parameter	Stabilization Criteria
pH	+/- 0.1
Specific Electrical Conductance (SEC)	+/- 3%
Oxidation-Reduction Potential (ORP)	+/- 10 millivolts
Turbidity	+/- 10% (when turbidity $\geq$ 10 NTUs)
Dissolved Oxygen (DO)	+/- 0.3 milligrams per liter

4.2 Groundwater Sample Collection

Sampling will occur following stabilization of water quality parameters. The post-pump tubing will be disconnected from the flow-through cell and a gentle flow of water from the tubing will be directed into the sample container(s). The tube will be disconnected, and sample containers will be filled, over a bucket and/or absorbent materials, in order to minimize any water releases to the ground.

All groundwater samples will be collected in a manner consistent with NYSDEC sample collection protocols and in accordance with the Quality Assurance Project Plan (QAPP). Each groundwater sample will be placed into appropriately labeled containers provided by the laboratory. Samples will be placed in a sample cooler that is maintained at 4 (+/-2) °C and be maintained under proper chain of custody.

The protective cap on the well will be replaced and locked following sampling, and the field sampling crew will move to the presumed next most contaminated well and the process will be repeated.

All samples will be shipped via overnight delivery upon the completion of each day of sample collection activities, or be transferred via courier the following day, to a NYSDOH ELAP certified laboratory. Laboratory personnel will record the cooler temperature upon receipt and analyze the samples prior to the expiration of the hold times as specified in the NYSDEC Analytical Service Protocol.

5.0 Decontamination of Equipment

The water level meter (and submersible pump, if used) will be decontaminated prior to the start of fieldwork and after each monitoring well sampling event, in accordance with the SOP for Field Equipment Decontamination. Water quality field parameter sensors and the flow-through cell will be cleaned

between sampling locations in accordance with the manufacturer's recommendations (anticipated to consist of sequential rinsing with an Alconox solution followed by distilled water).

6.0 Disposal of Wastes

Disposal of any waste materials will be in accordance with provisions of the applicable site-specific Work Plan. If not otherwise specified: 1) discarded personal protective equipment and other fieldwork supplies not significantly impacted by free petroleum or other gross contaminants will be disposed as municipal solid waste; and, 2) well development purge water, spent absorbents or other significantly contaminated materials, and/or any recovered free-petroleum, will be properly stored on-site, in properly labeled and secured containers, pending final off-site disposal at a permitted facility.

APPENDIX G –BORING AND WELL CONSTRUCTION LOGS

Ecosystems Strategies, Inc.

Soil Boring Log

Site ID
Long Dock - Beacon

Boring ID **4SB-01**
(Sheet 1 of 1)

ESI File: SG96152.86

Date: 11-17-2015 Driller: Todd Syska
ESI Staff: G.Wolfman Weather: Sunny; high of 52 F

Boring Interval (recovery)	Boring through: Crushed stone/fill; Topsoil removed **Soil / Material Description**	Plasticity	Moisture	Odor	PID (ppm)	NAPL	Samples Collected
0-4' (75%)	Light – medium brown sandy loam with gravel	NP	D	NO	0		N/A
4-8' (80%)	Brown/olive brown sandy clay	LP	W	Yes	19.7		4SB-01 (7-8)
8-12' (33%)	Black, coarse sand with gravel/river stone	NP	W	Yes	5.6		N/A
End of Boring at	Notes: Groundwater encountered 6-7' below surface grade (bsg); moderate petroleum odor noted from 4-8' and slight petroleum odor noted from 8-12'.						

Texture: F (fine), **M** (medium), **C** (coarse) **Moisture: D** (dry), **SM** (slightly moist), **M** (moist), **W** (wet)
Plasticity: P (plastic) **LP** (low plastic) **NP** (non-plastic)

Ecosystems Strategies, Inc.

Soil Boring Log

Site ID
Long Dock - Beacon

Boring ID **4SB-02**
(Sheet 1o 1)

ESI File: SG96152.86

Date: 11-17-2015 Driller: Todd Syska
ESI Staff: G.Wolfman Weather: Sunny; high of 52 F

Boring Interval (recovery)	Boring through: Crushed stone/fill; Topsoil removed **Soil / Material Description**	Plasticity	Moisture	Odor	PID (ppm)	NAPL	Samples Collected
0-4' (60%)	Crushed stone, sandy loam with gravel and gray rock fragments	N	D	No	0		N/A
4-8' (80%)	Light brown/gray coarse sand/gravel	N	D	No	0		N/A
	Dark gray silty clay		M	Yes	24.2		
	Coarse dark gray sand with gravel		W	Yes	61.6		4SB-02 (5-7')
8-12' (75%)	Dark gray coarse sand and gravel	N	W	Yes			
	Brown/tan coarse sand and gravel	N	W	Yes	212.6		4SB-02 (9-11')
End of Boring at	Notes: Slight to moderate petroleum odor noted in the 4-8' and 8-12' intervals, respectively. Groundwater encountered 7-8'						

Texture: F (fine), **M** (medium), **C** (coarse) **Moisture: D** (dry), **SM** (slightly moist), **M** (moist), **W** (wet)
Plasticity: P (plastic) **LP** (low plastic) **NP** (non-plastic)

Ecosystems Strategies, Inc.

Soil Boring Log

Site ID
Long Dock - Beacon

Boring ID **4SB-03**
(Sheet 1 o 1)

ESI File: SG96152.86

Date: 11-17-2015 Driller: Todd Syska
ESI Staff: G.Wolfman Weather: Sunny; high of 52 F

Boring through: Crushed stone/fill; Topsoil removed

Boring Interval (recovery)	Soil / Material Description	Plasticity	Moisture	Odor	PID (ppm)	NAPL	Samples Collected
0-4' (80%)	Tan/light gray coarse gravel	NP	D	No	0		N/A
	Crushed stone and gray rock						
	Olive silty clay						
	Medium brown sand						
4-8' (75%)	Medium brown/gray coarse sand w/ gravel	NP	M	No	0		
	Gray/brown silty sand		W	No	0		
	Dark gray coarse sand/gravel		W	Yes	96.4		4SB-03 (5-7)
8-12'	Dark gray coarse sand with gravel and river stone	NP	W	Yes	25.5		N/A
	Dark gray coarse sand						

Ecosystems Strategies, Inc.

Soil Boring Log

Site ID
Long Dock - Beacon

Boring ID **4SB-04**
(Sheet 1 of 1)

ESI File: SG96152.86

Date: 11-17-2015 Driller: Todd Syska
ESI Staff: G.Wolfman Weather: Sunny; high of 52 F

Boring through: Crushed stone/fill; Topsoil removed

Boring Interval (recovery)	Soil / Material Description	Plasticity	Moisture	Odor	PID (ppm)	NAPL	Samples Collected
0-4' (75%)	Gray crushed stone and gravel; fill	NP	D	No	0		N/A
	Light brown, silty sand and gravel						
	Olive brown silty and with gravel						
4-8' (90%)	Coarse dark gray sand with gravel	NP	D-M	No			
	Gray silty clay with brick fragments		W	Yes	76.4		(4SB-04 (6-7)
8-12' (90%)	Dark gray coarse gravel and river stone	NP	W	Yes	16.2		N/A
	Gray silty clay	P	W	No			
	Dark gray coarse sand/gravel	NP	W	No			
End of Boring at	Notes:Strong petroleum odor noted in the 4-8' interval and slight odor noted in the 8-12' interval.						

Texture: F (fine), **M** (medium), **C** (coarse) **Moisture: D** (dry), **SM** (slightly moist), **M** (moist), **W** (wet)
Plasticity: P (plastic) **LP** (low plastic) **NP** (non-plastic)

Ecosystems Strategies, Inc.

Soil Boring Log

Site ID
Long Dock - Beacon

Boring ID **SB4-05**
(Sheet 1 of 1)

ESI File: SG96152.86

Date: 11-17-2015 Driller: Todd Syska
ESI Staff: G.Wolfman Weather: Sunny; high of 52 F

Boring Interval (recovery)	Boring through: **Soil / Material Description**	Plasticity	Moisture	Odor	PID (ppm)	NAPL	Samples Collected
0-4' (60%)	Light gray coarse sand with gravel	NP	D	No	0		N/A
	Rock with coarse gravel						
	Light brown silty sand						
4-8' (100%)	Light brown/olive silty sand	NP	W	Yes	68.2		4SB-05 (6-7)
	Fill and gravel with brick fragments						DUP
8-12' (60%)	Coarse gray gravel	NP	W	Yes	26.8		N/A
	Brick fragments						
	Coarse gray sand with gravel						
End of Boring at	Notes: Moderate odor noted in the 4-8' interval and slight odor noted in the 8-12' interval.						

Texture: F (fine), **M** (medium), **C** (coarse) **Moisture: D** (dry), **SM** (slightly moist), **M** (moist), **W** (wet)
Plasticity: P (plastic) **LP** (low plastic) **NP** (non-plastic)

Ecosystems Strategies, Inc.

Soil Boring Log

Site ID
Long Dock - Beacon

Boring ID **4SB-06**
(Sheet 1 of 1)

ESI File: SG96152.86

Date: 11-17-2015 Driller: Todd Syska
ESI Staff: G.Wolfman Weather: Sunny; high of 52 F

Boring Interval (recovery)	Boring through: Crushed stone/fill; Topsoil removed **Soil / Material Description**	Plasticity	Moisture	Odor	PID (ppm)	NAPL	Samples Collected
0-4' (75%)	Gray crushed stone and gravel	LP	D-M	No	0		N/A
	Light brown/olive silty sand						
	Olive/gray silty clay						
4-8' (80%)	Gray coarse gravel and river stone	LP	M-W	Yes	136.4		4SB-06 (6-8)
	Dark gray, silty sand						
8-12' (60%)	Dark gray coarse sand with gravel	NP	W	Yes	26.8	42.6	N/A
End of Boring at	Notes Topsoil/cover was removed and stockpiled within the treatment area; one sample was collected in the 6-8' interval based on observation and highest PID reading.:						

Texture: F (fine), **M** (medium), **C** (coarse) **Moisture: D** (dry), **SM** (slightly moist), **M** (moist), **W** (wet)
Plasticity: P (plastic) **LP** (low plastic) **NP** (non-plastic)

Ecosystems Strategies, Inc.

Soil Boring Log

Site ID
Long Dock - Beacon

Boring ID **4SB-07**
(Sheet 1 of 1)

ESI File: SG96152.86

Date: 11-17-2015 Driller: Todd Syska
ESI Staff: G.Wolfman Weather: Sunny; high of 52 F

Boring through: Crushed stone/fill; Topsoil removed

Boring Interval (recovery)	Soil / Material Description	Plasticity	Moisture	Odor	PID (ppm)	NAPL	Samples Collected
0-4' (60%)	Light brown/brown sandy loam; fill with gravel	NP	D	No	0		N/A
	Light gray, coarse gravel with olive sandy silt						
	Gray rock fragments						
4-8' (90%)	Silty gray fill and medium sand coarse gray stone	NP	D				
	Coarse gray gravel and stone						
	Dark gray sand with gravel		W	Yes	60.1		4SB-07 (5-7)
8-12' (50%)	Coarse dark gray sand with gravel and stone	NP	W	Yes	38.3		N/A
End of Boring at	Notes: Petroleum odor noted in the 4-8' and 8-12' intervals; Groundwater was encountered 7-8'. Monitoring well MW-11 was installed at this boring location to be used for baseline groundwater sampling within the treatment area.						

Texture: F (fine), **M** (medium), **C** (coarse) **Moisture: D** (dry), **SM** (slightly moist), **M** (moist), **W** (wet)
Plasticity: P (plastic) **LP** (low plastic) **NP** (non-plastic)

Ecosystems Strategies, Inc.

Soil Boring Log

Site ID
Long Dock - Beacon

Boring ID **4SB-08**
(Sheet 1 of 1)

ESI File: SG96152.86

Date: 11-17-2015 Driller: Todd Syska
ESI Staff: G.Wolfman Weather: Sunny; high of 52 F

Boring Interval (recovery)	Boring through: 6" topsoil, straw and meadow plantings **Soil / Material Description**	Plasticity	Moisture	Odor	PID (ppm)	NAPL	Samples Collected
0-4' (75%)	Medium to dark brown loam with organic matter	NP	D	No	0		N/A
	Tan/gray coarse sand with gravel and crushed stone						
	Olive silty loam with gray crushed stone						
4-8' (70%)	Gray crushed stone with rock fragments	NP	M/ W	Yes	36.2		4SB-08 (7-8)
	Coarse black sand with dark gray gravel						
8-12' (60%)	Dark gray sand and gravel with crushed stone and rock fragments; saturated	NP	W	Yes	22.4		N/A
End of Boring at	Notes: Encountered groundwater at 7'+/- bsg. This boring was converted to monitoring well MW-12 to be used for LNAPL monitoring.						

Texture: F (fine), **M** (medium), **C** (coarse) **Moisture: D** (dry), **SM** (slightly moist), **M** (moist), **W** (wet)
Plasticity: P (plastic) **LP** (low plastic) **NP** (non-plastic)

Ecosystems Strategies, Inc.

Soil Boring Log

Site ID
Long Dock - Beacon

Boring ID **4SB-09**
(Sheet 1 of 1)

ESI File: SG96152.86

Date: 11-17-2015 Driller: Todd Syska
ESI Staff: G.Wolfman Weather: Sunny; high of 52 F

Boring Interval (recovery)	Boring through: **Soil / Material Description**	Plasticity	Moisture	Odor	PID (ppm)	NAPL	Samples Collected
0-4' (75%)	Medium to dark brown loam with organic matter	NP	D	No	0		N/A
	Tan/gray coarse sand with gravel and crushed stone						
4-8' (50%)	Gray coarse silty sand with coarse gravel	LP	M/ W	Yes	40.6		4SB-09 (5-7)
	Olive/brown silty clay						
	Coarse gray sand with coarse gravel and stone						
8-12' (30%)	Coarse dark gray/black sand with medium gravel and	NP	W	Yes	22.4		N/A
	river stone						
End of Boring at	Notes: Encountered groundwater at 7' bsg. This boring was converted to monitoring well MW-13 to be used for LNAPL monitoring.						

Texture: F (fine), **M** (medium), **C** (coarse) **Moisture: D** (dry), **SM** (slightly moist), **M** (moist), **W** (wet)
Plasticity: P (plastic) **LP** (low plastic) **NP** (non-plastic)

Soil Boring Log

MW-6R (SHEET 1 OF 1)	**Scenic Hudson – Long Dock Park** **8 Long Dock Road, Beacon, New York** **NYSDEC BCP ID: C314112** *FILE SG96152.53*							
	DATE: 2017-06-07	DRILLER (RIG)	CoreDown (7822DT Geoprobe, 5' macro-core)					
	WCD STAFF: G. Wolfman	WEATHER:	Partly cloudy, High – 60's F					
BORING INTERVAL (RECOVERY)	SURFACE MATERIAL: SOIL **SOIL / MATERIAL DESCRIPTION**		MOISTURE	PID (PPM)	ODORS	STAINING	NAPL	SAMPLES COLLECTED
0 – 5' (40%)	Medium-dark brown sandy loam		D	0.0	ND	ND	ND	
	Light gray crushed rock fragments		D	0.0	ND	ND	ND	
	Dark gray silty clay		M	0.0	ND	ND	ND	
5 – 10' (20%)	Coarse dark gray/black sand w/ F-M gravel		W	~168	Yes	Yes	ND	
10 – 15' (50%)	Medium to coarse dark gray silty sand		W	0.0	ND	ND	ND	
	Dark gray/black clay		W	0.0	ND	ND	ND	
	****** Saturated at 12' *****							
15 – 20' (50%)	Medium to coarse dark gray silty sand and gray/black clay		W	0.0	ND	ND	ND	
	****** End of Boring at 17' +/- *******							

Notes

Fill Materials

~0 – 12" – Topsoil and crushed rock from cover'

Field Evidence of Contamination

Mild odor, staining, PID 167.5 ppm at ~5-7'

Saturated Soils

~10-20'

Field Notes

[Insert copied table here (*overwrite this text including the paragraph mark*), repeat for each boring]

ND (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
F (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic)

Ecosystems Strategies, Inc.

Soil Boring Log

Site ID
Long Dock - Beacon

Boring ID **MW-08R**
(Sheet 1 of 1)

ESI File: SG96152.86

Date: 01/06/16 Driller: Todd Syska
ESI Staff: G.Wolfman Weather: Sunny; high of 17 F

Boring through: Crushed stone/fill; Topsoil removed

Boring Interval (recovery)	Soil / Material Description	Plasticity	Moisture	Odor	PID (ppm)	NAPL	Samples Collected
0-4' (60%)	Compacted light brown/tan sandy soil;	NP	D	No	1.3	No	N/A
	Gray coarse sand with crushed stone and medium gravel						
4-8' (30%)	Dark gray coarse sand with gravel	LP	M	Yes	1.3	No	N/A
	Brown/olive silty sand						
	Dark gray silty sand with tan gravel						
End of Boring at	Notes Topsoil/cover was removed and stockpiled within the treatment area; very poor recovery; material from the 4-8' interval had a slight sheen in the lower portion and petroleum odor.						

Texture: F (fine), **M** (medium), **C** (coarse) **Moisture: D** (dry), **SM** (slightly moist), **M** (moist), **W** (wet)
Plasticity: P (plastic) **LP** (low plastic) **NP** (non-plastic)

Soil Boring Log

MW-14 (SHEET 1 OF 1)	Scenic Hudson – Long Dock Park 8 Long Dock Road, Beacon, New York NYSDEC BCP ID: C314112	FILE SG96152.53
	DATE: 2018-05-02	DRILLER (RIG) CoreDown (54DT Geoprobe, 4' macro-core)
	WCD STAFF: G. Wolfman	WEATHER: Sunny, High – 70's F

BORING INTERVAL (RECOVERY)	SURFACE MATERIAL: SAND AND GRAVEL SOIL / MATERIAL DESCRIPTION	MOISTURE	PID (PPM)	ODORS	STAINING	NAPL	SAMPLES COLLECTED
0 – 4' (90%)	Medium-dark brown sandy loam	D	0.0	ND	ND	ND	N/A
	Light gray crushed rock fragments/gravel	D	0.0	ND	ND	ND	N/A
4– 8' (80%)	Medium brown sandy loam w/brick fragments	M	0.6	ND	ND	ND	N/A
	Coarse dark gray/black silty sand w/ F-M gravel	W	0.0	ND	ND	ND	N/A
	****Saturated at 6'*****						
8 – 12' (50%)	Coarse medium brown silty sand w/brick fragments	W	0.0	ND	ND	ND	N/A
		W	0.0	ND	ND	ND	N/A
12 – 16' (50%)	Coarse medium brown silty sand w/ brick fragments						
	****** End of Boring at 14' *****						

Notes

Fill Materials

~0 – 12"- Topsoil and gravel

Field Evidence of Contamination

None

Saturated Soils

~Noted at 6' below surface grade; boring extended 1 hour into AM low tide cycle; tide fluctuates 3' +/-.

[Insert copied table here (*overwrite this text including the paragraph mark*), repeat for each boring]

ND (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
F (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic)

Soil Boring Log

MW-14 (SHEET 1 OF 1)	Scenic Hudson – Long Dock Park 8 Long Dock Road, Beacon, New York NYSDEC BCP ID: C314112	FILE SG96152.53
	DATE: 2018-05-02	DRILLER (RIG) CoreDown (54DT Geoprobe, 4' macro-core)
	WCD STAFF: G. Wolfman	WEATHER: Sunny, High – 70's F

BORING INTERVAL (RECOVERY)	SURFACE MATERIAL: SAND AND GRAVEL SOIL / MATERIAL DESCRIPTION	MOISTURE	PID (PPM)	ODORS	STAINING	NAPL	SAMPLES COLLECTED
0 – 4' (90%)	Medium-dark brown sandy loam	D	0.0	ND	ND	ND	N/A
	Light gray crushed rock fragments/gravel	D	0.0	ND	ND	ND	N/A
4– 8' (80%)	Medium brown sandy loam w/brick fragments	M	0.6	ND	ND	ND	N/A
	Coarse dark gray/black silty sand w/ F-M gravel	W	0.0	ND	ND	ND	N/A
	****Saturated at 6'*****						
8 – 12' (50%)	Coarse medium brown silty sand w/brick fragments	W	0.0	ND	ND	ND	N/A
		W	0.0	ND	ND	ND	N/A
12 – 16' (50%)	Coarse medium brown silty sand w/ brick fragments						
	****** End of Boring at 14' *****						

Notes

Fill Materials

~0 – 12"- Topsoil and gravel

Field Evidence of Contamination

None

Saturated Soils

~Noted at 6' below surface grade; boring extended 1 hour into AM low tide cycle; tide fluctuates 3' +/-.

[Insert copied table here (*overwrite this text including the paragraph mark*), repeat for each boring]

ND (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
F (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic)

Soil Boring Log

MW-6R (SHEET 1 OF 1)	Scenic Hudson – Long Dock Park 8 Long Dock Road, Beacon, New York NYSDEC BCP ID: C314112	FILE SG96152.53
	DATE: 2017-06-07 DRILLER (RIG) CoreDown (7822DT Geoprobe, 5' macro-core)	
	ESI STAFF: G. Wolfman WEATHER: Partly cloudy, High – 60's F	

BORING INTERVAL (RECOVERY)	SURFACE MATERIAL: SOIL SOIL / MATERIAL DESCRIPTION	MOISTURE	PID (PPM)	ODORS	STAINING	NAPL	SAMPLES COLLECTED
0 – 5' (40%)	Medium-dark brown sandy loam	D	0.0	ND	ND	ND	
	Light gray crushed rock fragments	D	0.0	ND	ND	ND	
	Dark gray silty clay	M	0.0	ND	ND	ND	
5 – 10' (20%)	Coarse dark gray/black sand w/ F-M gravel	W	~168	Yes	Yes	ND	
10 – 15' (50%)	Medium to coarse dark gray silty sand	W	0.0	ND	ND	ND	
	Dark gray/black clay	W	0.0	ND	ND	ND	
	****** Saturated at 12' *****						
15 – 20' (50%)	Medium to coarse dark gray silty sand and gray/black clay	W	0.0	ND	ND	ND	
	****** End of Boring at 17' +/- *******						

Notes

Fill Materials

~0 – 12" – Topsoil and crushed rock from cover'

Field Evidence of Contamination

Mild odor, staining, PID 167.5 ppm at ~5-7'

Saturated Soils

~10-20'

Field Notes

[Insert copied table here (*overwrite this text including the paragraph mark*), repeat for each boring]

ND (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
F (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic)

Soil Boring Log

MW-14 (SHEET 1 OF 1)	Scenic Hudson – Long Dock Park 8 Long Dock Road, Beacon, New York NYSDEC BCP ID: C314112	FILE SG96152.53
	DATE: 2018-05-02 DRILLER (RIG) CoreDown (54DT Geoprobe, 4' macro-core)	
	ESI STAFF: G. Wolfman WEATHER: Sunny, High – 70's F	

BORING INTERVAL (RECOVERY)	SURFACE MATERIAL: SAND AND GRAVEL SOIL / MATERIAL DESCRIPTION	MOISTURE	PID (PPM)	ODORS	STAINING	NAPL	SAMPLES COLLECTED
0 – 4' (90%)	Medium-dark brown sandy loam	D	0.0	ND	ND	ND	N/A
	Light gray crushed rock fragments/gravel	D	0.0	ND	ND	ND	N/A
4– 8' (80%)	Medium brown sandy loam w/brick fragments	M	0.6	ND	ND	ND	N/A
	Coarse dark gray/black silty sand w/ F-M gravel	W	0.0	ND	ND	ND	N/A
	****Saturated at 6'*****						
8 – 12' (50%)	Coarse medium brown silty sand w/brick fragments	W	0.0	ND	ND	ND	N/A
		W	0.0	ND	ND	ND	N/A
12 – 16' (50%)	Coarse medium brown silty sand w/ brick fragments						
	****** End of Boring at 14' *****						

Notes

Fill Materials

~0 – 12"- Topsoil and gravel

Field Evidence of Contamination

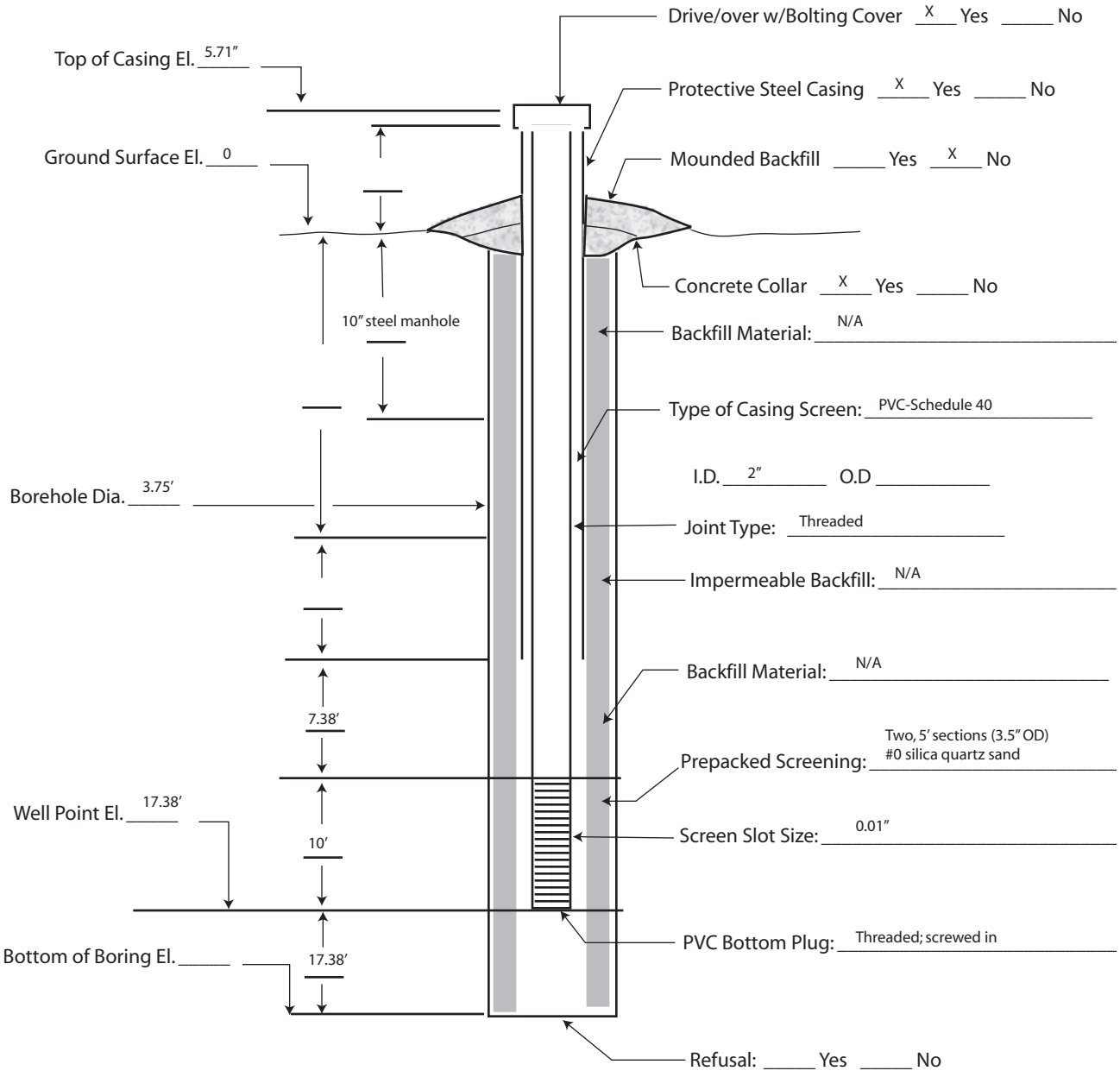
None

Saturated Soils

~Noted at 6' below surface grade; boring extended 1 hour into AM low tide cycle; tide fluctuates 3' +/-.

[Insert copied table here (*overwrite this text including the paragraph mark*), repeat for each boring]

ND (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
F (fine) **M** (medium) **C** (coarse) **P** (plastic) **LP** (low plastic) **NP** (non-plastic)



Materials Used:

Screen (PVC)	Bentonite Pellets	Locking Exp. Plug
Riser (PVC)	Asphalt	Lock
Plug (PVC)	Bentonite Chips	D/O
Slip Cap (PVC)	Concrete Mix	S/U
Silica Sand	Portland	
Powdered Bentonite		

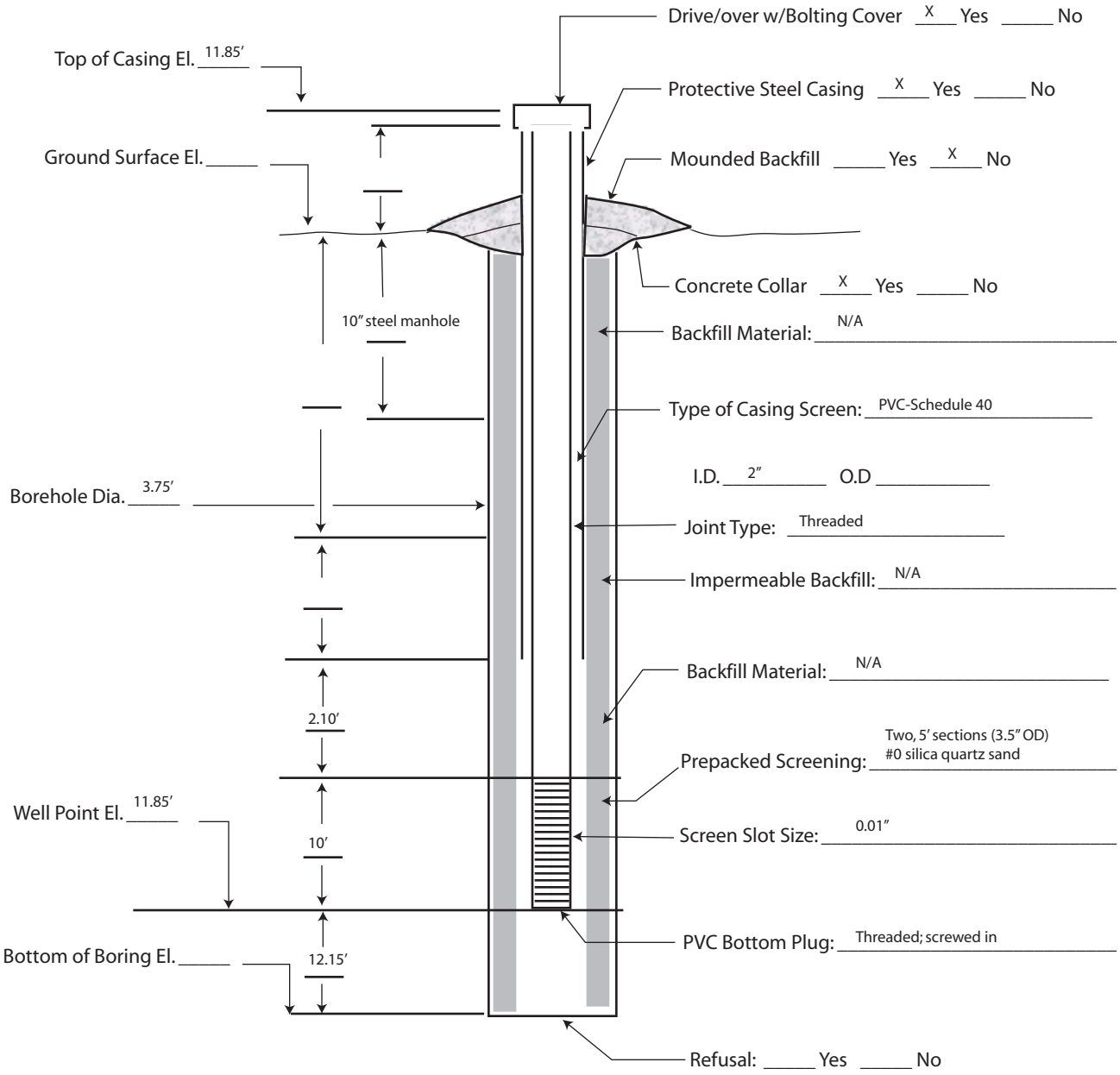
Monitor Well MW- 6R Installation Detail

Long Dock Beacon Site
Red Flyn Drive
City of Beacon
Dutchess County, New York

WCD File: SG96152.86

June 2017

Appendix



Materials Used:

Screen (PVC)	Bentonite Pellets	Locking Exp. Plug
Riser (PVC)	Asphalt	Lock
Plug (PVC)	Bentonite Chips	D/O
Slip Cap (PVC)	Concrete Mix	S/U
Silica Sand	Portland	
Powdered Bentonite		

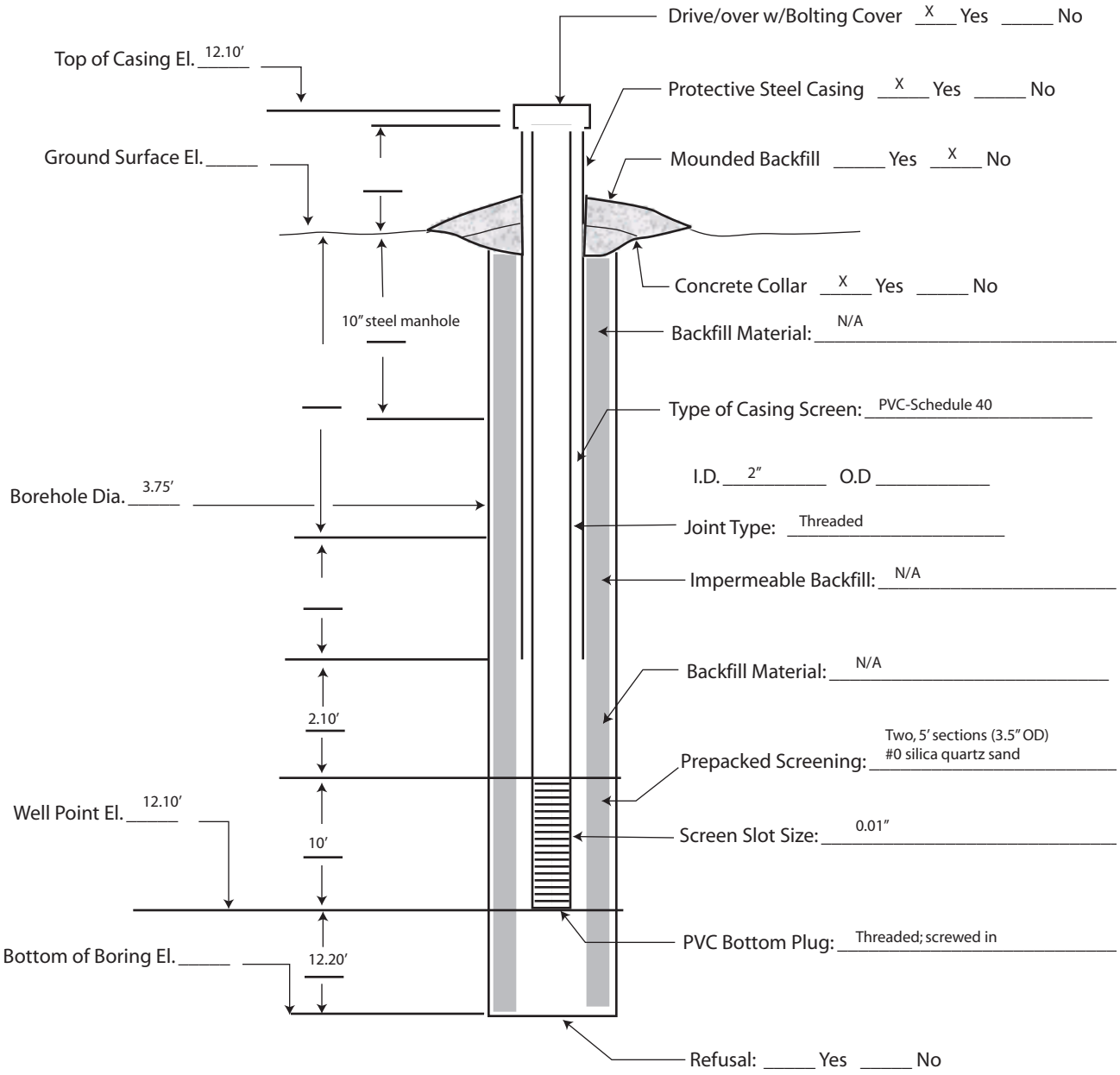
Monitor Well MW-08R Installation Detail

Long Dock Beacon Site
Red Flyn Drive
City of Beacon
Dutchess County, New York

ESI File: SG96152.86

January 2016

Appendix



Materials Used:

Screen (PVC)	Bentonite Pellets	Locking Exp. Plug
Riser (PVC)	Asphalt	Lock
Plug (PVC)	Bentonite Chips	D/O
Slip Cap (PVC)	Concrete Mix	S/U
Silica Sand	Portland	
Powdered Bentonite		

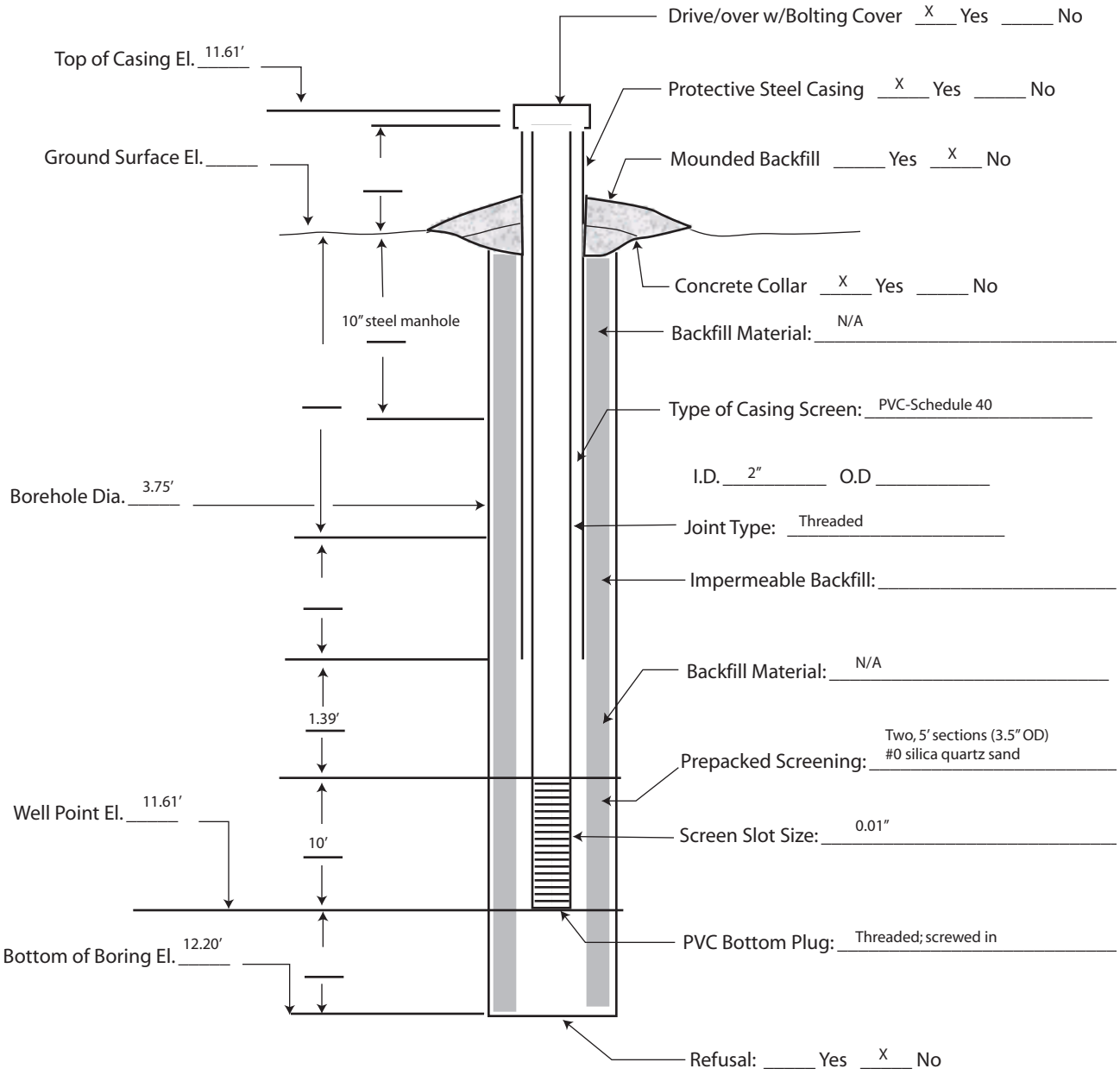
Monitor Well MW-11 Installation Detail

Long Dock Beacon Site
Red Flyn Drive
City of Beacon
Dutchess County, New York

ESI File: SG96152.86

December 2015

Appendix



Materials Used:

Screen (PVC)	Bentonite Pellets	Locking Exp. Plug
Riser (PVC)	Asphalt	Lock
Plug (PVC)	Bentonite Chips	D/O
Slip Cap (PVC)	Concrete Mix	S/U
Silica Sand	Portland	
Powdered Bentonite		

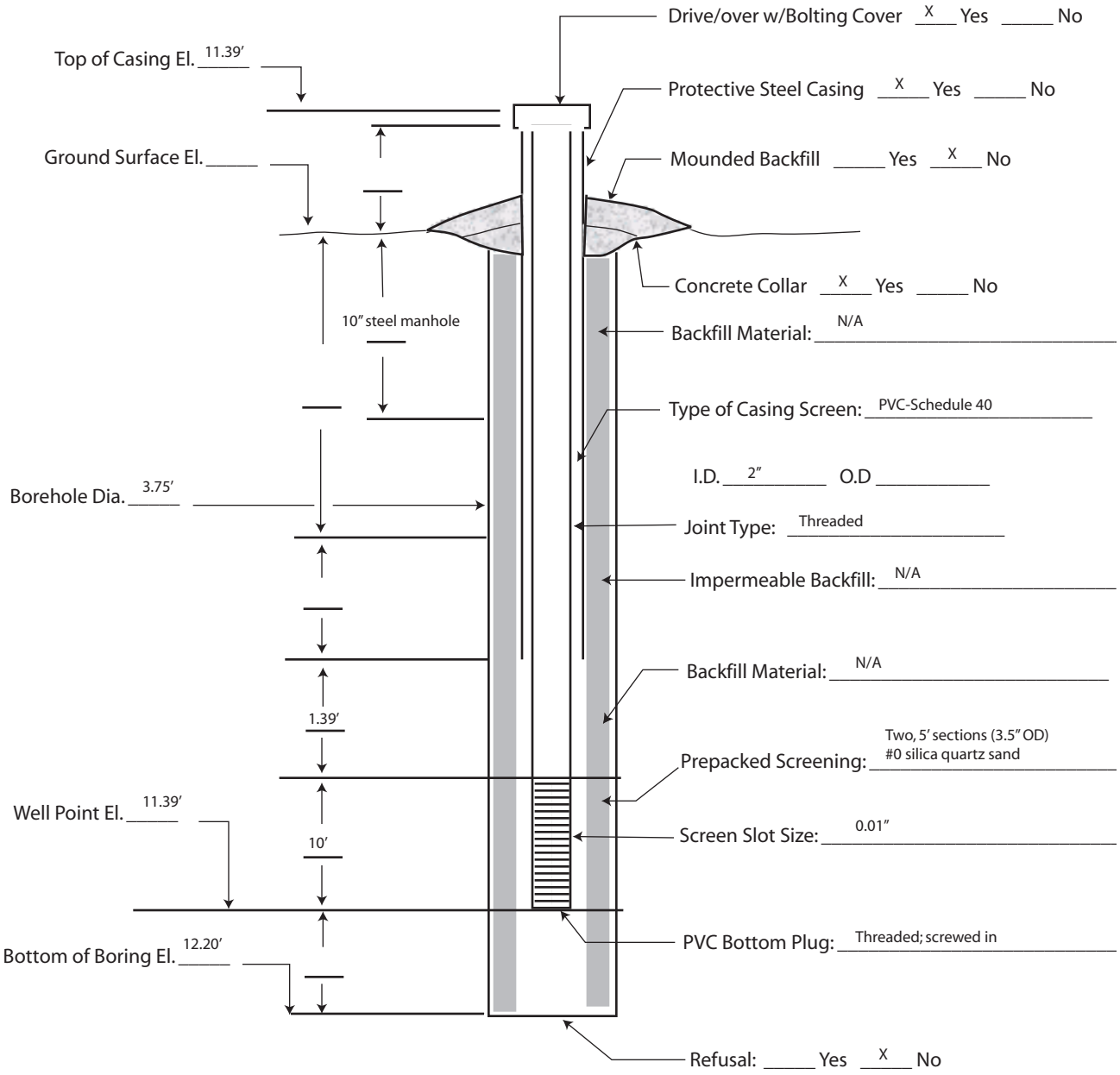
Monitor Well MW-12 Installation Detail

Long Dock Beacon Site
Red Flyn Drive
City of Beacon
Dutchess County, New York

ESI File: SG96152.86

December 2015

Appendix



Materials Used:

Screen (PVC)	Bentonite Pellets	Locking Exp. Plug
Riser (PVC)	Asphalt	Lock
Plug (PVC)	Bentonite Chips	D/O
Slip Cap (PVC)	Concrete Mix	S/U
Silica Sand	Portland	
Powdered Bentonite		

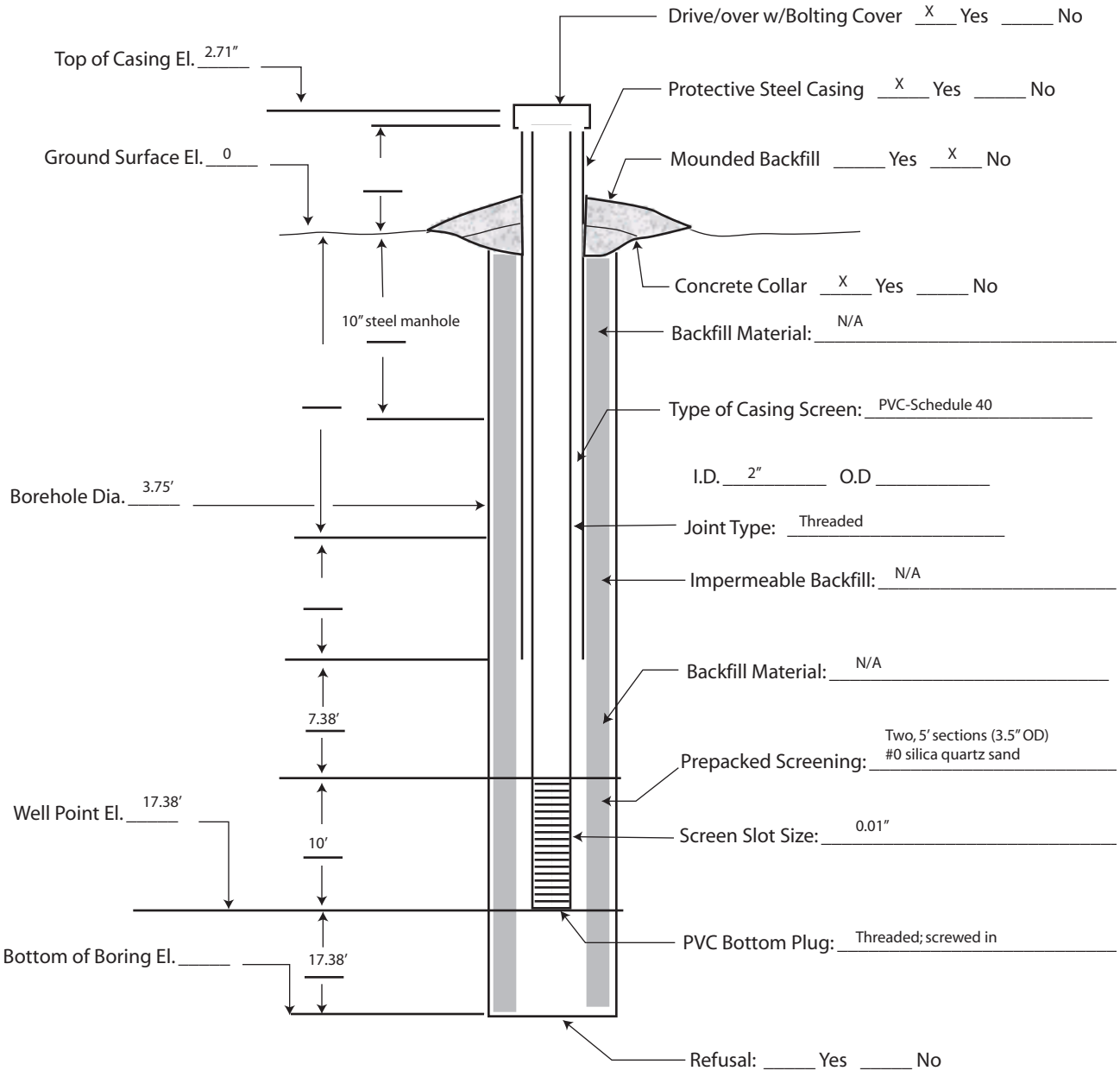
Monitor Well MW-13 Installation Detail

Long Dock Beacon Site
Red Flyn Drive
City of Beacon
Dutchess County, New York

ESI File: SG96152.86

December 2015

Appendix



Materials Used:

Screen (PVC)	Bentonite Pellets	Locking Exp. Plug
Riser (PVC)	Asphalt	Lock
Plug (PVC)	Bentonite Chips	D/O
Slip Cap (PVC)	Concrete Mix	S/U
Silica Sand	Portland	
Powdered Bentonite		

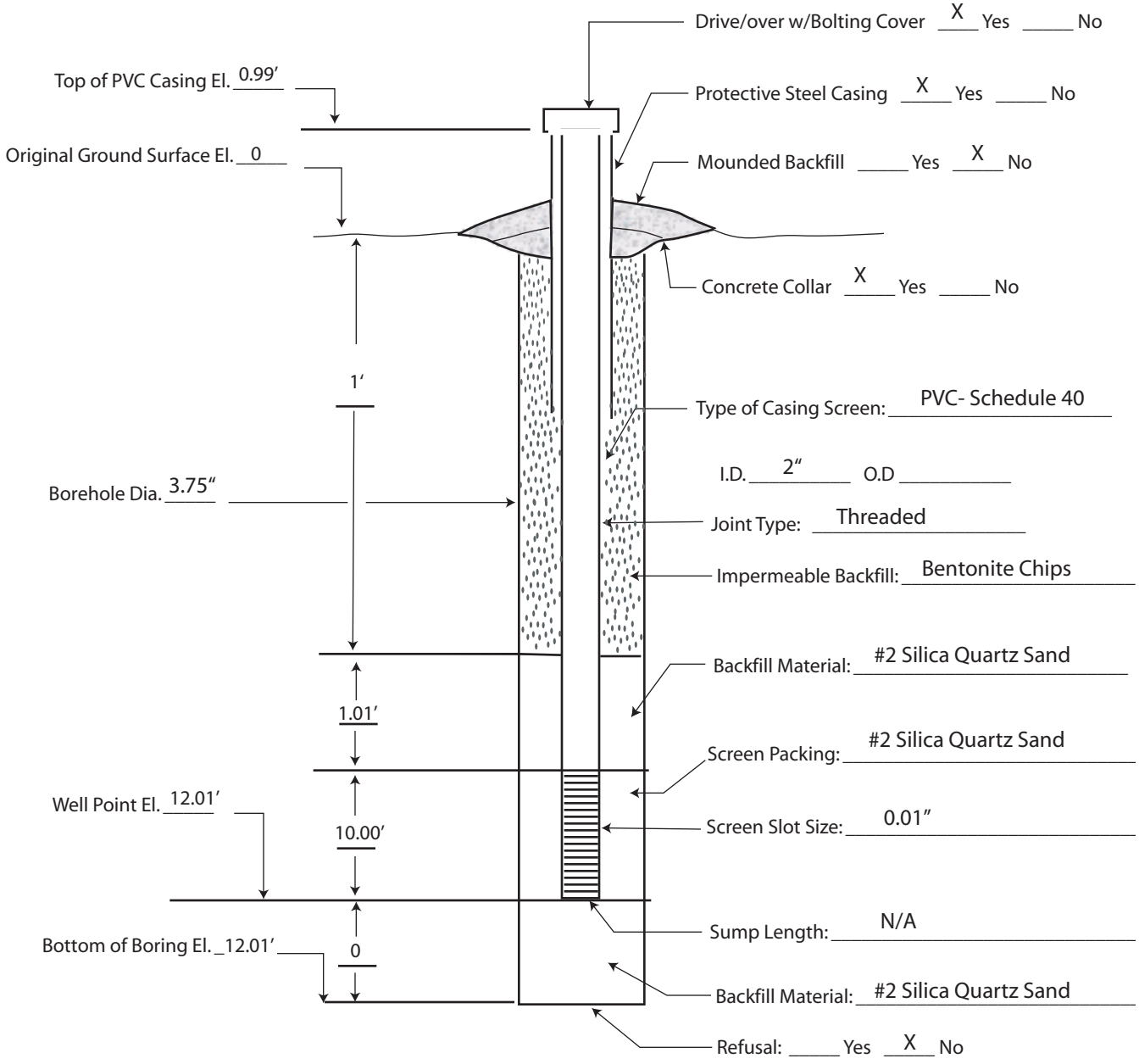
Monitor Well MW- 6R Installation Detail

Long Dock Beacon Site
Red Flyn Drive
City of Beacon
Dutchess County, New York

WCD File: SG96152.86

June 2017

Appendix



Materials Used:

Screen (PVC)	Bentonite Chips
Riser (PVC)	Concrete Mix
Plug (PVC)	Locking Exp. Plug
Silica Sand	Lock
	S/U

Monitor Well MW-14 Installation Detail

Long Dock Beacon Site
Red Flynn Drive
City of Beacon
Dutchess County, New York

WCD File: SG96152.86
May 2018
Not to scale
Appendix

APPENDIX H – QUALITY ASSURANCE PROJECT PLAN

QUALITY ASSURANCE PROJECT PLAN FOR ISCO TREATMENT

Prepared for the

Long Dock Beacon Site

NYSDEC BCP Site: C314112

Located at

Red Flynn Drive, City of Beacon
Dutchess County, New York

July 2015

ESI File: SG96152

Prepared By:

MORRIS ASSOCIATES
ENGINEERING CONSULTANTS, P.L.L.C.
ENGINEERS • PLANNERS • SURVEYORS

and

Ecosystems Strategies, Inc.
24 Davis Avenue, Poughkeepsie, NY 12603
phone 845.452.1658 | fax 845.485.7083 | ecosystemsstrategies.com

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1.0 PROJECT MANAGEMENT

1.1 Project/Task Organization

The following individuals are major participants in the project. Following each project participant is their specific responsibilities and authorities for the project.

William B. Bennett, P.E. **New York State Department of Environmental Conservation (NYSDEC)**

William B. Bennett is the Project Manager for the NYSDEC. Mr. Bennett is responsible for review and approval of all project submittals.

Peter D. Setaro, P.E. **Morris Associates Engineering Consultants, PLLC (MAEC)**

Peter D. Setaro will be the Remedial Engineer, responsible for preparing, implementing and certifying the Remedial Action Work Plan (RAWP), Remedial Design Document (RDD), Site Management Plan (SMP), ISCO Treatment Report (ITR) and Final Engineering Report (FER), with general oversight for all project activities.

Joseph P. Dennis, P.E. **MAEC**

Joseph P. Dennis will be assisting the Remedial Engineer for general project and fieldwork oversight.

Paul Ciminello **President, Ecosystems Strategies, Inc. (ESI)**

Paul Ciminello, a Qualified Environmental Professional (QEP), will provide technical guidance on matters relating to ISCO delivery methods and site evaluation, as well as overall project management and allocation of staff and other resources required to complete the project within the specified schedule and budget.

Umesh G. Shrestha **Senior Project Manager, ESI**

Umesh G. Shrestha will act as Project Manager on behalf of the Volunteer, and will be responsible for managing all project activities in consultation with the Remedial Engineer. Mr. Shrestha will review all project documents and ensure that project plans are followed, manage day-to-day project operations and administrative aspects, and will function as the client and regulatory contact for the project. Mr. Shrestha has authority to direct the activities of the field team (OSC and drilling subcontractor).

Scott Spitzer **Quality Assurance Officer, ESI**

Scott Spitzer will be responsible for reviewing all sampling procedures and certifying that the data was collected and analyzed using the appropriate procedures and will act in conjunction with the Project Manager in the development of the sampling and analytical portion of a site-specific quality assurance project plan (QAPP).

To be Determined **On-Site Coordinator (OSC) ESI**

The OSC will be responsible for the completion of all on-site fieldwork, collection of all samples, completion of the field log, and chains of custody. The OSC will have authority over all on-site subcontractors.

Drilling/ISCO Subcontractor

The drilling/ISCO subcontractor will be responsible for the operation of drilling and chemical injection equipment.

Laboratory Subcontractor

The laboratory subcontractor will be responsible for the analysis of samples. The laboratory subcontractor will be New York State Department of Health Environmental Laboratory Approved Program (ELAP) certified in the appropriate categories.

Data Validator (TBD)

An independent, third-party data validator will be responsible for reviewing and evaluating all analytical data packages and preparing Data Usability Reports in accordance with DER-10. A current resume outlining education and experience of the data validator will be provided to DER for review and approval (once the data validator has been selected).

1.2 Principal Data Users

The principal users of the generated data in this project are listed below.

- Residents of Beacon, New York, especially those residing in the vicinity of the Site
- The Scenic Hudson Land Trust, Inc. (Volunteer)
- NYSDEC and NYSDOH

1.3 Problem Definition/Background

The Long Dock Beacon Brownfield Cleanup Program (BCP) Site consists of an 8.85-acre parcel located in the City of Beacon, Dutchess County, New York, which adjoins and occupies the Hudson River to the west. The Site, located within the bounds of Scenic Hudson's Long Dock Park, has a long history of known industrial and commercial use, which included the operation of a major oil storage facility (MOSF) on the south-central portion of the Site. The RDD has been prepared to address residual contamination in portions of the former MOSF impacted by an historical release of fuel oil.

Relevant soil contamination in the former MOSF area consists of:

- Diesel range total petroleum hydrocarbons (TPH-DRO, Figure 2 and Table 1) at depths ranging from 3 to 7 feet bsg, with concentrations above 10,000 ppm located at borings 2SB-10, 2SB-11A and 2SB-13.
- Elevated levels of total volatile organic compounds (VOCs, Figure 3 and Table 2) in samples 2SB-15 (36-40") and TP-6 (8.5'), based on total tentatively identified compounds (TICs) and/or unknown compounds.
- Elevated levels of semi-volatile organic compounds (SVOCs, Figure 4 and Table 3) along the eastern portion (2SB-18 at 9 to 10 feet bsg) and the south-central portion (TP-08 at 3 feet bsg).

Groundwater data do not document any significant hydrocarbon contamination; slight to moderate non-aqueous phase liquids (NAPL) and sheen, however, were observed in water entering excavation areas at the southern portion of the former MOSF (minimal NAPL was encountered).

The contaminants of concern identified in the RDD are elevated levels of TPH-DRO (greater than 10,000 ppm) and limited areas of observed NAPL. The use of in-situ chemical oxidation (ISCO) methodologies is proposed to reduce TPH concentrations (LNAPL will be addressed through product recovery wells).

1.4 Project/Task Description

The project will meet its objective through the following actions:

- Compliance with NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May 3, 2010; and,
- Compliance with the approved RDD.

1.5 Quality Objectives and Criteria

The data collected in this project will be used to document field parameters measured during ISCO testing and treatment, and to characterize soil and groundwater in order to provide confirmatory data indicating effective remedial actions.

In order to meet the data quality objectives of precision, accuracy, representation, comparability and completeness the following actions will be taken:

- Duplicate samples will be collected and analyzed in order to determine the degree to which measurements obtained under the same protocols are consistent and reproducible.
- Matrix spike samples will be collected and analyzed in order to determine accuracy for the samples.
- A trip blank sample will also be analyzed in order to detect potential contamination during sample transport of VOC samples
- A rinse blank will be prepared and analyzed for each non-dedicated piece of sampling equipment, as applicable.
- Data generated during the completion of the RDD will be submitted for review by a third, independent party.

Prior to field activities, the Project Manager and the OSC will review the RDD to ensure that the data quality objectives of precision, accuracy, representation, comparability and completeness will be met during the field activities. At the completion of field activities, the Project Manager will review field logs and chains of custody to ensure that field activities met the intent of the RDD. If a problem is identified, Mr. Paul Ciminello and the Project Manager will meet to determine corrective measures necessary to meet data quality objectives.

1.6 Documents and Records

Electronic and paper copies of all measurements will be retained by MAEC and ESI. Documentation of sufficient quality and quantity to represent environmental conditions at the Site will be provided to the NYSDEC in the ITR, which will document all findings and results of the implementation of the RDD.

1.7 Standard Operating Procedures

A standalone document, containing standard operating procedures (SOPs) for both general fieldwork and specific ISCO methodologies, will be utilized during implementation of the RDD. All SOPs will be reviewed and approved by NYSDEC prior to the start of fieldwork activities. General soil and groundwater sampling methods are described in this QAPP.

2.0 SAMPLING AND ANALYSIS PLAN

This section of the QAPP details sampling and analysis of all field parameters and media (soil and groundwater samples), and identifies methods for sample collection and handling.

2.1 Sampling Overview

Field parameters will be measured in temporary well points during pilot testing to establish the effective radius of influence of injected ISCO reagents. In situ soil and groundwater sampling will be conducted prior to the commencement of pilot testing and after each of two full-scale ISCO injection events, to document pre- and post-remediation conditions.

2.2 Sampling Methods

2.2.1 General Methodology

Field parameters at temporary well points will be measured using properly calibrated precision instruments operated according to manufacturer's instructions (pH, specific conductivity and water levels) and certified field test kits (residual sodium-persulfate levels). Soil and groundwater selected for sampling will be obtained in a manner consistent with NYSDEC sample collection protocols. All samples will be properly characterized and field screened, and findings will be recorded in logbooks.

Samples will be collected into appropriately-sized and preserved laboratory-supplied containers, using either disposable or properly decontaminated sampling equipment. The field technician will wear a new pair of disposable gloves during the collection of each sample, and will handle samples such that the potential for cross-contamination, and contamination of exterior surfaces of collection containers, is minimized (placement of media into containers will take place in a clean area remote from contaminant sources, as possible). PPE and sampling equipment will be decontaminated (as warranted) between sampling locations.

2.2.2 Soil

Soil sampling will be conducted using either hand-held or mechanized Geoprobe equipment lined with disposable acetate sleeves. Samples will be collected directly from the freshly cut open sleeve, using disposable plastic trowels or properly decontaminated stainless steel instruments, or directly by the fieldwork technician using dedicated disposable latex gloves.

Soil sampling for VOC analysis will be conducted following USEPA Method 5035 protocols, using disposable 5 gram Terra Core samplers (or similar equipment) to place material into laboratory-supplied glass vials with appropriate preservatives and stir bars.

2.2.3 Groundwater

Groundwater sampling will be conducted using USEPA Low Flow methodology, as follows:

- Basic climatological data (e.g., temperature, precipitation, etc.) and all field observations will be recorded in a field logbook. Groundwater sampling will begin at the potentially least contaminated well (as determined from well location and/or previous data) and proceed to the potentially most contaminated well. New latex gloves will be worn by the sampler at each well location.
- The protective casing on the well will be unlocked, the air in the well head will be screened with a photoionization detector (PID), and the static water level (relative to the top of the casing) will be

measured with a decontaminated water-level meter. The water level meter will be decontaminated with Alconox solution after gauging each well.

- A peristaltic pump and Teflon or Teflon-lined polyethylene tubing (or equivalent) will be used to sample the well. The tubing will be slowly lowered until reaching two to three feet off of the bottom to prevent disturbance and re-suspension of any residual sediment. Dedicated disposable tubing will be used at each monitoring well to eliminate the potential for cross contamination.
- The water level will be measured before the pump is started. Each well will be pumped at a rate of 200 to 500 milliliters per minute. The water level will be measured approximately every three to five minutes to ensure that stabilization (drawdown of 0.3' or less) is achieved.
- A Horiba U-50 series water quality analyzer with flow-through cell (or similar equipment) will be used during pumping to measure field indicator parameters (turbidity, temperature, specific conductance, pH, redox potential, and dissolved oxygen), which will be monitored and recorded approximately every three to five minutes. The well will be considered stabilized when the indicator parameters have stabilized for three consecutive readings.
- Sampling will occur following stabilization of parameters by directing a gentle flow of water from the tubing directly into the sample container.

2.2.4 Other Materials

Any non-soil solid materials requiring laboratory analysis will be placed into laboratory supplied glassware when possible, or will alternatively be placed into double locking plastic bags and then boxed in order to prevent a tear or other breach in the bags. Samples to be collected from liquids present in excavations, collection pits, or drums/tanks, etc., will be sampled using a dedicated disposal sampling device.

2.3 Sample Handling and Custody

2.3.1 Sample Containers

The following laboratory-supplied containers will be used for sample collection (as applicable):

Media Sample	Collection Container
Soil – VOCs	USEPA 5035 VOA kit (4, 40-ml glass vials)
Soil – all other analyses (SVOCs and TPH-DRO)	1, 8-oz glass jar
Soil – duplicate and MS/MSD samples	1 additional 8-oz glass jar
Water – groundwater quality samples	3, 40-ml prepared glass vials (HCl) – VOCs 1, 1-liter glass – SVOCs, pesticides/PCBs
Water – equipment rinse blank	3, 40-ml prepared glass vials (HCl) – VOCs 1, 1-liter glass – SVOCs, TPH-DRO
Water – trip blank	3, 40-ml prepared glass vials (HCl)

2.3.2 Sampling Frequency

Six (6) mechanical soil borings will be extended at the Target Site to establish baseline soil conditions. For the purpose of comparing post-injection and baseline soil conditions, nine additional soil borings will

be extended within a 5-foot radius of the corresponding baseline soil boring locations at the completion of each ISCO injection event. A maximum of two samples from each of the borings will be submitted for analysis: at least one sample from the 5 to 7 feet interval (previously established as the location of peak TPH-DRO concentrations) and a sample biased towards soils/materials that exhibit the greatest field evidence of contamination (if encountered).

New groundwater monitoring well MW-11 will installed at the former MOSF area, which currently contains monitoring wells MW-6 to the north and MW-8 to the south. All three wells will be sampled prior to the commencement of ISCO fieldwork to establish baseline groundwater conditions, and approximately three months after each of the ISCO injection events.

The estimated approximate number of samples to be collected is outlined below (the actual number of samples may vary based on the results of pilot testing and conditions encountered during the injection events (any changes in sampling will be reviewed and approved by NYSDEC).

Fieldwork Event	Media (# of Samples)	Analyte List
Prior to Pilot Test	Soil (6-12)** Groundwater (3)	VOCs+10 (8260), SVOCs+20 (8270),TPH-DRO (8015)
Completion of 1st ISCO Injection Event	Soil (6-12)** Groundwater (3)	VOCs+10 (8260), SVOCs+20 (8270),TPH-DRO (8015)
Completion of 2nd ISCO Injection Event	Soil (6-12)** Groundwater (3)	VOCs+10 (8260), SVOCs+20 (8270),TPH-DRO (8015)
QA/QC	Trip Blank (VOCs) Equipment Rinse Blank (VOCs, SVOCs, TPH-DRO Duplicates & MS/MSD	One/day (when samples are collected) One/20 samples collected from each non-dedicated piece of sampling equipment One/20 samples collected (minimum one/week)
** A minimum of one soil sample to be collected from each of 9 borings, with a possible second sample collected based on overt field evidence of contamination (maximum of 18 samples).		

2.3.3 Sample Custody

Samples will be handled by the OSC. After each sample is collected, it will be placed in a sample cooler that is maintained at 4 (+/-2) °C. For each sampling day, sampling personnel will be required to complete a sampling custody worksheet indicating all pertinent information about the samples collected, handling methods, name of the collector, and chain of custody (which will require a Category B Data Deliverable). Upon the completion of each day of sample collection activities, all samples will be shipped via either courier or overnight delivery (per laboratory requirements) to a NYSDOH ELAP certified laboratory. Laboratory personnel will record the cooler temperature upon receipt and analyze the samples prior to the expiration of the hold times as specified in the NYSDEC Analytical Service Protocol.

2.4 Analytical Methods

Soil and groundwater samples will be analyzed as indicated in Section 2.3.2, above. Analytical methods for the samples will be implemented as follows:

Matrix	Sample Analysis (Holding Time)	Analytical Method	Recommended Number of Container(s) Per Sample	Preservation
Soil	TCL VOCs+10 (14 days)	8260C	4, 40-ml vials (laboratory 5035 VOA kit)	Preserved per Method 5035
Soil	TCL SVOCs+20 (14 days)	8270B	1, 8 oz. glass jar**	4° C
Soil	TPH-DRO (7 days)	8015C	1, 8 oz. glass jar**	4° C
Water	TCL VOCs+10 (14 days)	8260C	3, 40-ml VOA vials	4° C, HCl
Water	TCL SVOCs+20 (14 days)	8270B	2, 1-liter glass	4° C
Water	TPH-DRO (7 days)	8015C	2, 1-liter glass	4° C
** Soil for SVOC and TPH-DRO analyses may be combined in a single 4 oz. glass jar, as long as holding time is not exceeded.				

2.5 Quality Control

Accuracy and precision will be determined by repeated analysis of laboratory standards, and matrix effects and recovery will be determined through use of spiked samples. With each sample run, standards, blanks and spiked samples will be run.

One duplicate sample will be collected for every 20 matrix samples (or one per week). One in 20 samples will also be submitted for Matrix spike (MS) and Matrix Spike Duplicate (MSD) analysis. One rinse blank will be prepared for each non-dedicated piece of sampling equipment for every 20 analytical samples collected using that piece of equipment. For each day of sampling, a trip blank will be included with each sample cooler (analyzed for VOCs, only). Equipment blanks and duplicate samples will be analyzed for all parameters.

Samples will be identified using a unique ID number. This ID will be recorded on the sampling log and/or field record and the sampling container. Samples for each day of fieldwork will be assigned to a Sample Delivery Group (SDG) for that day and will be shipped via either courier or overnight delivery to the laboratory following proper chain of custody procedure, as described above.

3.0 QUALITY ASSURANCE

3.1 Instrument/Equipment, Testing, Inspection, and Maintenance

Field measurements for use during Pilot Testing will be conducted using specialized monitoring equipment (to be specified in the SOPs) and a PID will be used during all fieldwork events to screen for volatile organic vapors. All instruments will be stored at ESI offices when not in use. All instruments will be calibrated (as warranted) in accordance with the manufacturer's instructions. Instrument malfunction is normally apparent during calibration. In the event of malfunction, equipment will be cleaned and tested. Equipment testing, inspection and maintenance will be the responsibility of the Project Manager and OSC for the project. Any other equipment selected for field measurements will be similarly managed.

3.2 Inspection/Acceptance of Supplies and Consumables

All supplies and consumables will be inspected and tested (if necessary) by either the Project Manager or the OSC upon receipt. The following supplies and consumables will be used:

- Soil samples: Four 40-ml vials (laboratory-supplied 5035 VOA kits) will be used for each sample collected for analysis of VOCs and one 4-oz clear glass jar will be used for each sample collected for analysis of SVOCs and TPH-DRO (SVOC and TPH-DRO samples may be collected into separate jars). Duplicate samples will each require one additional sample volume.
- Water samples: Three 40-ml glass vials (preserved with HCl) will be used for each sample submitted for analysis of VOCs, and two 1-liter glass jars will be used for each sample collected either for SVOCs or TPH-DRO.
- Disposable gloves (nitrile or equivalent).
- Distilled water (for decontamination and the preparation of blanks).

3.3 Data Management

For the purpose of data management, the data can be divided into field and laboratory data. Field data will be recorded at the time of measurement on written field logs. Laboratory data will be reviewed upon receipt and summarized in data summary tables.

4.0 DATA VALIDATION AND USABILITY

4.1 Data Review, Verification and Validation

Data generated by this project will be reviewed, verified and validated as follows:

4.1.1 Field Measurements

If field instruments are determined to be functioning correctly through calibration and measurements of standards, and if there are no inconsistencies between written records and data recorded in the meters, the data will be assumed to be valid and will be accepted as an indication of field conditions. If instruments malfunction prior to field measurement, they will be restored to proper function prior to re-use. If they malfunction immediately after field measurements are taken, the measurements will be retaken as soon as possible. Inconsistencies between written records and recorded meter data will be resolved by re-testing the material, if possible. If re-testing is not possible, (e.g., a sample has been shipped to the laboratory), the inconsistency will be described in the final ITR and the laboratory analysis will be utilized

to classify the material. In addition, all field data will be reviewed by the Project Manager for consistency and plausibility.

4.1.2 Laboratory Analysis

A NYSDOH ELAP-certified laboratory will provide a NYSDEC ASP Category B data package for the determinative sample analyses, as described in Section 2 of DER-10 and the July 2005 NYSDEC ASP.

4.1.3 Soil Cleanup Objectives (SCOs)

The SCOs for this BCP Site are provided in 6 NYCRR Subpart 375, Table 375-6.8(b) Commercial Use SCOs, and in Supplemental SCOs and Soil Cleanup Levels presented in NYSDEC CP-51 (Soil Cleanup Guidance, October 2010), Tables 1 through 3. Copies of these tables are provided as an attachment to this QAPP.

4.2 Verification and Validation Methods

4.2.1 Verification Method

Once collected, all data will go to the Project Manager for review and verification. Review will involve determining that all data has been collected at the proper locations by the proper persons and that all field and laboratory logs are complete. In addition, a Data Usability Summary Report (DUSR) in accordance with DER-10, Appendix 2B, will be prepared by a third, independent party, which maintains NYSDOH ELAP CLP Certification (the DUSR will also include a current resume for the person who prepared it).

4.2.2 Authority for Verification

Authority for verification, validation and resolution of data issues will be distributed among the investigators. Authority to resolve issues regarding verification of field measurements will rest with the Project Manager and Mr. Paul Ciminello.

4.2.3 Project Reports

Following review, validation and verification, all data will be conveyed to users via a final ITR documenting the findings and results of the implementation of the RDD. This report will include the following:

- All laboratory analytical results obtained from the sampling event(s), summarized in tables and provided in NYSDEC EDD format (EquIS).
- A detailed account of any deviations from field procedures specified in the RDD.
- A complete set of field notes and/or Field Observation Tables.
- Results of the DUSR review of all laboratory results.

Department of Environmental Conservation

Division of Environmental Remediation

6 NYCRR PART 375

Environmental Remediation Programs

Subparts 375-1 to 375- 4 & 375-6

Effective December 14, 2006

New York State Department of Environmental Conservation

375-6.8 Soil cleanup objective tables.

(a) Unrestricted use soil cleanup objectives.

Table 375-6.8(a):Unrestricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Unrestricted Use
Metals		
Arsenic	7440-38-2	13 [c]
Barium	7440-39-3	350 [c]
Beryllium	7440-41-7	7.2
Cadmium	7440-43-9	2.5 [c]
Chromium, hexavalent [e]	18540-29-9	1[b]
Chromium, trivalent [e]	16065-83-1	30 [c]
Copper	7440-50-8	50
Total Cyanide [e, f]		27
Lead	7439-92-1	63 [c]
Manganese	7439-96-5	1600 [c]
Total Mercury		0.18 [c]
Nickel	7440-02-0	30
Selenium	7782-49-2	3.9[c]
Silver	7440-22-4	2
Zinc	7440-66-6	109 [c]
PCBs/Pesticides		
2,4,5-TP Acid (Silvex) [f]	93-72-1	3.8
4,4'-DDE	72-55-9	0.0033 [b]
4,4'-DDT	50-29-3	0.0033 [b]
4,4'-DDD	72-54-8	0.0033 [b]
Aldrin	309-00-2	0.005 [c]
alpha-BHC	319-84-6	0.02
beta-BHC	319-85-7	0.036
Chlordane (alpha)	5103-71-9	0.094

Table 375-6.8(a):Unrestricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Unrestricted Use
delta-BHC [g]	319-86-8	0.04
Dibenzofuran [f]	132-64-9	7
Dieldrin	60-57-1	0.005 [c]
Endosulfan I [d, f]	959-98-8	2.4
Endosulfan II [d, f]	33213-65-9	2.4
Endosulfan sulfate [d, f]	1031-07-8	2.4
Endrin	72-20-8	0.014
Heptachlor	76-44-8	0.042
Lindane	58-89-9	0.1
Polychlorinated biphenyls	1336-36-3	0.1
Semivolatile organic compounds		
Acenaphthene	83-32-9	20
Acenapthylene [f]	208-96-8	100 [a]
Anthracene [f]	120-12-7	100 [a]
Benz(a)anthracene [f]	56-55-3	1 [c]
Benzo(a)pyrene	50-32-8	1 [c]
Benzo(b)fluoranthene [f]	205-99-2	1 [c]
Benzo(g,h,i)perylene [f]	191-24-2	100
Benzo(k)fluoranthene [f]	207-08-9	0.8 [c]
Chrysene [f]	218-01-9	1 [c]
Dibenz(a,h)anthracene [f]	53-70-3	0.33 [b]
Fluoranthene [f]	206-44-0	100 [a]
Fluorene	86-73-7	30
Indeno(1,2,3-cd)pyrene [f]	193-39-5	0.5 [c]
m-Cresol [f]	108-39-4	0.33 [b]
Naphthalene [f]	91-20-3	12
o-Cresol [f]	95-48-7	0.33 [b]

Table 375-6.8(a):Unrestricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Unrestricted Use
p-Cresol [f]	106-44-5	0.33 [b]
Pentachlorophenol	87-86-5	0.8 [b]
Phenanthrene [f]	85-01-8	100
Phenol	108-95-2	0.33 [b]
Pyrene [f]	129-00-0	100
Volatile organic compounds		
1,1,1-Trichloroethane [f]	71-55-6	0.68
1,1-Dichloroethane [f]	75-34-3	0.27
1,1-Dichloroethene [f]	75-35-4	0.33
1,2-Dichlorobenzene [f]	95-50-1	1.1
1,2-Dichloroethane	107-06-2	0.02 [c]
cis -1,2-Dichloroethene [f]	156-59-2	0.25
trans-1,2-Dichloroethene [f]	156-60-5	0.19
1,3-Dichlorobenzene [f]	541-73-1	2.4
1,4-Dichlorobenzene	106-46-7	1.8
1,4-Dioxane	123-91-1	0.1 [b]
Acetone	67-64-1	0.05
Benzene	71-43-2	0.06
n-Butylbenzene [f]	104-51-8	12
Carbon tetrachloride [f]	56-23-5	0.76
Chlorobenzene	108-90-7	1.1
Chloroform	67-66-3	0.37
Ethylbenzene [f]	100-41-4	1
Hexachlorobenzene [f]	118-74-1	0.33[b]
Methyl ethyl ketone	78-93-3	0.12
Methyl tert-butyl ether [f]	1634-04-4	0.93
Methylene chloride	75-09-2	0.05

Table 375-6.8(a):Unrestricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Unrestricted Use
n - Propylbenzene [f]	103-65-1	3.9
sec-Butylbenzene [f]	135-98-8	11
tert-Butylbenzene [f]	98-06-6	5.9
Tetrachloroethene	127-18-4	1.3
Toluene	108-88-3	0.7
Trichloroethene	79-01-6	0.47
1,2,4-Trimethylbenzene [f]	95-63-6	3.6
1,3,5-Trimethylbenzene[f]	108-67-8	8.4
Vinyl chloride[f]	75-01-4	0.02
Xylene (mixed)	1330-20-7	0.26

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

Footnotes

[a] The SCOs for unrestricted use were capped at a maximum value of 100 ppm. See Technical Support Document (TSD), section 9.3.

[b] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.

[c] For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.

[d] SCO is the sum of endosulfan I, endosulfan II and endosulfan sulfate.

[e] The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

[f] Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8(b) with “NS”. Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.

(b) Restricted use soil cleanup objectives.

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
Metals							
Arsenic	7440-38-2	16[f]	16[f]	16[f]	16[f]	13[f]	16[f]
Barium	7440-39-3	350[f]	400	400	10,000 [d]	433	820
Beryllium	7440-41-7	14	72	590	2,700	10	47
Cadmium	7440-43-9	2.5[f]	4.3	9.3	60	4	7.5
Chromium, hexavalent [h]	18540-29-9	22	110	400	800	1[e]	19
Chromium, trivalent [h]	16065-83-1	36	180	1,500	6,800	41	NS
Copper	7440-50-8	270	270	270	10,000 [d]	50	1,720
Total Cyanide [h]		27	27	27	10,000 [d]	NS	40
Lead	7439-92-1	400	400	1,000	3,900	63[f]	450
Manganese	7439-96-5	2,000[f]	2,000[f]	10,000 [d]	10,000 [d]	1600[f]	2,000[f]
Total Mercury		0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.18[f]	0.73
Nickel	7440-02-0	140	310	310	10,000 [d]	30	130
Selenium	7782-49-2	36	180	1,500	6,800	3.9[f]	4[f]
Silver	7440-22-4	36	180	1,500	6,800	2	8.3
Zinc	7440-66-6	2200	10,000 [d]	10,000 [d]	10,000 [d]	109[f]	2,480
PCBs/Pesticides							
2,4,5-TP Acid (Silvex)	93-72-1	58	100[a]	500[b]	1,000[c]	NS	3.8
4,4'-DDE	72-55-9	1.8	8.9	62	120	0.0033 [e]	17
4,4'-DDT	50-29-3	1.7	7.9	47	94	0.0033 [e]	136
4,4'- DDD	72-54-8	2.6	13	92	180	0.0033 [e]	14
Aldrin	309-00-2	0.019	0.097	0.68	1.4	0.14	0.19
alpha-BHC	319-84-6	0.097	0.48	3.4	6.8	0.04[g]	0.02
beta-BHC	319-85-7	0.072	0.36	3	14	0.6	0.09
Chlordane (alpha)	5103-71-9	0.91	4.2	24	47	1.3	2.9

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
delta-BHC	319-86-8	100[a]	100[a]	500[b]	1,000[c]	0.04[g]	0.25
Dibenzofuran	132-64-9	14	59	350	1,000[c]	NS	210
Dieldrin	60-57-1	0.039	0.2	1.4	2.8	0.006	0.1
Endosulfan I	959-98-8	4.8[i]	24[i]	200[i]	920[i]	NS	102
Endosulfan II	33213-65-9	4.8[i]	24[i]	200[i]	920[i]	NS	102
Endosulfan sulfate	1031-07-8	4.8[i]	24[i]	200[i]	920[i]	NS	1,000[c]
Endrin	72-20-8	2.2	11	89	410	0.014	0.06
Heptachlor	76-44-8	0.42	2.1	15	29	0.14	0.38
Lindane	58-89-9	0.28	1.3	9.2	23	6	0.1
Polychlorinated biphenyls	1336-36-3	1	1	1	25	1	3.2
Semivolatiles							
Acenaphthene	83-32-9	100[a]	100[a]	500[b]	1,000[c]	20	98
Acenapthylene	208-96-8	100[a]	100[a]	500[b]	1,000[c]	NS	107
Anthracene	120-12-7	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Benz(a)anthracene	56-55-3	1[f]	1[f]	5.6	11	NS	1[f]
Benzo(a)pyrene	50-32-8	1[f]	1[f]	1[f]	1.1	2.6	22
Benzo(b)fluoranthene	205-99-2	1[f]	1[f]	5.6	11	NS	1.7
Benzo(g,h,i)perylene	191-24-2	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Benzo(k)fluoranthene	207-08-9	1	3.9	56	110	NS	1.7
Chrysene	218-01-9	1[f]	3.9	56	110	NS	1[f]
Dibenz(a,h)anthracene	53-70-3	0.33[e]	0.33[e]	0.56	1.1	NS	1,000[c]
Fluoranthene	206-44-0	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Fluorene	86-73-7	100[a]	100[a]	500[b]	1,000[c]	30	386
Indeno(1,2,3-cd)pyrene	193-39-5	0.5[f]	0.5[f]	5.6	11	NS	8.2
m-Cresol	108-39-4	100[a]	100[a]	500[b]	1,000[c]	NS	0.33[e]
Naphthalene	91-20-3	100[a]	100[a]	500[b]	1,000[c]	NS	12

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
o-Cresol	95-48-7	100[a]	100[a]	500[b]	1,000[c]	NS	0.33[e]
p-Cresol	106-44-5	34	100[a]	500[b]	1,000[c]	NS	0.33[e]
Pentachlorophenol	87-86-5	2.4	6.7	6.7	55	0.8[e]	0.8[e]
Phenanthrene	85-01-8	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Phenol	108-95-2	100[a]	100[a]	500[b]	1,000[c]	30	0.33[e]
Pyrene	129-00-0	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Volatiles							
1,1,1-Trichloroethane	71-55-6	100[a]	100[a]	500[b]	1,000[c]	NS	0.68
1,1-Dichloroethane	75-34-3	19	26	240	480	NS	0.27
1,1-Dichloroethene	75-35-4	100[a]	100[a]	500[b]	1,000[c]	NS	0.33
1,2-Dichlorobenzene	95-50-1	100[a]	100[a]	500[b]	1,000[c]	NS	1.1
1,2-Dichloroethane	107-06-2	2.3	3.1	30	60	10	0.02[f]
cis-1,2-Dichloroethene	156-59-2	59	100[a]	500[b]	1,000[c]	NS	0.25
trans-1,2-Dichloroethene	156-60-5	100[a]	100[a]	500[b]	1,000[c]	NS	0.19
1,3-Dichlorobenzene	541-73-1	17	49	280	560	NS	2.4
1,4-Dichlorobenzene	106-46-7	9.8	13	130	250	20	1.8
1,4-Dioxane	123-91-1	9.8	13	130	250	0.1[e]	0.1[e]
Acetone	67-64-1	100[a]	100[b]	500[b]	1,000[c]	2.2	0.05
Benzene	71-43-2	2.9	4.8	44	89	70	0.06
Butylbenzene	104-51-8	100[a]	100[a]	500[b]	1,000[c]	NS	12
Carbon tetrachloride	56-23-5	1.4	2.4	22	44	NS	0.76
Chlorobenzene	108-90-7	100[a]	100[a]	500[b]	1,000[c]	40	1.1
Chloroform	67-66-3	10	49	350	700	12	0.37
Ethylbenzene	100-41-4	30	41	390	780	NS	1
Hexachlorobenzene	118-74-1	0.33[e]	1.2	6	12	NS	3.2
Methyl ethyl ketone	78-93-3	100[a]	100[a]	500[b]	1,000[c]	100[a]	0.12

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
Methyl tert-butyl ether	1634-04-4	62	100[a]	500[b]	1,000[c]	NS	0.93
Methylene chloride	75-09-2	51	100[a]	500[b]	1,000[c]	12	0.05
n-Propylbenzene	103-65-1	100[a]	100[a]	500[b]	1,000[c]	NS	3.9
sec-Butylbenzene	135-98-8	100[a]	100[a]	500[b]	1,000[c]	NS	11
tert-Butylbenzene	98-06-6	100[a]	100[a]	500[b]	1,000[c]	NS	5.9
Tetrachloroethene	127-18-4	5.5	19	150	300	2	1.3
Toluene	108-88-3	100[a]	100[a]	500[b]	1,000[c]	36	0.7
Trichloroethene	79-01-6	10	21	200	400	2	0.47
1,2,4-Trimethylbenzene	95-63-6	47	52	190	380	NS	3.6
1,3,5- Trimethylbenzene	108-67-8	47	52	190	380	NS	8.4
Vinyl chloride	75-01-4	0.21	0.9	13	27	NS	0.02
Xylene (mixed)	1330-20-7	100[a]	100[a]	500[b]	1,000[c]	0.26	1.6

All soil cleanup objectives (SCOs) are in parts per million (ppm).
NS=Not specified. See Technical Support Document (TSD).

Footnotes

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

[b] The SCOs for commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.

[c] The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.

[d] The SCOs for metals were capped at a maximum value of 10,000 ppm. See TSD section 9.3.

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

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

[g] This SCO is derived from data on mixed isomers of BHC.

[h] The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

[i] This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.

[j] This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See TSD Table 5.6-1.

CP-51 / Soil Cleanup Guidance

New York State Department of Environmental Conservation

DEC Policy

Issuing Authority: Alexander B. Grannis, Commissioner

Date Issued: October 21, 2010	**Latest Date Revised:**

I. Summary

This policy provides the framework and procedures for the selection of soil cleanup levels appropriate for each of the remedial programs in the New York State Department of Environmental Conservation (DEC) Division of Environmental Remediation (DER). This policy applies to the Inactive Hazardous Waste Disposal Site Remedial Program, known as the State Superfund Program (SSF); Brownfield Cleanup Program (BCP); Voluntary Cleanup Program (VCP); Environmental Restoration Program (ERP); Spill Response Program - Navigation Law (NL) section 176 (SRP); and the Resource Conservation and Recovery Act (RCRA) Corrective Action Program. It replaces *Technical and Administrative Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels* (January 24, 1994); the *Petroleum Site Inactivation and Closure Memorandum* (February 23, 1998); and Sections III and IV of *Spill Technology and Remediation Series (STARS) #1* (August 1992).

This document is used in conjunction with the applicable statutes, regulations and guidance. Site-specific soil cleanup levels, determined in accordance with this guidance, are only applied after:

- the site, or area of concern, is fully investigated to determine the nature and extent of contamination;
- all sources of contamination are addressed consistent with the hierarchy provided in 6 NYCRR 375-1.8(c) or consistent with the RCRA Corrective Action Program (as appropriate);
- groundwater, if contaminated, has been evaluated for appropriate remedial actions consistent with 6 NYCRR 375-1.8(d) or consistent with the RCRA Corrective Action Program (as appropriate); and
- impacts on adjacent residential properties, surface water, aquatic ecological resources are evaluated, as well as indoor air, soil vapor, vapor intrusion and other appropriate media.

II. Policy

It is DEC's policy, consistent with applicable statutes and regulations, that all remedies will be protective of public health and the environment. DEC's preference is that remedial programs, including the selection of soil cleanup levels, be designed such that the performance standard results in the implementation of a permanent remedy resulting in no future land use restrictions. However, some of

Table 1

Supplemental Soil Cleanup Objectives
(ppm)

Contaminant	CAS Number	Residential	Restricted Residential	Commercial	Industrial	Protection of Ecological Resources	Protection of Ground-water
METALS							
Aluminum	7429-90-5					10,000 [a,b]	
Antimony	7440-36-0					12[c]	
Boron	7440-42-8					0.5	
Calcium	7440-70-2					10,000 [a,b]	
Cobalt	7440-48-4	30				20	
Iron	7439-89-6	2,000					
Lithium	7439-93-2					2	
Molybdenum	7439-98-7					2	
Technetium	7440-26-8					0.2	
Thallium	7440-28-0					5[c]	
Tin	7440-31-5					50	
Uranium	7440-61-1					5	
Vanadium	7440-62-2	100[a]				39[b]	
PESTICIDES							
Biphenyl	92-52-4					60	
Chlordecone (Kepone)	143-50-0					0.06	
Dibenzofuran	132-64-9						6.2
2,4-D (2,4-Dichloro-phenoxyacetic acid)	94-75-7	100[a]					0.5
Furan	110-00-9					600	
Gamma Chlordane	5103-74-2	0.54					14
Heptachlor Epoxide	1024-57-3	0.077					0.02
Methoxychlor	72-43-5	100[a]				1.2	900

Contaminant	CAS Number	Residential	Restricted Residential	Commercial	Industrial	Protection of Ecological Resources	Protection of Ground-water
Parathion	56-38-2	100 [a]					1.2
2,4,5-T	93-76-5	100 [a]					1.9
2,3,7,8-TCDD	1746-01-6					0.000001	
2,3,7,8-TCDF	51207-31-9					0.000001	
SEMIVOLATILE ORGANIC COMPOUNDS							
Aniline	62-53-3	48	100[a]	500[a]	1000[a]		0.33[b]
Bis(2-ethylhexyl) phthalate	117-81-7	50				239	435
Benzoic Acid	65-85-0	100[a]					2.7
Butylbenzyl-phthalate	85-68-7	100 [a]					122
4-Chloroaniline	106-47-8	100 [a]					0.22
Chloroethane	75-00-3						1.9
2-Chlorophenol	95-57-8	100 [a]				0.8	
3-Chloroaniline	108-42-9					20	
3-Chlorophenol	108-43-0					7	
Di-n-butyl-phthalate	84-74-2	100 [a]				0.014	8.1
2,4-Dichlorophenol	120-83-2	100 [a]				20	0.40
3,4-Dichlorophenol	95-77-2					20	
Diethylphthalate	84-66-2	100 [a]				100	7.1
Di-*n*-hexyl-phthalate	84-75-3					0.91	
2,4-Dinitrophenol	51-28-5	100 [a]				20	0.2
Dimethylphthlate	131-11-3	100 [a]				200	27
Di-n-octylphthlate	117-84-0	100 [a]					120
1,2,3,6,7,8-HCDF	57117-44-9					0.00021	
Hexachloro-benzene	118-74-1	0.41					1.4
2,6-Dinitrotoluene	606-20-2	1.03					1.0
Isophorone	78-59-1	100 [a]					4.4

Contaminant	CAS Number	Residential	Restricted Residential	Commercial	Industrial	Protection of Ecological Resources	Protection of Ground-water
4-methyl-2-pentanone	108-10-1						1.0
2-methyl-naphthalene	91-57-6	0.41					36.4
2-Nitroaniline	88-74-4						0.4
3-Nitroaniline	99-09-2						0.5
Nitrobenzene	98-95-3	3.7	15	69	140	40	0.17[b]
2-Nitrophenol	88-75-5					7	0.3
4-Nitrophenol	100-02-7					7	0.1
Pentachloroaniline	527-20-8					100	
2,3,5,6-Tetrachloroaniline	3481-20-7					20	
2,3,4,5-Tetrachlorophenol	4901-51-3					20	
2,4,5-Trichloroaniline	636-30-6					20	
2,4,5-Trichlorophenol	95-95-4	100[a]				4	0.1
2,4,6-Trichlorophenol	88-06-2					10	
VOLATILE ORGANIC COMPOUNDS							
2-Butanone	78-93-3	100[a]					0.3
Carbon Disulfide	75-15-0	100[a]					2.7
Chloroacetamide	79-07-2					2	
Dibromochloro-methane	124-48-1					10	
2,4-Dichloro aniline	554-00-7					100	
3,4-Dichloroaniline	95-76-1					20	
1,2-Dichloropropane	78-87-5					700	
1,3-Dichloropropane	142-28-9						0.3
2,6-Dinitrotoluene	606-20-2	1.03					0.17[b]
Ethylacetate	141-78-6					48	

Contaminant	CAS Number	Residential	Restricted Residential	Commercial	Industrial	Protection of Ecological Resources	Protection of Ground-water
4-methyl-2-pentanone	108-10-1						1.0
113 Freon (1,1,2- TFE)	76-13-1	100 [a]					6
isopropylbenzene	98-82-8	100 [a]					2.3
p-isopropyltoluene	99-87-6						10
Hexachlorocyclo-pentadiene	77-47-4					10	
Methanol	67-56-1					6.5	
N-nitrosodiphenyl-amine	86-30-6					20	
Pentachloro-benzene	608-93-5					20	
Pentachloronitro-benzene	82-68-8					10	
Styrene	100-42-5					300	
1,2,3,4-Tetrachlorobenzene	634-66-2					10	
1,1,2,2-Tetrachloroethane	79-34-5	35					0.6
1,1,2,2-Tetrachloroethylene	127-18-4					2	
1,2,3-Trichlorobenzene	87-61-6					20	
1,2,4-Trichlorobenzene	120-82-1					20	3.4
1,2,3-Trichloropropane	96-18-4	80					0.34

[a] SCOs for organic contaminants (volatile organic compounds, semivolatile organic compounds, and pesticides) are capped at 100 ppm for residential use, 500 ppm for commercial use, 1000 ppm for industrial use. SCOs for metals are capped at 10,000 ppm.

[b] Based on rural background study

[c] SCO limited by contract required quantitation limit.

Table 2

Soil Cleanup Levels for Gasoline Contaminated Soils

Contaminant	CAS Registry Number	Soil Cleanup Level (ppm)
Benzene	71-43-2	0.06
n-Butylbenzene	104-51-8	12.0
sec-Butylbenzene	135-98-8	11.0
Ethylbenzene	100-41-4	1.0
Isopropylbenzene	98-82-8	2.3
p-Isopropyltoluene	99-87-6	10.0
Methyl-Tert-Butyl-Ether	1634-04-4	0.93
Naphthalene	91-20-3	12.0
n-Propylbenzene	103-65-1	3.9
Tert-Butylbenzene	98-06-6	5.9
Toluene	108-88-3	0.7
1,2,4-Trimethylbenzene	95-63-6	3.6
1,3,5-Trimethylbenzene	108-67-8	8.4
Xylene (Mixed)	1330-20-7	0.26

Table 3

Soil Cleanup Levels for Fuel Oil Contaminated Soil

Contaminant	CAS Registry Number	Soil Cleanup Level (ppm)
Acenaphthene	83-32-9	20
Acenaphthylene	208-96-8	100
Anthracene	120-12-7	100
Benz(a)Anthracene	56-55-3	1.0
Dibenzo(a,h)Anthracene	53-70-3	0.33
Benzene	71-43-2	0.06
n-Butylbenzene	104-51-8	12.0
sec-Butylbenzene	135-98-8	11.0
Tert-Butylbenzene	98-06-6	5.9
Chrysene	218-01-9	1.0
Ethylbenzene	100-41-4	1.0
Fluoranthene	206-44-0	100
Benzo(b)Fluoranthene	205-99-2	1.0
Benzo(k)Fluoranthene	207-08-9	0.8
Fluorene	86-73-7	30
Isopropylbenzene	98-82-8	2.3
p-Isopropyltoluene	99-87-6	10.0
Naphthalene	91-20-3	12.0
n-Propylbenzene	103-65-1	3.9
Benzo(g,h,i)Perylene	191-24-2	100
Phenanthrene	85-01-8	100
Pyrene	129-00-0	100
Benzo(a)Pyrene	50-32-8	1.0
Indeno(1,2,3-cd)Pyrene	193-39-5	0.5
1,2,4-Trimethylbenzene	95-63-6	3.6
1,3,5-Trimethylbenzene	108-67-8	8.4
Toluene	108-88-3	0.7
Xylene (Mixed)	1330-20-7	0.26

APPENDIX I – HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

FOR

ISCO TREATMENT

(INCORPORATING COMMUNITY HEALTH AND SAFETY PLAN)

Prepared for the

Long Dock Beacon Site

NYSDEC BCP Site: C314112

Located at

Red Flynn Drive, City of Beacon
Dutchess County, New York

July 2015

ESI File: SG96152

Prepared By:

MORRIS ASSOCIATES
ENGINEERING CONSULTANTS, P.L.L.C.
ENGINEERS • PLANNERS • SURVEYORS

and

Ecosystems Strategies, Inc.
24 Davis Avenue, Poughkeepsie, NY 12603
phone 845.452.1658 | fax 845.485.7083 | ecosystemsstrategies.com

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ATTACHMENTS

Attachment A: Soil Investigation Map

Attachment B: Proposed Fieldwork Map

Attachment C: MSDS Information

1.0 INTRODUCTION

1.1 Purpose

This Health and Safety Plan for Site Remediation (HASP) has been developed to provide the requirements and general procedures to be followed by Ecosystems Strategies, Inc. (ESI) and on-site subcontractors while performing ISCO remedial treatment activities at the Long Dock Beacon BCP Site located at Red Flynn Drive, Beacon, Dutchess County, New York. This document supersedes all other health and safety plans prepared by ESI for this Site.

This HASP incorporates policies, guidelines, and procedures that have the objective of protecting the public health of the community during the performance of fieldwork activities, and therefore serves as a Community Health and Safety Plan (CHASP). The objectives of the CHASP are met by establishing guidelines to minimize community exposure to hazards during fieldwork, and by planning for and responding to emergencies affecting the public.

This HASP describes the responsibilities, training requirements, protective equipment, and standard operating procedures to be utilized by all personnel while on the Site. All on-site personnel and visitors shall follow the guidelines, rules, and procedures contained in this safety plan. The Project Manager or Site Health and Safety Officer (SHSO) may impose any other procedures or prohibitions believed to be necessary for safe operations. This HASP incorporates by reference the applicable Occupational Safety and Health Administration (OSHA) requirements in 29 CFR 1910 and 29 CFR 1926.

The requirements and guidelines in this HASP are based on a review of available information and evaluation of potential on-site hazards. This HASP will be discussed with Site personnel and will be available on-site for review while work is underway. On-site personnel will report to the Site Health and Safety Officer (SHSO) in matters of health and safety. The on-site project supervisor(s) are responsible for enforcement and implementation of this HASP, which is applicable to all field personnel, including contractors and subcontractors.

This HASP is specifically intended for the conduct of activities within the defined scope of work in specified areas of the Site. Changes in site conditions and future actions that may be conducted at the Site may necessitate the modification of the requirements of the HASP. Although this HASP can be made available to interested persons for informational purposes, ESI has no responsibility over the interpretations or activities of any other persons or entities other than employees of ESI or ESI's subcontractors.

1.2 Site Location and Description

The Long Dock Beacon Brownfield Cleanup Program (BCP) Site consists of an 8.85-acre parcel located in the City of Beacon, Dutchess County, New York, which adjoins and occupies the Hudson River to the west. The BCP Site, located within the bounds of Scenic Hudson's Long Dock Park, has a long history of known industrial and commercial use, which included the operation of a major oil storage facility (MOSF) on the south-central portion of the Site. The Site as defined in this HASP is a specified section of the former MOSF area at the south-central portion of the Long Dock Beacon BCP Site. Maps illustrating the configuration of the Site as well as the areas of proposed remedial activities are included in the Attachments of this HASP.

1.3 Work Activities

A Remedial Design Document (RDD) has been prepared to address residual contamination in portions of the former MOSF impacted by an historical release of fuel oil. The specific tasks detailed in the RDD are wholly incorporated by reference into this HASP.

Relevant soil contamination in the former MOSF area consists of:

- Diesel range total petroleum hydrocarbons (TPH-DRO, Figure 2 and Table 1) at depths ranging from 3 to 7 feet bsg, with concentrations above 10,000 ppm located at borings 2SB-10, 2SB-11A and 2SB-13.
- Elevated levels of total volatile organic compounds (VOCs, Figure 3 and Table 2) in samples 2SB-15 (36-40") and TP-6 (8.5'), based on total tentatively identified compounds (TICs) and/or unknown compounds.
- Elevated levels of semi-volatile organic compounds (SVOCs, Figure 4 and Table 3) along the eastern portion (2SB-18 at 9 to 10 feet bsg) and the south-central portion (TP-08 at 3 feet bsg).

Groundwater data do not document any significant hydrocarbon contamination; slight to moderate non-aqueous phase liquids (NAPL) and sheen, however, were observed in water entering excavation areas at the southern portion of the former MOSF (minimal NAPL was encountered).

The contaminants of concern identified in the RDD are elevated levels of TPH-DRO (greater than 10,000 ppm) and limited areas of observed NAPL. The use of in-situ chemical oxidation (ISCO) methodologies is proposed to reduce TPH concentrations (LNAPL will be addressed through product recovery wells).

2.0 HEALTH AND SAFETY HAZARDS

2.1 Hazard Overview for On-Site Personnel

The potential exists for the presence of elevated levels of organic compounds, free-phase petroleum compounds and metals in on-site soils and/or groundwater. The possibility exists for on-site personnel to have contact with contaminated soils or groundwater, or ISCO reagents or mixtures, during site remediation work. Contact with contaminated substances may present a skin contact, inhalation and/or ingestion hazard. These potential hazards are addressed in Sections 3.0 through 11.0, below.

2.2 Potential Hazards to the Public from Fieldwork Activities

The potential exists for the public to be exposed to contaminated soils and/or groundwater, or ISCO reagents or mixtures, which may present a skin contact, inhalation and/or ingestion hazard. Additional potential hazards to the public that are associated with fieldwork activities include mechanical/physical hazards, traffic hazards from fieldwork vehicles, and noise impacts associated with operation of mechanical equipment. Impacts to public health and safety are expected to be limited to hazards that could directly affect on-site visitors and/or trespassers. These effects will be mitigated through site access and control measures (see Section 6.0, below). Specific actions taken to protect the public health (presented in Sections 3.0 through 11, below) are anticipated to minimize any potential off-site impacts from contaminant migration, noise and traffic hazards.

3.0 PERSONAL PROTECTIVE EQUIPMENT

The levels of protection identified for the services specified in the RDD represent a best estimate of exposure potential and protective equipment needed for that exposure. Determination of levels was based on data provided by previous studies of the Site and information reviewed on current and past Site usage. The SHSO may recommend revisions to these levels based on an assessment of actual exposures and may at any time require Site workers, supervisors and/or visitors to use specific safety equipment.

The level of protective clothing and equipment selected for this project is Level D. Level D PPE provides minimal skin protection and no respiratory protection, and is used when the atmosphere contains no known hazard, oxygen concentrations are not less than 19.5%, and work activities exclude splashes, immersion or the potential for unexpected inhalation or contact with hazardous levels of chemicals. Workers will wear Level D protective clothing including, but not limited to, a hard hat, steel-toed boots, nitrile gloves (when handling soils and/or groundwater), hearing protection (foam ear plugs or ear muffs, as required), and safety goggles (in areas of exposed groundwater and when decontaminating equipment). An enhanced level of protective clothing and equipment (full face shields, waterproof and chemically resistant outerwear, etc) will be utilized by any workers handling or in close proximity to ISCO chemicals during mixing and/or injection activities. Level D Personal protective equipment (PPE) will be worn at all times, as designated by this HASP.

Disposable gloves will be changed immediately following the handling of contaminated soils, water, or equipment. Tyvek suits will be worn during activities likely to excessively expose work clothing to contaminated dust or soil (chemically-resistant over garments will be required in situations where exposures could lead to penetration of clothing and direct dermal contact by contaminants).

The requirement for the use of PPE by official on-site visitors shall be determined by the SHSO, based on the most restrictive PPE requirement for a particular Work Zones (see Section 6 for Work Zone definitions). All on-site visitors shall, at a minimum, be required to wear an approved hardhat and be provided with appropriate hearing protection as necessary.

The need for an upgrade in PPE will be determined based upon encountered Site conditions, including measurements taken in the breathing zone of the work area using a photo-ionization detector (PID). An upgrade to a higher level of protection (Level C) will begin when specific action levels are reached (see Section 5.0, below), or as otherwise required by the SHSO. Level C PPE includes a full-face or half-mask air-purifying respirator (NIOSH approved for the compound[s] of concern), hooded chemical-resistant clothing, outer and inner chemical-resistant gloves, and (as needed) coveralls, outer boots/boot covers, escape mask, and face shield. Level C PPE may be used only when: oxygen concentrations are not less than 19.5%; contaminant contact will not adversely affect any exposed skin; types of air contaminants have been identified, concentrations measured, and a cartridge or canister is available that can remove the contaminant; atmospheric contaminant concentrations do not exceed immediately dangerous to life or health (IDLH) levels; and job functions do not require self-contained breathing apparatus (SCBAs). The need for Level B or Level A PPE is not anticipated for the planned remedial activities at this Site.

If any equipment fails and/or any employee experiences a failure or other alteration of their protective equipment that may affect its protective ability, that person will immediately leave the work area. The Project Manager and the SHSO will be notified and, after reviewing the situation, determine the effect of

the failure on the continuation of on-going operations. If the failure affects the safety of personnel, the work site, or the surrounding environment, personnel will be evacuated until appropriate corrective actions have been taken.

4.0 CONTAMINANT CONTROL

Precautions will be taken during dry weather (e.g., wetting or covering exposed soils) to avoid generating and breathing dust-generated from soils. A PID (or equivalent equipment) will be used to monitor potential contaminant levels. Response to the monitoring will be in accordance with the action levels provided in Section 5.0.

5.0 MONITORING AND ACTION LEVELS

Concentrations of petroleum compounds in the air are expected to be below the OSHA Permissible Exposure Limits (PELs). Air monitoring will be conducted for VOCs and dust according to the NYSDOH Generic Community Air Monitoring Plan (CAMP). Monitoring will be conducted at all times that fieldwork activities which are likely to generate emissions are occurring. PID and dust readings consistently in excess of CAMP limits will be used as an indication of the need to initiate personnel monitoring, increase worker protective measures, and/or modify or cease on-site operations in order to mitigate off-site community exposure. PID readings that consistently exceed background in the breathing zone (during any of the proposed tasks) will necessitate moving away from the source or implementing a higher PPE level.

6.0 SITE CONTROL/WORK ZONES

Site control procedures will be established to reduce the possibility of worker/visitor contact with compounds present in the soil, to protect the public in the area surrounding the Site and to limit access to the Site to only those persons required to be in the work zone. Notices will be placed near the Site warning the public not to enter fieldwork areas and directing visitors to report to the Project Manager or SHSO. Measures will be taken to limit the entry of unauthorized personnel into the specific areas of field activity and to safely direct and control all vehicular traffic in and near the Site (e.g., placement of traffic cones and warning tape).

The following Work Zone will be established:

Exclusion Zone ("Hot Zone") - The exclusion zone will be that area immediately surrounding the work being performed for remediation purposes (i.e. the area where contaminated media are being handled). It is anticipated that much of the work will be accomplished with heavy equipment in the exclusion zone. Only individuals with appropriate PPE and training are allowed into this zone. It is the responsibility of the Site Health and Safety Officer to prevent unauthorized personnel from entering the exclusion zone. When necessary, such as in high traffic areas, the exclusion zone will be delineated with barricade tape, cones and/or barricades.

Decontamination Area - A decontamination area for personnel and equipment is not anticipated being required during completion of the RAWP; however, care will be taken to remove gloves, excess soil from boots, and soiled clothing (if necessary) before entering the Intermediate Zone.

Contamination Reduction Zone and Support Zone - Not anticipated being required during the completion of the RAWP.

Intermediate Zone (Decontamination Zone) - The intermediate zone, also known as the decontamination zone, is where patient decontamination should take place, if necessary. A degree of contamination still is found in this zone; thus, some PPE is required, although it is usually of a lesser degree than that required for the hot zone.

Command Zone - The command zone is located outside the decontamination zone. All exposed individuals and equipment from the "hot zone" and decontamination zone should be decontaminated before entering the command zone. Access to all zones must be controlled. Keeping the media and onlookers well away from the Site is critical and will be the responsibility of both the SSHO and the Project Manager, and other Site personnel as appropriate.

7.0 NOISE CONTROL

All fieldwork activities will be conducted in a manner designed to reduce unnecessary noise generation, and to minimize the potential for both on-site and off-site harmful noise levels. The Project Manager and SHSO will establish noise reduction procedures (as appropriate to the Site and the work) to meet these requirements.

8.0 PERSONNEL TRAINING

Work zones that will accomplish the general objective stated above will be established by the Project Manager and the SHSO. Site access will be monitored by the SHSO, who will maintain a log-in sheet for personnel that will include, at the minimum, personnel on the Site, their arrival and departure times and their destination on the Site. All workers will be properly trained in accordance with OSHA requirements (29 CFR 1910). Personnel exiting the work zone(s) will be decontaminated prior to exiting the Site.

Site-specific training will be provided to each employee. Personnel will be briefed by the SHSO as to the potential hazards to be encountered. Topics will include:

- Availability of this HASP;
- General site hazards and specific hazards in the work areas, including those attributable to known of suspect on-site contaminants;
- Selection, use, testing, and care of the body, eye, hand, and foot protection being worn, with the limitations of each;
- Decontamination procedures for personnel, their personal protective equipment, and other equipment used on the Site;
- Emergency response procedures and requirements;
- Emergency alarm systems and other forms of notification, and evacuation routes to be followed; and,
- Methods to obtain emergency assistance and medical attention.

9.0 DECONTAMINATION

The SHSO will establish a decontamination system and decontamination procedures (appropriate to the Site and the work) that will prevent potentially hazardous materials from leaving the Site. Trucks will be

brushed to remove materials adhering to their surfaces. Sampling equipment will be segregated and, after decontamination, stored separately from splash protection equipment. Decontaminated or clean sampling equipment not in use will be covered with plastic and stored in a designated storage area in the work zone.

10.0 EMERGENCY RESPONSE

10.1 Notification of Site Emergencies

In the event of an emergency, the SHSO will be immediately notified of the nature and extent of the emergency (the names and contact information for key site safety and management personnel, as well as other site safety contact telephone numbers, shall be posted at the Site).

Table 1 in this HASP contains Emergency Response Telephone Numbers, and immediately following is a map detailing the directions to the nearest hospital emergency room. This information will be maintained at the work Site by the SHSO. The location of the nearest telephone will be determined prior to the initiation of on-site activities. In addition to any permanent phone lines, a cellular phone will be in the possession of the SHSO, or an authorized designee, at all times.

10.2 Responsibilities

Prior to the initiation of on-site work activities, the SHSO will:

- Notify individuals, authorities and/or health care facilities of the potentially hazardous activities and potential wastes that may develop as a result of the remedial activities.
- Confirm that first aid supplies and a fire extinguisher are available on-site.
- Have a working knowledge of safety equipment available.
- Confirm that a map detailing the most direct route to the hospital is prominently posted with the emergency telephone numbers.

The SHSO will be responsible for directing notification, response and follow-up actions and for contacting outside response personnel (ambulance, fire department, or others). In the case of an evacuation, the SHSO will account for personnel. A log of individuals entering and leaving the Site will be kept so that everyone can be accounted for in an emergency.

Upon notification of an exposure incident, the SHSO will contact the appropriate emergency response personnel for recommended medical diagnosis and, if necessary, treatment. The SHSO will determine whether and at what levels exposure actually occurred, the cause of such exposure, and the means to prevent similar incidents from occurring.

10.3 Accidents and Injuries

In the event of an accident or injury, measures will be taken to assist those who have been injured or exposed and to protect others from hazards. If an individual is transported to a hospital or doctor, a copy of the HASP will accompany the individual.

The SHSO will be notified and will respond according to the severity of the incident. The SHSO will perform an investigation of the incident and prepare a signed and dated report documenting the

investigation. An exposure-incident report will also be completed by the SHSO and the exposed individual. The form will be filed with the employee's medical and safety records to serve as documentation of the incident and the actions taken.

10.4 Communication

No special hand signals will be utilized within the work zone. Field personnel will utilize standard hand signals during the operation of heavy equipment.

10.5 Safe Refuge

Vehicles and on-site structures will serve as the immediate place of refuge in the event of an emergency. If evacuation from the area is necessary, project vehicles will be used to transport on-site personnel to safety.

10.6 Site Security and Control

Site security and control during emergencies, accidents and incidents will be monitored by the SHSO. The SHSO is responsible for limiting access to the Site to authorized personnel and for oversight of reaction activities.

10.7 Emergency Evacuation

In case of an emergency, personnel will evacuate to the safe refuge identified by the SHSO, both for their personal safety and to prevent the hampering of response/rescue efforts.

10.8 Resuming Work

A determination that it is safe to return to work will be made by the SHSO and/or any personnel assisting in the emergency, e.g., fire department, police department, utility company, etc. No personnel will be allowed to return to the work areas until a full determination has been made by the above-identified personnel that all field activities can continue unobstructed. Such a determination will depend upon the nature of the emergency (e.g., downed power lines -- removal of all lines from the property; fire -- extinguished fire; injury -- safe transport of the injured party to a medical facility with either assurance of acceptable medical care present or completion of medical care; etc.). Before on-site work is resumed following an emergency, necessary emergency equipment will be recharged, refilled or replaced. Government agencies will be notified as appropriate. An Incident Report Form will be filed.

10.9 Fire Fighting Procedures

A fire extinguisher will be available in the work zone during on-site activities. This extinguisher is intended for small fires. When a fire cannot be controlled with the extinguisher, the area will be evacuated immediately. The SHSO will be responsible for directing notification, response and follow-up actions and for contacting ambulance and fire department personnel.

10.10 Emergency Decontamination Procedure

The extent of emergency decontamination depends on the severity of the injury or illness and the nature of the contamination. Whenever possible, minimum decontamination will consist of washing, rinsing

and/or removal of contaminated outer clothing and equipment. If time does not permit decontamination, the person will be given first aid treatment and then wrapped in plastic or a blanket prior to transport.

10.11 Emergency Equipment

The following on-site equipment for safety and emergency response will be maintained in the on-site vehicle of the SHSO:

- Fire extinguisher;
- First-aid kit; and,
- Extra copy of this Health and Safety Plan.

11.0 SPECIAL PRECAUTIONS AND PROCEDURES

The activities associated with this remediation may involve potential risks of exposure to both chemical and physical hazards. The potential for chemical exposure to hazardous or regulated substances will be significantly reduced through the use of monitoring, personal protective clothing, engineering controls, and implementation of safe work practices.

11.1 Heat/Cold Stress

Training in prevention of heat/cold stress will be provided as part of the site-specific training. The timing of this project is such that heat/cold stress may pose a threat to the health and safety of personnel. Work/rest regimens will be employed, as necessary, so that personnel do not suffer adverse effects from heat/cold stress. Special clothing and appropriate diet and fluid intake regimens will be recommended to personnel to further reduce this temperature-related hazard. Rest periods will be recommended in the event of high/low temperatures and/or humidity to counter the negative effects of heat/cold stress.

11.2 Heavy Equipment

Working in the vicinity of heavy equipment is the primary safety hazard at the Site. Physical hazards in working near heavy construction equipment include the following: overhead hazards, slips/trip/falls, hand and foot injuries, moving part hazards, improper lifting/back injuries and noise. All workers will be properly trained in accordance with OSHA requirements (29 CFR 1910). No workers will be permitted within any excavated areas without proper personal protective equipment (PPE), including, as warranted, any necessary Level C equipment (e.g., respirators and protective suits). Air monitoring in excavation areas will be conducted for VOCs in accordance with Section 5.0.

11.3 Additional Safety Practices

The following are important safety precautions which will be enforced during the remedial activities:

- Medicine and alcohol can aggravate the effect of exposure to certain compounds. Controlled substances and alcoholic beverages will not be consumed during remedial activities. Use of prescribed drugs will only be at the discretion of a physician familiar with the person's work.
- Eating, drinking, chewing gum or tobacco, smoking, or other practices that increase the probability of hand-to-mouth transfer and ingestion of material is prohibited except in areas designated by the SHSO.

- Contact with potentially contaminated surfaces will be avoided whenever possible. Workers will not unnecessarily walk through puddles, mud or other discolored surfaces; kneel on the ground; or lean, sit, or place equipment on drums, containers, vehicles, or the ground.
- Personnel and equipment in the work areas will be minimized, consistent with effective site operations.
- Unsafe equipment left unattended will be identified by a "DANGER, DO NOT OPERATE" tag.
- Work areas for various operational activities will be established.

11.4 Daily Log Contents

The SHSO will establish a system appropriate to the Site, the work and the work zones that will record, at a minimum, the following information:

- Personnel on the Site, their arrival and departure times and their destination on the Site.
- Incidents and unusual activities that occur on the Site such as, but not limited to, accidents, spills, breaches of security, injuries, equipment failures and weather-related problems.
- Changes to the HASP.
- Daily information generated such as: changes to work and health and safety plans; work accomplished and the current Site status; and monitoring results.

12.0 TABLE AND FIGURES

Table 1: Emergency Contact Information

Emergency Agencies	Phone Numbers
EMERGENCY	911
St. Luke's Hospital 70 Dubois Street, Newburgh	(845) 568-2305 - Emergency Room (845) 561-4400 - Main Information
Beacon Police Department	(845) 831-4111 or 911
Beacon Fire Department	(845) 831-2121 or 911
City Hall	(845) 838-5000
City Mayor	(845) 838-5010
Water and Sewer	(845) 831-3136
Site Health and Safety Officer, Paul Ciminello and/or on-site ESI personnel	(845) 452-1658

Figure 1: Directions to Hospital

		Dist	Turn		Road	Exit	Total Time	Total Dist
			Start	at	Red Flynn Dr		00:00:00	0.00 mi
			Go straight (S)	on	Red Flynn Dr		00:00:00	0.00 mi
	in	0.11 mi	Turn left (E)	on to	Long Dock Rd		00:00:27	0.11 mi
	in	0.02 mi	Go straight (ENE)	on to	<unnamed>		00:00:31	0.13 mi
	in	0.05 mi	Keep left (NE)	on to	Beekman St		00:00:42	0.18 mi
	in	0.34 mi	Keep right (NE)	on to	Beekman Rd		00:02:02	0.52 mi
	in	0.13 mi	Turn left (N)	on to	North Ave		00:02:33	0.65 mi
	in	0.20 mi	Keep right (NNE)	on to	SR 9D (North Ave)		00:03:04	0.85 mi
	in	0.54 mi	Turn left (W)	on to	I-84 W (SR 52|Newburgh Beacon Brg) ramp		00:04:31	1.39 mi
	in	2.28 mi	Go straight (WNW)	on to	SR 32 (Albany Post Rd) ramp	10N	00:07:26	3.66 mi
	in	0.21 mi	Turn left (SSE)	on to	SR 32 (Albany Post Rd)		00:07:58	3.87 mi
	in	0.18 mi	Go straight (S)	on to	US 9W (SR 32|N Robinson Ave)		00:08:24	4.06 mi
	in	0.99 mi	Turn left (E)	on to	Carter St		00:10:45	5.04 mi
	in	0.31 mi	Turn right (S)	on to	Dubois St		00:11:58	5.35 mi
	in	0.02 mi	Finish	at	70 Dubois St		00:12:03	5.37 mi

Total Time: 00:12:03 Total Distance: 5.37 mi

Figure 2: Map to Hospital (overview)

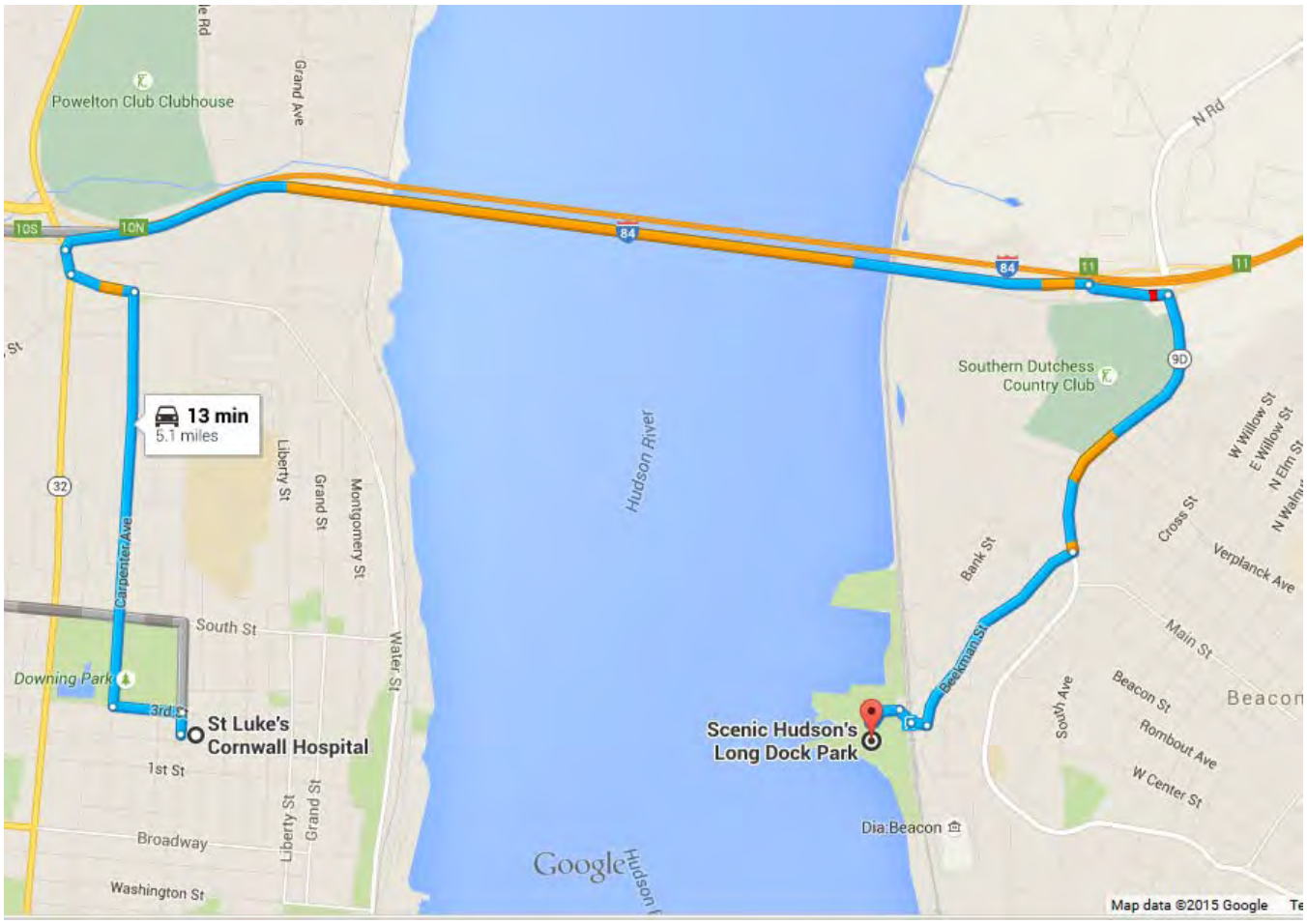
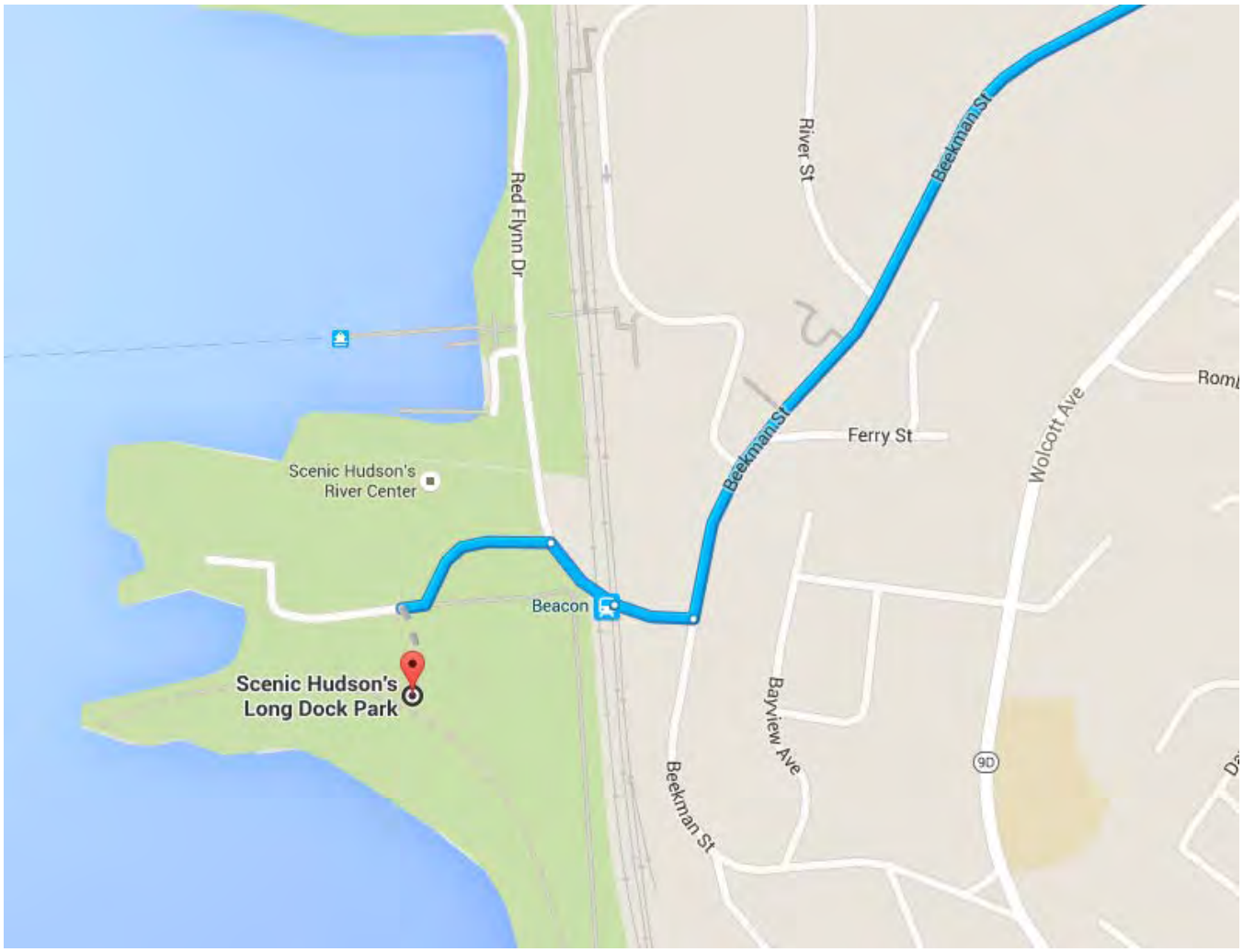
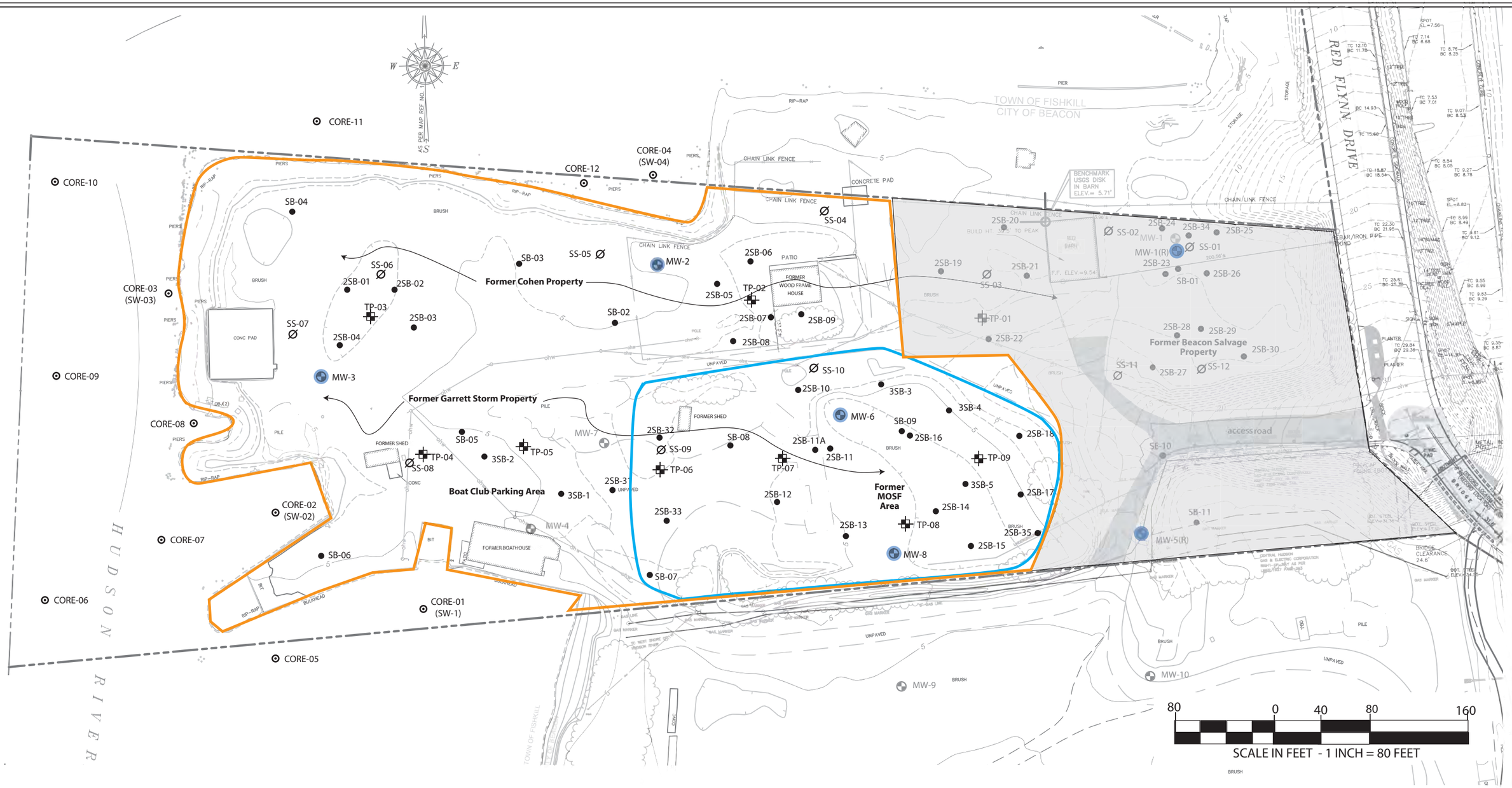


Figure 3: Map to Hospital (Beacon detail)



Ecosystems Strategies, Inc.



Soil Investigation Map (2006 to 2007 and 2014)

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

Legend:

- Site Boundary
- Phase II Remediation Area
- Former MOSF Area
- Phase I Remediation Area (2010-2011)
- Soil Boring
- Test Pit
- Surface Sample
- Sediment Sample
- ExistingMonitoring Well Location
- Former Monitoring Well Location

ESI File: SG96152.85
July 2015
Scale as shown
Attachment A

Ecosystems Strategies, Inc.



Legend:

- Site Boundary
- Soil Boring (2006 to 2007)
- Test Pit (2006)
- Monitoring Well
- Proposed Monitoring Well
- Former MOSF area
- Phase II Remediation area
- X ISCO injection point
- Proposed pre and post sample locations
- Areas of concern

Proposed Fieldwork Map for Measuring ISCO Impacts

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

ESI File: SG96152.85
July 2015
Scale as shown
Attachment B

MATERIAL SAFETY DATA SHEET

Diesel Fuel (All Types) **MSDS No. 9909**

EMERGENCY OVERVIEW
CAUTION!
OSHA/NFPA COMBUSTIBLE LIQUID - SLIGHT TO MODERATE IRRITANT
EFFECTS CENTRAL NERVOUS SYSTEM
HARMFUL OR FATAL IF SWALLOWED
Moderate fire hazard. Avoid breathing vapors or mists. May cause dizziness and drowsiness. May cause moderate eye irritation and skin irritation (rash). Long-term, repeated exposure may cause skin cancer.
If ingested, do NOT induce vomiting, as this may cause chemical pneumonia (fluid in the lungs).



NFPA 704 (Section 16)

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961

EMERGENCY TELEPHONE NUMBER (24 hrs): **CHEMTREC (800) 424-9300**
COMPANY CONTACT (business hours): Corporate Safety (732) 750-6000
MSDS INTERNET WEBSITE: www.hess.com (See Environment, Health, Safety & Social Responsibility)

SYNONYMS: Ultra Low Sulfur Diesel (ULSD); Low Sulfur Diesel; Motor Vehicle Diesel Fuel; Diesel Fuel #2; Dyed Diesel Fuel; Non-Road, Locomotive and Marine Diesel Fuel; Tax-exempt Diesel Fuel

See Section 16 for abbreviations and acronyms.

2. COMPOSITION and CHEMICAL INFORMATION ON INGREDIENTS

INGREDIENT NAME (CAS No.)	CONCENTRATION PERCENT BY WEIGHT
Diesel Fuel (68476-34-6)	100
Naphthalene (91-20-3)	Typically < 0.01

A complex mixture of hydrocarbons with carbon numbers in the range C9 and higher. Diesel fuel may be dyed (red) for tax purposes. May contain a multifunctional additive.

3. HAZARDS IDENTIFICATION

EYES
Contact with liquid or vapor may cause mild irritation.

SKIN
May cause skin irritation with prolonged or repeated contact. Practically non-toxic if absorbed following acute (single) exposure. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

INGESTION
The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

INHALATION
Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

CHRONIC EFFECTS and CARCINOGENICITY
Similar products produced skin cancer and systemic toxicity in laboratory animals following repeated applications. The significance of these results to human exposures has not been determined - see Section 11 Toxicological Information.

IARC classifies whole diesel fuel exhaust particulates as probably carcinogenic to humans (Group 2A). NIOSH regards whole diesel fuel exhaust particulates as a potential cause of occupational lung cancer based on animal studies and limited evidence in humans.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Irritation from skin exposure may aggravate existing open wounds, skin disorders, and dermatitis (rash).

4. FIRST AID MEASURES

EYES
In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

SKIN
Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops.

INGESTION
DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

INHALATION
Remove person to fresh air. If person is not breathing provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT:	> 125 ^{o}F (> 52 ^{o}C) minimum PMCC
AUTOIGNITION POINT:	494 ^{o}F (257 ^{o}C)
OSHA/NFPA FLAMMABILITY CLASS:	2 (COMBUSTIBLE)
LOWER EXPLOSIVE LIMIT (%):	0.6
UPPER EXPLOSIVE LIMIT (%):	7.5

FIRE AND EXPLOSION HAZARDS
Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

EXTINGUISHING MEDIA
SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam, or Halon.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

FIRE FIGHTING INSTRUCTIONS

Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment.

Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.

Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

See Section 16 for the NFPA 704 Hazard Rating.

6. ACCIDENTAL RELEASE MEASURES

ACTIVATE FACILITY'S SPILL CONTINGENCY OR EMERGENCY RESPONSE PLAN.

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal - caution, flammable vapors may accumulate in closed containers. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

7. HANDLING and STORAGE

HANDLING PRECAUTIONS

Handle as a combustible liquid. Keep away from heat, sparks, and open flame! Electrical equipment should be approved for classified area. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

Diesel fuel, and in particular low and ultra low sulfur diesel fuel, has the capability of accumulating a static electrical charge of sufficient energy to cause a fire/explosion in the presence of lower flashpoint products such as gasoline. The accumulation of such a static charge occurs as the diesel flows through pipelines, filters, nozzles and various work tasks such as tank/container filling, splash loading, tank cleaning; product sampling; tank gauging; cleaning, mixing, vacuum truck operations, switch loading, and product agitation. There is a greater potential for static charge accumulation in cold temperature, low humidity conditions.

Documents such as 29 CFR OSHA 1910.106 "Flammable and Combustible Liquids, NFPA 77 Recommended Practice on Static Electricity, API 2003 "Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents and ASTM D4865 "Standard Guide for Generation and Dissipation of Static

Electricity in Petroleum Fuel Systems" address special precautions and design requirements involving loading rates, grounding, bonding, filter installation, conductivity additives and especially the hazards associated with "switch loading." ["Switch Loading" is when a higher flash point product (such as diesel) is loaded into tanks previously containing a low flash point product (such as gasoline) and the electrical charge generated during loading of the diesel results in a static ignition of the vapor from the previous cargo (gasoline).]

Note: When conductivity additives are used or are necessary the product should achieve 25 picosiemens/meter or greater at the handling temperature.

STORAGE PRECAUTIONS

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

WORK/HYGIENIC PRACTICES

Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

8. EXPOSURE CONTROLS and PERSONAL PROTECTION

EXPOSURE LIMITS

Components (CAS No.)	Source	Exposure Limits TWA/STEL	Note
Diesel Fuel: (68476-34-6)	OSHA	5 mg/m, as mineral oil mist	
	ACGIH	100 mg/m^3 (as totally hydrocarbon vapor) TWA	A3, skin
Naphthalene (91-20-3)	OSHA	10 ppm TWA	
	ACGIH	10 ppm TWA / 15 ppm STEL	A4, Skin

ENGINEERING CONTROLS

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

EYE/FACE PROTECTION

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

SKIN PROTECTION

Gloves constructed of nitrile, neoprene, or PVC are recommended. Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

RESPIRATORY PROTECTION
A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

9. PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE
Clear, straw-yellow liquid. Dyed fuel oil will be red or reddish-colored.

ODOR
Mild, petroleum distillate odor

BASIC PHYSICAL PROPERTIES

BOILING RANGE:	320 to 690 oF (160 to 366 ^{o}C)
VAPOR PRESSURE:	0.009 psia @ 70 ^{o}F (21 ^{o}C)
VAPOR DENSITY (air = 1):	> 1.0
SPECIFIC GRAVITY (H_2O = 1):	0.83 to 0.88 @ 60 ^{o}F (16 ^{o}C)
PERCENT VOLATILES:	100 %
EVAPORATION RATE:	Slow; varies with conditions
SOLUBILITY (H_2O):	Negligible

10. STABILITY and REACTIVITY

STABILITY: Stable. Hazardous polymerization will not occur.

CONDITIONS TO AVOID and INCOMPATIBLE MATERIALS
Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources. Keep away from strong oxidizers; Viton ®; Fluorel ®

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

11. TOXICOLOGICAL PROPERTIES

ACUTE TOXICITY
Acute dermal LD50 (rabbits): > 5 ml/kg
Acute oral LD50 (rats): 9 ml/kg
Primary dermal irritation: extremely irritating (rabbits)
Draize eye irritation: non-irritating (rabbits)
Guinea pig sensitization: negative

CHRONIC EFFECTS AND CARCINOGENICITY
Carcinogenic: OSHA: NO IARC: NO NTP: NO ACGIH: A3

Studies have shown that similar products produce skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

MUTAGENICITY (genetic effects)
This material has been positive in a mutagenicity study.

12. ECOLOGICAL INFORMATION

Keep out of sewers, drainage areas, and waterways. Report spills and releases, as applicable, under Federal and State regulations.

13. DISPOSAL CONSIDERATIONS

Consult federal, state and local waste regulations to determine appropriate disposal options.

14. TRANSPORTATION INFORMATION

PROPER SHIPPING NAME:	Diesel Fuel	Placard (International Only):
HAZARD CLASS and PACKING GROUP:	3, PG III	
DOT IDENTIFICATION NUMBER:	NA 1993 (Domestic) UN 1202 (International)	
DOT SHIPPING LABEL:	None	



Use Combustible Placard if shipping in bulk domestically

15. REGULATORY INFORMATION

U.S. FEDERAL, STATE, and LOCAL REGULATORY INFORMATION

This product and its constituents listed herein are on the EPA TSCA Inventory. Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and/or local reporting requirements. This product and/or its constituents may also be subject to other regulations at the state and/or local level. Consult those regulations applicable to your facility/operation.

CLEAN WATER ACT (OIL SPILLS)

Any spill or release of this product to "navigable waters" (essentially any surface water, including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIRONMENT)

The CERCLA definition of hazardous substances contains a “petroleum exclusion” clause which exempts crude oil, refined, and unrefined petroleum products and any indigenous components of such. However, other federal reporting requirements (e.g., SARA Section 304 as well as the Clean Water Act if the spill occurs on navigable waters) may still apply.

SARA SECTION 311/312 - HAZARD CLASSES

ACUTE HEALTH	CHRONIC HEALTH	FIRE	SUDDEN RELEASE OF PRESSURE	REACTIVE
X	X	X	--	--

SARA SECTION 313 - SUPPLIER NOTIFICATION

This product may contain listed chemicals below the *de minimis* levels which therefore are not subject to the supplier notification requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372. If you may be required to report releases of chemicals listed in 40 CFR 372.28, you may contact Hess Corporate Safety if you require additional information regarding this product.

CALIFORNIA PROPOSITON 65 LIST OF CHEMICALS

This product contains the following chemicals that are included on the Proposition 65 "List of Chemicals" required by the California Safe Drinking Water and Toxic Enforcement Act of 1986:

INGREDIENT NAME (CAS NUMBER)	Date Listed
Diesel Engine Exhaust (no CAS Number listed)	10/01/1990

CANADIAN REGULATORY INFORMATION (WHMIS)

Class B, Division 3 (Combustible Liquid) and Class D, Division 2, Subdivision B (Toxic by other means)

16. OTHER INFORMATION

NFPA® HAZARD RATING HEALTH: 0
FIRE: 2
REACTIVITY: 0

Refer to NFPA 704 "Identification of the Fire Hazards of Materials" for further information

HMIS® HAZARD RATING HEALTH: 1 * * Chronic
FIRE: 2
PHYSICAL: 0

SUPERSEDES MSDS DATED: 02/28/2001

ABBREVIATIONS:

AP = Approximately < = Less than > = Greater than
N/A = Not Applicable N/D = Not Determined ppm = parts per million

ACRONYMS:

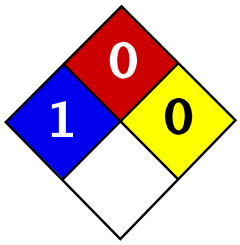
ACGIH	American Conference of Governmental Industrial Hygienists
AIHA	American Industrial Hygiene Association
ANSI	American National Standards Institute (212) 642-4900
API	American Petroleum Institute (202) 682-8000
CERCLA	Comprehensive Emergency Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation [General info: (800) 467-4922]
EPA	U.S. Environmental Protection Agency
HMIS	Hazardous Materials Information System
IARC	International Agency For Research On Cancer
MSHA	Mine Safety and Health Administration
NFPA	National Fire Protection Association (617)770-3000
NIOSH	National Institute of Occupational Safety and Health
NOIC	Notice of Intended Change (proposed change to ACGIH TLV)
NTP	National Toxicology Program
OPA	Oil Pollution Act of 1990
OSHA	U.S. Occupational Safety & Health Administration
PEL	Permissible Exposure Limit (OSHA)
RCRA	Resource Conservation and Recovery Act
REL	Recommended Exposure Limit (NIOSH)
SARA	Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA	Self-Contained Breathing Apparatus
SPCC	Spill Prevention, Control, and Countermeasures
STEL	Short-Term Exposure Limit (generally 15 minutes)
TLV	Threshold Limit Value (ACGIH)
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average (8 hr.)
WEEL	Workplace Environmental Exposure Level (AIHA)
WHMIS	Canadian Workplace Hazardous Materials Information System

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Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.





Health	1
Fire	0
Reactivity	0
Personal Protection	E

Material Safety Data Sheet
Lead MSDS

Section 1: Chemical Product and Company Identification

Product Name: Lead

Catalog Codes: SLL1291, SLL1669, SLL1081, SLL1459, SLL1834

CAS#: 7439-92-1

RTECS: OF7525000

TSCA: TSCA 8(b) inventory: Lead

CI#: Not available.

Synonym: Lead Metal, granular; Lead Metal, foil; Lead Metal, sheet; Lead Metal, shot

Chemical Name: Lead

Chemical Formula: Pb

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Lead	7439-92-1	100

Toxicological Data on Ingredients: Lead LD50: Not available. LC50: Not available.

Section 3: Hazards Identification

Potential Acute Health Effects: Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:
Slightly hazardous in case of skin contact (permeator).
CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH, 2B (Possible for human.) by IARC.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
The substance may be toxic to blood, kidneys, central nervous system (CNS).
Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: Some metallic oxides.

Fire Hazards in Presence of Various Substances: Non-flammable in presence of open flames and sparks, of shocks, of heat.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: When heated to decomposition it emits highly toxic fumes of lead.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:
Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not

present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep locked up.. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
TWA: 0.05 (mg/m3) from ACGIH (TLV) [United States]
TWA: 0.05 (mg/m3) from OSHA (PEL) [United States]
TWA: 0.03 (mg/m3) from NIOSH [United States]
TWA: 0.05 (mg/m3) [Canada]Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Metal solid.)

Odor: Not available.

Taste: Not available.

Molecular Weight: 207.21 g/mole

Color: Bluish-white. Silvery. Gray

pH (1% soln/water): Not applicable.

Boiling Point: 1740°C (3164°F)

Melting Point: 327.43°C (621.4°F)

Critical Temperature: Not available.

Specific Gravity: 11.3 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Insoluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials, excess heat

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:
Can react vigorously with oxidizing materials.
Incompatible with sodium carbide, chlorine trifluoride, trioxane + hydrogen peroxide, ammonium nitrate, sodium azide, disodium acetylide, sodium acetylide, hot concentrated nitric acid, hot concentrated hydrochloric acid, hot concentrated sulfuric acid, zirconium.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Inhalation. Ingestion.

Toxicity to Animals:
LD50: Not available.
LC50: Not available.

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH, 2B (Possible for human.) by IARC.
May cause damage to the following organs: blood, kidneys, central nervous system (CNS).

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:
Acute Potential:
Skin:
Lead metal granules or dust: May cause skin irritation by mechanical action.
Lead metal foil, shot or sheets: Not likely to cause skin irritation
Eyes:
Lead metal granules or dust: Can irritate eyes by mechanical action.

Lead metal foil, shot or sheets: No hazard. Will not cause eye irritation.
Inhalation:
In an industrial setting, exposure to lead mainly occurs from inhalation of dust or fumes.
Lead dust or fumes: Can irritate the upper respiratory tract (nose, throat) as well as the bronchi and lungsby mechanical action. Lead dust can be absorbed through the respiratory system. However, inhaled lead does not accumulate in the lungs. All of an inhaled dose is eventually abssorbed or transferred to the gastrointestinal tract. Inhalation effects of exposure to fumes or dust of inorganic lead may not develop quickly. Symptoms may include metallic taste, chest pain, decreased physical fitness, fatigue, sleep disturbance, headache, irritability, reduces memory, mood and personality changes, aching bones and muscles, constipation, abdominal pains, decreasing appetite. Inhalation of large amounts may lead to ataxia, deliriuim, convulsions/seizures, coma, and death.
Lead metal foil, shot, or sheets: Not an inhalation hazard unless metal is heated. If metal is heated, fumes will be released. Inhalation of these fumes may cause "fume metal fever", which is characterized by flu-like symptoms. Symptoms may include metallic taste, fever, nausea, vomiting, chills, cough, weakness, chest pain, generalized muscle pain/aches, and increased white blood cell count.
Ingestion:
Lead metal granules or dust: The symptoms of lead poisoning include abdominal pain or cramps (lead cholic), spasms, nausea, vomiting, headache, muscle weakness, hallucinations, distorted perceptions, "lead line" on the gums, metallic taste, loss of appetite, insomnia, dizziness and other symptoms similar to that of inhalation. Acute poisoning may result in high lead levels in the blood and urine, shock, coma and death in extreme cases.
Lead metal foil, shot or sheets: Not an ingestion hazard for usual industrial handling.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations:
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Lead
California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (female) which would require a warning under the statute: Lead
California prop. 65: This product contains the following ingredients for which the State of California has found to

cause reproductive harm (male) which would require a warning under the statute: Lead
California prop. 65 (no significant risk level): Lead: 0.0005 mg/day (value)
California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Lead
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Lead
Connecticut hazardous material survey.: Lead
Illinois toxic substances disclosure to employee act: Lead
Illinois chemical safety act: Lead
New York release reporting list: Lead
Rhode Island RTK hazardous substances: Lead
Pennsylvania RTK: Lead

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):
R20/22- Harmful by inhalation and if swallowed.
R33- Danger of cumulative effects.
R61- May cause harm to the unborn child.
R62- Possible risk of impaired fertility.
S36/37- Wear suitable protective clothing and gloves.
S44- If you feel unwell, seek medical advice (show the label when possible).
S53- Avoid exposure - obtain special instructions before use.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves.
Lab coat.
Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Safety glasses.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 08:21 PM

Last Updated: 11/06/2008 12:00 PM

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PersulfOx

Material Safety Data Sheet (MSDS)

Last Revised: February 8, 2013

Section 1 – Supplier Information and Material Identification

Supplier:

REGENESIS
1011 Calle Sombra
San Clemente, CA 92673
Telephone: 949.366.8000
Fax: 949.366.8090
E-mail: info@regenesis.com

Chemical Synonyms:	A mixture of Sodium Persulfate [$Na_2S_2O_8$] and Sodium Silicate [Na_2SiO_3].
Chemical Family:	Inorganic Chemicals
Trade Name:	PersulfOx™
Product Use:	Used to remediate contaminated soil and groundwater (environmental remediation applications)

Section 2 – Chemical Information/Other Designations

CAS No.	Chemical	Percentage
7775-27-1	Sodium Persulfate	90%
1344-09-8	Sodium Silicate	10%

Section 3 – Physical Data

Form:	Solid, free-flowing powder
Color:	White
Odor:	Odorless
Melting Point:	NA
Boiling Point:	NA
Flammability/Flash Point:	Non-combustible
Vapor Pressure:	NA
Bulk Density:	NA
Viscosity:	NA
pH (10% solution):	≈ 7.0 – 11.5 @ 25 °C
Decomposition Temperature:	Decomposition will occur upon heating.

Section 4 – Reactivity Data

Stability:	Stable under normal conditions. Stability decreases in the presence of heat, moisture and/or contamination.
Conditions to Avoid/Incompatibility:	Acids, alkalis, halides (fluorides, chlorides, bromides and iodides), Combustible materials, most metals and heavy metals, oxidizable materials, other oxidizers, reducing agents, cleaners, and organic or carbon containing compounds, moisture, heat, flame. Contact with incompatible materials can result in a material decomposition or other uncontrolled reactions.
Hazardous Decomposition Products:	Oxygen that supports combustion and oxides of sulfur.
Polymerization	Will not occur

Section 5 – Regulations

UNITED STATES

SARA TITLE III (SUPERFUND ADMENDMENTS AND REAUTHORIZATION ACT)

Section 302 Extremely Hazardous Substances (40 CFR 335, Appendix A):	N/A
Section 311 Hazard Categories (40 CFR 370):	Fire Hazard, Immediate (Acute) Health Hazard
Section 312 Threshold Planning Quantity (40 CFR 370):	The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.: None
Section 313 Reportable Ingredients (40 CFR 372):	Not Listed

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

CERCLA Designation & Reportable Quantities (RQ) (40 CFR 302.4):	Unlisted, RQ = 100 lbs., Ignitability

Section 6 – Protective Measures, Storage and Handling

Technical Protective Measures

Storage:

Oxidizer. Store in a cool, clean, and well ventilated area away from all sources of ignition and out of the direct sunlight. Store in a dry location away from heat and in temperatures less than 40 °C.

Keep away from incompatible materials and keep lids tightly closed. Do not store in improperly labeled containers.

Protect from moisture. Do not store near combustible materials. Keep containers well sealed.

Store separately from reducing materials. Avoid contamination which may lead to decomposition.

Handling:

Avoid contact with eyes, skin and clothing. Use with adequate ventilation. Wear respiratory protection if ventilation is inadequate or not available. Use eye and skin protection. Use clean plastic or stainless steel scoops only.

Do not swallow. Avoid breathing vapors, mists or dust. Do not eat, drink or smoke in the work area. Wash hands thoroughly after handling.

Label containers and keep them tightly closed when not in use.

Personal Protective Equipment (PPE)

Engineering Controls:

General room ventilation is required if used indoors. Local exhaust ventilation, process enclosures or other engineering controls may be needed to maintain airborne levels below recommended exposure limits. Avoid creating dust or mists. Maintain adequate ventilation at all times. Do not use in confined areas. Keep levels below recommended exposure limits. To determine actual exposure limits, monitoring should be performed on a routine basis. General use of persulfates will generate thermal and pressure regimes which need to mitigated during application as a precautionary measure.

Respiratory Protection:

Use NIOSH(P100) approved respirator when airborne dust is expected.

Exposure Limit

0.1 mg/m^3 (TWA) - ACGIH

Hand Protection:

Wear chemical resistant gloves (neoprene, rubber, or PVC). Thoroughly wash the outside of gloves with soap and water prior to removal.

Section 6 – Protective Measures, Storage and Handling (cont)

Eye Protection:	Wear chemical safety goggles. A full face shield may be worn in lieu of safety goggles.
Skin Protection:	Try to avoid skin contact with this product. Chemical resistant gloves (neoprene, PVC or rubber) and protective clothing should be worn during use.
Protection Against Fire & Explosion:	Product is non-explosive. In case of fire, evacuate all non-essential personnel, wear protective clothing and a self-contained breathing apparatus, stay upwind of fire, and use water to spray cool fire-exposed containers. Presence of water accelerates decomposition.

Section 7 – Hazards Identification

Potential Health Effects

Inhalation:	May be harmful and irritating.
Eye Contact:	Non-irritating (rabbit)
Skin Contact:	Non-irritating (rabbit)
Ingestion:	May be harmful if swallowed (vomiting and diarrhea).
Target Organs:	Eyes, skin, respiratory passages

Section 8 – Measures in Case of Accidents and Fire

After Spillage/Leakage:	Spilled material should be collected and put in approved DOT container and isolated for disposal. Isolated material should be monitored for signs of decomposition (fuming/smoking). If spilled material is wet, dissolve with large quantity of water and dispose as a hazardous waste. All disposals should be carried out according to regulatory agencies procedures.
Extinguishing Media:	Water; Do not use carbon dioxide or other gas filled fire extinguishers; they will have no effect on decomposing persulfates. Wear full protective clothing and self contained breathing apparatus.

First Aid

Eye Contact:	Flush eyes with running water for at least 15 minutes with eyelids held open. Seek a specialist.
Inhalation:	Remove affected person to fresh air. Seek medical attention if the effects persist.
Ingestion:	Rinse mouth with water, give two-four cups of water to dilute the chemical and seek medical attention immediately. Never give anything by mouth to an unconscious person. **Do Not** induce vomiting.
Skin Contact:	Wash affected areas with soap and a mild detergent and large amounts of water. Seek medical attention if irritation occurs or persists.

Notes to Medical Doctor: This product has low oral toxicity and is not irritating to the eyes and skin. Flooding of exposed areas with water is suggested, but gastric lavage or emesis induction for ingestions must consider possible aggravation of esophageal injury and the expected absence of system effects. Treatment is controlled removal of exposure followed by symptomatic and supportive care.

Section 9 – Accidental Release Measures

Precautions:

Cleanup Methods: Spilled material should be collected and put in approved DOT container and isolated for disposal. Isolated material should be monitored for signs of decomposition (fuming/smoking). If spilled material is wet, dissolve with large quantity of water and dispose as a hazardous waste. All disposals should be carried out according to local regulatory agencies procedures.

Section 10 – Information on Toxicology

Toxicity Data

Oral LD_{50} (rat): 895 mg/kg

Dermal LD_{50} (rabbit): > 10 g/kg

Inhalation LD_{50} (rat): 5.1 mg/kg

Section 11 – Information on Ecology

Ecotoxicological Information

Bluegill sunfish, 96-hour LC_{50} = 771 mg/L

Rainbow trout, 96-hour LC_{50} = 163 mg/L

Daphnia, 48-hour LC_{50} = 133 mg/L

Grass shrimp, 96-hour LC_{50} = 519 mg/L

Biotic Degradation: N/A.

Section 12 – Disposal Considerations

Waste Disposal Method: Dispose of in an approved waste facility operated by an authorized contactor in compliance with local, state and federal regulations.

Section 13 – Shipping/Transport Information

D.O.T. Shipping Name:	Oxidizing Solid, n.o.s. (a mixture of Sodium persulfate, sodium metasilicate and silicon dioxide)
UN Number:	UN 1479
Hazard Class:	5.1 (Oxidizer)
Labels:	5.1 (Oxidizer)
Packaging Group:	III

Section 14 – Other Information

HMIS® Rating	Health – 1 (Slight)	Physical Hazard – 1 (Slight)
	Flammability – 0 (None)	Lab PPE – goggles, gloves, apron, dust respirator

HMIS® is a registered trademark of the National Painting and Coating Association.

NFPA	Health – 1 (Slight)	Reactivity – 1 (Slight)
	Flammability – 0 (None)	Special - Oxidizer

Section 15 – Further Information

The information contained in this document is the best available to the supplier at the time of writing, but is provided without warranty of any kind. Some possible hazards have been determined by analogy to similar classes of material. The items in this document are subject to change and clarification as more information become available. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose.

New York State Department of Health
Generic Community Air Monitoring Plan

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 volatile organic compounds (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 NYSDEC/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. 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.

- 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.

- 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.

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

All 15-minute readings must be recorded and be available for State (DEC and DOH) 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.

- 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.

- 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.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

APPENDIX J
SITE MANAGEMENT FORMS

ENGINEERING CONTROL INSPECTION & MAINTENANCE FORM

Long Dock Beacon Site (NYSDEC Site # C314112)

25 Long Dock Road, Beacon, NY 12508

Date: _____

Name & Position of Inspector/Technician: _____

Company of Inspector/Technician: _____

Telephone: _____

Fieldwork Type: Inspection Maintenance

Inspection Form (Monitoring Wells)	
Integrity of monitoring wells (MW-06R, MW-08R, MW-11, MW-12, MW-13, and MW-14)	
Was damage to any well noted?	
Describe any corrective action performed.	
Are wells accessible?	
Maintenance Form (Cover)	
Maintenance Activities Conducted (e.g damage repair):	
Any Modification Made to the System?	
Was the problem resolved?	
Is a follow-up needed to resolve any problems with the system?	
Photographs or Sketch of maintenance work attached with this form?	
Copies of invoices for maintenance work, receipts for replacement equipment, etc. attached with this form?	

ANNUAL SITE-WIDE INSPECTION FORM
Long Dock Beacon Site (NYSDEC Site # C314112)
25 Long Dock Road, Beacon, NY 12508

Inspection Date: _____
Weather: _____
Inspector Name: _____
Company Name: _____
Telephone: _____

Groundwater Monitoring System:	Yes	No (Describe Deficiency)	Not Applicable	Describe Corrective Action Performed	Describe Corrective Action Required
Are the treatment area wells monitoring wells (MW-06R, MW-11, MW-12, and MW-13) usable and in good integrity?					
Is the downgradient monitoring well (MW-08R) usable and in good integrity?					
Is new monitoring well (MW-14) west of treatment area usable and in good integrity?					
Cover Checklist	**Yes**	**No** (Describe Deficiency)	**Not Applicable**	**Describe Corrective Action Performed**	**Describe Corrective Action Required**
Is cover material generally intact?					
Is Soil Profile 1 (High Use Lawn) in good integrity?					
Is Soil Profile 1B (Lawn) in good integrity?					
Is Soil Profile 2 (Tree Planting) in good integrity?					
Is Soil Profile 4 (Structural Fill) in good integrity?					
Is Soil Profile 5 (Meadow Planting) in good integrity?					
Is the Two Horizon Soil Profile (Lawn Soil at Steep Slope) in good integrity?					
Is the boardwalk area in good integrity?					
Is the West Deck in good integrity?					
Are park access road/asphalt pavings within Brownfields Site in good integrity?					
Are concrete pavings/parking areas in the vicinity of Red Barn in good integrity?					
Is soil cover adequately vegetated/stabilized?					
Does soil cover appear to be impacted by erosion and/or flooding?					
Is there any evidence of disturbance to the cover (i.e. excavation)?					
Any soil imported to Site to repair soil cover? (Note: must be in accordance with DER-10 and requires NYSDEC approval)					
General Site Condition	**Yes**	**No** (Describe Deficiency)	**Not Applicable**	**Describe Corrective Action Performed**	**Describe Corrective Action Required**
Does the Site exhibit any condition of environmental concerns?					
Site Use	**Yes**	**No** (Describe Deficiency)	**Not Applicable**	**Describe Corrective Action Performed**	**Describe Corrective Action Required**
Is the site use in accordance with the environmental easement? (Commercial use only)?					
Site Records	**Yes**	**No** (Describe Deficiency)	**Not Applicable**	**Describe Corrective Action Performed**	**Describe Corrective Action Required**
Does the site operator have updated SMP and FER available on-site?					

APPENDIX K
PERMITS AND/OR PERMIT EQUIVALENT

New York State Department of Environmental Conservation
Division of Environmental Enforcement
Bureau of Enforcement and Compliance Assurance, 14th Floor
625 Broadway, Albany, New York 12233-5500
Phone: (518) 402-9507 • **FAX:** (518) 402-9019
Website: www.dec.state.ny.us

Denise M. Sheehan
Commissioner

July 13, 2006

John L. Greenthal, Esq.
Nixon Peabody LLP
Omni Plaza, Suite 900
30 South Pearl Street
Albany, New York 12207-3497

RE: Brownfield Cleanup Agreement - Long Bock Beacon

Dear Mr. Greenthal:

Enclosed is a copy of the fully executed Brownfield Cleanup Agreement in the above-referenced matter.

Thank you.

Very truly yours,

Elissa Armater
Legal Assistant

Enclosure

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of a Remedial Program for **Long Dock Beacon,** Dutchess County under Article 27,Title 14 of the Environmental Conservation Law by Volunteer,	BROWNFIELD SITE CLEANUP AGREEMENT Index # W3-1038-04-12 Site # C314112

The Scenic Hudson Land Trust, Inc. and
Foss Group Beacon, LLC

WHEREAS, the Brownfield Cleanup Program Act was enacted to encourage the voluntary remediation of brownfield sites for reuse and redevelopment so as to advance the policy of the State of New York to conserve, improve, and protect its natural resources and environment, and control water, land, and air pollution; and

WHEREAS, the Department of Environmental Conservation (the "Department") is authorized to administer the Brownfield Cleanup Program contained in Article 27, Title 14 of the Environmental Conservation Law ("ECL"); and

WHEREAS, by a joint certified application dated March 30, 2004, The Scenic Hudson Land Trust, Inc. and Foss Group Beacon, LLC (collectively "Applicant or Volunteer"), with an address at One Civic Center Plaza, Suite 200, Poughkeepsie, NY 12601 and 163 Delaware Avenue, Suite 102, Delmar, NY 12054-1313, respectively, submitted a request to participate in the Brownfield Cleanup Program relative to property located on Long Dock Road in Beacon, Dutchess County, New York, described by the metes and bounds description attached and incorporated into this Agreement as Exhibit "A;" and

WHEREAS, the current use of the property is commercial. The intended uses of the property are recreational and/or commercial, excluding day care, child care and medical care uses; and

WHEREAS, an opportunity for public comment on Applicant's request to participate in the Brownfield Cleanup Program was provided and the Department duly considered all comments received; and

WHEREAS, upon consideration of the factors enumerated in ECL 27-1407(8) and (9), the Department made a determination, based upon the information contained in the application and the certifications made by the Applicant, as well as any public comment received, that Applicant is eligible to participate in the Brownfield Cleanup Program as a Volunteer as defined in ECL 27-1405(1)(b).

NOW, THEREFORE, IN CONSIDERATION OF AND IN EXCHANGE FOR THE MUTUAL COVENANTS AND PROMISES, THE PARTIES AGREE TO THE FOLLOWING:

I. Citizen Participation Plan

Within twenty (20) Days after the effective date of this Agreement, Volunteer shall submit a written citizen participation plan prepared in accordance with the requirements of ECL 27-1417 that, at a minimum (i) updates the names and addresses of the interested public and includes a brownfield site contact list; (ii) identifies major issues of public concern related to the Site; (iii) includes a description of citizen participation activities already performed; and (iv) includes a description and schedule of public participation activities that are either specifically required by law or are needed to address public concerns related to the Site. The Citizen Participation Plan shall be attached to and incorporated into this Agreement as Exhibit "B."

II. Development, Performance, and Reporting of Work Plans

A. Work Plan Requirements

The work plans ("Work Plan" or "Work Plans") under this Agreement shall be prepared and implemented in accordance with the requirements of ECL Article 27, Title 14 and all applicable laws, rules, regulations, and guidance documents. The Work Plans shall be captioned as follows:

1. "Remedial Investigation Work Plan" if the Work Plan provides for the investigation of the nature and extent of contamination within the boundaries of the Site;

2. "Remedial Work Plan" if the Work Plan provides for the development and implementation of a Remedial Program for contamination within the boundaries of the Site;

3. "IRM Work Plan" if the Work Plan provides for an interim remedial measure; or

4. "OM&M Work Plan" if the Work Plan provides for operation, maintenance, and/or monitoring.

B. Submission/Implementation of Work Plans

1. The first proposed Work Plan to be submitted under this Agreement shall be submitted within forty (40) Days after the effective date of this Agreement. Thereafter, the Volunteer can submit such other and additional work plans as it deems appropriate.

2. A proposed Work Plan shall be submitted for the Department's review and approval and shall include, at a minimum, a chronological description of the anticipated activities, a schedule for performance of those activities, and sufficient detail to allow the

Department to evaluate that Work Plan. The Department shall use best efforts to approve, modify, or reject a proposed Work Plan within forty-five (45) Days from its receipt or within fifteen (15) Days from the close of the comment period, if applicable, whichever is later.

i) Upon the Department's written approval of a Work Plan, such Department-approved Work Plan shall be incorporated into and become an enforceable part of this Agreement as Exhibit "D" and shall be implemented in accordance with the schedule contained therein.

ii) If the Department modifies a Work Plan, the reasons for such modification shall be provided in writing. Within twenty (20) Days after receiving written notice of such disapproval, Volunteer shall elect in writing to (a) implement the Work Plan as modified; (b) implement any other Department-approved Work Plan(s); (c) invoke dispute resolution pursuant to Paragraph XIV; or (d) terminate this Agreement pursuant to Paragraph XIII.

iii) If the Department disapproves a Work Plan, the reasons for such disapproval shall be provided in writing. In the event the Department disapproves a Work Plan, within twenty (20) Days after receiving written notice of such disapproval, Volunteer shall elect in writing to (a) modify or expand it within thirty (30) Days of receipt of the written disapproval notice; (b) complete any other Department-approved Work Plan(s); (c) invoke dispute resolution pursuant to Paragraph XIV; or (d) terminate this Agreement pursuant to Paragraph XIII.

3. An OM&M Work Plan, if necessary, shall be submitted in accordance with the schedule set forth in the IRM Work Plan or Remedial Work Plan.

4. During all field activities, Volunteer shall have on-Site a representative who is qualified to supervise the activities undertaken. Such representative may be an employee or a consultant retained by Volunteer to perform such supervision.

C. Revisions to Work Plans

If revisions to a Work Plan are required to satisfy the objectives of such Work Plan, the parties will negotiate revisions which shall be attached to and incorporated into the relevant Work Plan and which shall be enforceable under this Agreement. If the parties cannot agree upon revisions to the relevant Work Plan, then unless the Volunteer invokes dispute resolution pursuant to Paragraph XIV, either party may terminate this Agreement pursuant to Paragraph XIII.

D. Submission of Final Reports

1. In accordance with the schedule contained in a Work Plan, Volunteer shall submit a Final Report that shall include but not be limited to: all data generated relative to the Site and all other information obtained as part of the implementation of the subject Work Plan; all of the assessments and evaluations required by the subject Work Plan; a statement of any additional data that must be collected; and "as-built" drawings.

i) The Final Report for an Investigation Work Plan shall comply with the requirements set forth at ECL 27-1411(1) and shall contain a certification by the person with primary responsibility for the day to day performance of the activities under this Agreement that those activities were performed in full accordance with the Investigation Work Plan. If such Final Report concludes that no remediation is necessary, and the Site does not meet the requirements for Track 1, Volunteer shall submit an Alternatives Analysis prepared in accordance with ECL 27-1413 that supports such determination.

ii) A Final Engineering Report certifying that remediation of the Site has been performed in accordance with this Agreement shall be prepared by a Professional Engineer (or other expert approved by the Department) with primary responsibility for the day to day performance of the activities under this Agreement. The Report shall be prepared in accordance with the requirements of ECL 27-1419(1) and (2) and shall contain a certification that all such activities were performed in accordance with the Department approved Work Plan. The Department shall review such Report, the submittals made pursuant to the Agreement, and any other relevant information regarding the Site and make a determination as to whether the goals of the remedial program have been or will be achieved in accordance with established timeframes; if so, a written Certificate of Completion will be issued in accordance with the requirements of ECL 27-1419. Such Certificate of Completion may be modified or revoked, after notice and an opportunity for hearing, upon a finding that (a) Volunteer failed to comply with this Agreement; (b) Volunteer made a misrepresentation of material fact in connection with its Application or its certification that cleanup levels required by this Agreement were reached; or (c) good cause exists for such modification or revocation.

iii) All other Work Plan Final Reports shall contain a certification by a Professional Engineer with primary responsibility for the day to day performance of the activities under this Agreement that all such activities were performed in full accordance with the Department approved Work Plan.

2. Within sixty (60) Days of the Department's approval of a Final Report, Volunteer shall submit such additional Work Plans as it proposes to implement. Failure to submit any additional Work Plans within such period shall, unless other Work Plans are under review by the Department or being implemented by Volunteer, result in the termination of this Agreement pursuant to Paragraph XIII.

E. Review of Submittals other than Work Plans

1. The Department shall timely notify Volunteer in writing of its approval or disapproval of each submittal other than a Work Plan. All Department-approved submittals shall be incorporated into and become an enforceable part of this Agreement.

2. If the Department disapproves a submittal covered by this Subparagraph, it shall specify the reasons for its disapproval and may request Volunteer to modify or expand the submittal. Within twenty (20) Days after receiving written notice that Volunteer's submittal has

been disapproved, Volunteer shall elect in writing to either (i) modify or expand it within thirty (30) Days of receipt of the written notice of disapproval; (ii) complete any other Department-approved Work Plan(s); (iii) invoke dispute resolution pursuant to Paragraph XIV; or (iv) terminate this Agreement pursuant to Paragraph XIII. If Volunteer submits a revised submittal and it is disapproved, the Department and Volunteer may pursue whatever remedies may be available under this Agreement or under law.

F. Department's Determination of Need for Remediation

The Department shall determine upon its approval of each Final Report dealing with the investigation of the Site whether remediation, or additional remediation as the case may be, is needed for protection of public health and the environment.

1. If the Department makes a preliminary determination that remediation, or additional remediation, is not needed for protection of public health and the environment, the Department shall notify the public of such determination and seek public comment in accordance with ECL 27-1417(3)(e). The Department shall provide timely notification to the Volunteer of its final determination following the close of the public comment period.

2. If the Department determines that additional remediation is not needed and such determination is based upon use restrictions, Volunteer shall cause to be filed an Environmental Easement in accordanee with Paragraph X within sixty (60) Days of receipt of the Department's determination.

3. If the Department determines that remediation, or additional remediation, is needed, Volunteer may elect to submit for review and approval a proposed Remedial Work Plan (or a revision to an existing Work Plan for the Site) for a remedy selected upon due consideration of the factors set forth in ECL 27-1415(3). A proposed Remedial Work Plan addressing the Site's remediation will be noticed for public comment in accordance with ECL 27-1417(3)(e) and the Citizen Participation Plan developed pursuant to Paragraph I of this Agreement. If the Department determines following the close of the public comment period that revisions are needed, Volunteer agrees to negotiate revisions to the proposed Remedial Work Plan in accordance with Paragraph II.C. If Volunteer elects not to develop a Work Plan under this Subparagraph or if either party concludes that a mutually acceptable Work Plan under this Subparagraph cannot be negotiated, then this Agreement shall terminate in accordance with Paragraph XIII.

G. Submission of Annual Reports, if required

In the event that the remedy for the Site, if any, or any Work Plan for the Site requires operation, maintenance, and monitoring (OM&M), including reliance upon institutional or engineering controls, Volunteer shall file a report annually (unless a different frequency is specified in an approved Work Plan) on the 1st day of the month following the anniversary of the start of the OM&M and continuing until the Department notifies Volunteer in writing that such

report may be discontinued. Such report shall be signed by a Professional Engineer or by an expert approved by the Department to perform that function and certified under penalty of perjury that the institutional and/or engineering controls are unchanged from the previous certification and that nothing has occurred that would impair the ability of such controls to protect public health and the environment or constitute a violation or failure to comply with the approved OM&M Plan. Volunteer shall notify the Department within twenty-four (24) hours of discovery of any upset, interruption, or termination of one or more controls without the prior approval of the Department. Further, Volunteer shall take all actions required by the Department to maintain conditions at the Site that achieve the objectives of the remedy and/or the Work Plan and are protective of public health and the environment. An explanation of such upset, interruption, or termination of one or more controls and the steps taken in response shall be included in the foregoing notice and in the report required by this Subparagraph as well as in any progress reports required by Paragraph XI. Volunteer can petition the Department for a determination that the institutional and/or engineering controls may be terminated. Such petition must be supported by a Professional Engineer or other expert approved by the Department stating that such controls are no longer necessary. The Department shall not unreasonably withhold its approval of such petition.

III. Enforcement

This Agreement shall be enforceable as a contractual agreement under the laws of the State of New York. Volunteer shall not suffer any penalty or be subject to any proceeding or action if it cannot comply with any requirement of this Agreement as a result of a Force Majeure Event provided it notifies the Department in writing within ten (10) Days of when it obtains knowledge of any such event. Volunteer shall include in such notice the measures taken and to be taken to prevent or minimize any delays and shall request an appropriate extension or modification of this Agreement. Volunteer shall have the burden of proving by a preponderance of the evidence that an event qualifies as a Force Majeure Event pursuant to this Paragraph.

IV. Entry upon Site

A. Volunteer hereby agrees to provide access to the Site and to all relevant information regarding activities at the Site in accordance with the provisions of ECL 27-1431.

B. The Department shall have the right to periodically inspect the Site to ensure that the use of the property complies with the terms and conditions of this Agreement.

V. Payment of State Costs

A. Within forty-five (45) Days after receipt of an itemized invoice from the Department, Volunteer shall pay to the Department a sum of money which shall represent reimbursement for State Costs for negotiating this Agreement, and all costs associated with this Agreement up to and including the date upon which the Certificate of Completion is issued, the

Department approves the Final Report relative to OM&M, or this Agreement is terminated pursuant to Paragraph XIII, whichever is later.

B. Personal service costs shall be documented by reports of Direct Personal Service, which shall identify the employee name, title, biweekly salary, and time spent (in hours) on the project during the billing period, as identified by an assigned time and activity code. Approved agency fringe benefit and indirect cost rates shall be applied. Non-personal service costs shall be summarized by category of expense (*e.g.*, supplies, materials, travel, contractual) and shall be documented by expenditure reports. The Department shall not be required to provide any other documentation of costs, provided however, that the Department's records shall be available consistent with, and in accordance with, Article 6 of the Public Officers Law.

C. Such invoice shall be sent to Volunteer at the following address:

Margery Groten
Scenic Hudson Inc.
One Civic Plaza, Suite 200
Poughkeepsie, NY 12601

Matthew Rudikoff
427 Main Street
Beacon, NY 12508

D. Each such payment shall be made payable to the Department of Environmental Conservation and shall be sent to:

Bureau of Program Management
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway, Albany, NY 12233-7012

E. Each party shall provide written notification to the other within ninety (90) Days of any change in the foregoing addresses.

F. Volunteer may contest, in writing, invoiced costs under this Agreement if it believes (i) the cost documentation contains clerical, mathematical, or accounting errors; (ii) the costs are not related to the State's activities reimbursable under this Agreement; or (iii) the Department is not otherwise legally entitled to such costs. If Volunteer objects to an invoiced cost, Volunteer shall pay all costs not objected to within the time frame set forth in Subparagraph V.A and shall, within thirty (30) Days of receipt of an invoice, identify in writing all costs objected to and identify the basis of the objection. This objection shall be filed with the Director of the Bureau of Program Management ("BPM Director") who shall have the authority to relieve Volunteer of the obligation to pay invalid costs. Within forty-five (45) Days of the Department's determination of the objection, Volunteer shall pay to the Department the amount which the

BPM Director or the BPM Director's designee determines Volunteer is obligated to pay or commence an action or proceeding seeking appropriate judicial relief.

G. In the event any instrument for the payment of any money due under this Agreement fails of collection, such failure of collection shall constitute a violation of this Agreement, provided (i) the Department gives Volunteer written notice of such failure of collection, and (ii) the Department does not receive from Volunteer a certified check or bank check within fourteen (14) Days after the date of the Department's written notification.

VI. Liability Limitation

Subsequent to the issuance of a Certificate of Completion pursuant to this Agreement, Volunteer shall be entitled to the Liability Limitation set forth at ECL 27-1421, subject to the terms and conditions stated therein. A Notice of the Liability Limitation shall be filed with the recording officer of the county in which the Site is located within thirty (30) Days of (i) the effective date of the Certificate of Completion or (ii) the date Volunteer acquires title to the Site, whichever is later.

VII. Reservation of Rights

A. Except as provided in Subparagraph VII.B, Volunteer reserves all rights and defenses under applicable law to contest, defend against, dispute, or disprove any action, proceeding, allegation, assertion, determination, or order of the Department, including any assertion of remedial liability by the Department against Volunteer, and further reserves all rights including the rights to notice, to be heard, to appeal, and to any other due process respecting any action or proceeding by the Department, including the enforcement of this Agreement. The existence of this Agreement or Volunteer's compliance with it shall not be construed as an admission of any liability, fault, wrongdoing, or violation of law by Volunteer, and shall not give rise to any presumption of law or finding of fact which shall inure to the benefit of any third party.

B. Notwithstanding the foregoing, Volunteer hereby waives any right it may have to make a claim pursuant to Article 12 of the Navigation Law with respect to the Site and releases the State and the New York Environmental Protection and Spill Compensation Fund from any and all legal or equitable claims, suits, causes of action, or demands whatsoever with respect to the Site that Volunteer may have as a result of Volunteer's entering into or fulfilling the terms of this Agreement.

VIII. Indemnification

Volunteer shall indemnify and hold the Department, the Trustee, the State of New York, and their representatives and employees harmless from any claim, suit, action, and cost of every name and description arising out of or resulting from the fulfillment or attempted fulfillment of this Agreement by Volunteer prior to the Termination Date except for those claims, suits, actions,

and costs arising from the State's gross negligence or willful or intentional misconduct by the Department, the State of New York, and/or their representatives and employees during the course of any activities conducted pursuant to this Agreement. The Department shall provide Volunteer with written notice no less than thirty (30) Days prior to commencing a lawsuit seeking indemnification pursuant to this Paragraph.

IX. Change of Use

Volunteer shall notify the Department at least sixty (60) Days in advance of any change of use, as defined in ECL 27-1425, which is proposed for the Site. In the event the Department determines that the proposed change of use is prohibited, the Department shall notify Volunteer of such determination within forty-five (45) Days of receipt of such notice. Volunteer shall have the right to invoke dispute resolution pursuant to Paragraph XIV in the event of a determination by the Department that a proposed change of use is prohibited.

X. Environmental Easement

A. Within thirty (30) Days after the Department's approval of a Remedial Work Plan which relies upon one or more institutional and/or engineering controls, or within thirty (30) Days after the Department's determination pursuant to Subparagraph II.F.2 that additional remediation is not needed based upon use restrictions, Volunteer shall submit to the Department for approval an Environmental Easement to run with the land in favor of the State which complies with the requirements of ECL Article 71, Title 36. The submittal shall be substantially similar to Exhibit "C." Volunteer shall cause such instrument to be recorded with the recording officer for the county in which the Site is located within thirty (30) Days after the Department's approval of such instrument. Volunteer shall provide the Department with a copy of such instrument certified by the recording officer to be a true and faithful copy within thirty (30) Days of such recording (or such longer period of time as may be required to obtain a certified copy provided Volunteer advises the Department of the status of its efforts to obtain same within such thirty (30) Day period).

B. Volunteer or the owner of the Site may petition the Department to modify or extinguish the Environmental Easement filed pursuant to this Agreement at such time as it can certify that the Site is protective of human health and the environment without reliance upon the restrictions set forth in such instrument. Such certification shall be made by a Professional Engineer or other expert approved by the Department. The Department will not unreasonably withhold its consent.

XI. Progress Reports

Volunteer shall submit a written progress report of its actions under this Agreement to the parties identified in Subparagraph XII.A.1 by the 10th day of each month commencing with the month subsequent to the approval of the first Work Plan and ending with the Termination Date, unless a different frequency is set forth in a Work Plan. Such reports shall, at a minimum,

include: all actions relative to the Site during the previous reporting period and those anticipated for the next reporting period; all approved activity modifications (changes of work scope and/or schedule); all results of sampling and tests and all other data received or generated by or on behalf of Volunteer in connection with this Site, whether under this Agreement or otherwise, in the previous reporting period, including quality assurance/quality control information; information regarding percentage of completion; unresolved delays encountered or anticipated that may affect the future schedule and efforts made to mitigate such delays; and information regarding activities undertaken in support of the Citizen Participation Plan during the previous reporting period and those anticipated for the next reporting period.

XII. Communications

A. All written communications required by this Agreement shall be transmitted by United States Postal Service, by private courier service, or hand delivered.

1. Communication from Volunteer shall be sent to:

William Bennett
Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7017
Note: three copies (one unbound) of work plans are required to be sent.

Bridget Callaghan
Bureau of Environmental Exposure Investigation
New York State Department of Health
Flanigan Square
547 River Street
Troy, NY 12180-2216
Note: two copies of work plans are required to be sent, and

Rosalie K. Rusinko, Esq.
Division of Environmental Enforcement
New York State Department of Environmental Conservation
100 Hillside Avenue Suite 1W
White Plains, NY 10603
Correspondence only

2. Communication from the Department to Volunteer shall be sent to:

Margery Groten
Scenic Hudson Inc.
One Civic Plaza, Suite 200
Poughkeepsic, NY 12601

Matthew Rudikoff
Member
Foss Group Beacon, LLC
427 Main Street
Beacon, NY 12508

B. The Department and Volunteer reserve the right to designate additional or different addressees for communication on written notice to the other.

C. Each party shall notify the other within ninety (90) Days after any change in the addresses listed in this Paragraph XII or in Paragraph V.

XIII. Termination of Agreement

Volunteer may terminate this Agreement at any time by providing written notification to the parties listed in Subparagraph XII.A.1. The Department may terminate this Agreement at any time pursuant to Subparagraph XV.A or subject to the provisions below, in the event Volunteer fails to substantially comply with the Agreement's terms and conditions.

i. The Department shall provide written notification of intent to terminate the Agreement to Volunteer, such notice shall set forth the basis for termination;

ii. Volunteer shall have thirty (30) days, from its receipt of such notice, to cure the deficiencies cited by the Department;

iii. Upon expiration of the thirty (30) day cure period, the Department shall provide Volunteer with written notice stating whether the Agreement remains in effect or has been terminated;

iv. In the event the Agreement is terminated by the Department, such termination shall be effective upon Volunteer's receipt of written notice of same, except that such termination shall not affect the provisions contained in Paragraphs V, VII.B, and VIII.

XIV. Dispute Resolution

A. In the event disputes arise regarding any notice of disapproval of a submittal, proposed Work Plan or Final Report, or during the implementation of any Work Plan, Volunteer may, within thirty (30) Days of receipt of such notice, request in writing informal negotiations with the Department in an effort to resolve the dispute. The Department and Volunteer shall consult together in good faith and exercise best efforts to resolve any differences or disputes without resort to the procedures described in Subparagraph XIV.B. The period for informal negotiations shall not exceed thirty (30) Days from Volunteer's request for informal negotiations. If the parties cannot resolve a dispute by informal negotiations during this period, the Department's position shall be considered binding unless Volunteer notifies the Department in writing within thirty (30) Days after the conclusion of the thirty (30) Day period for informal negotiations that it invokes the dispute resolution provisions provided under Subparagraph XIV.B.

B. 1. Volunteer shall file with the Office of Hearings and Mediation ("OH&M") a request for formal dispute resolution and a written statement of the issues in dispute, the relevant facts upon which the dispute is based, factual data, analysis, or opinion supporting its position, and all supporting documentation upon which Volunteer relies (hereinafter called the "Statement of Position"). A copy of such request and written statement shall be provided contemporaneously to the Director of the Division of Environmental Remediation ("DER Director") and to the parties listed under Subparagraph XII.A.1.

2. The Department shall serve its Statement of Position no later than twenty (20) Days after receipt of Volunteer's Statement of Position.

3. Volunteer shall have the burden of proving by substantial evidence that the Department's position does not have a rational basis and should not prevail. The OH&M can conduct meetings, in person or via telephone conferences, and request additional information from either party if such activities will facilitate a resolution of the issues.

4. The OH&M shall prepare and submit a report and recommendation to the DER Director who shall issue a final decision resolving the dispute in a timely manner. The final decision shall constitute a final agency action and Volunteer shall have the right to seek judicial review of the decision pursuant to Article 78 of the CPLR provided that Volunteer notifies the Department within thirty (30) Days after receipt of a copy of the final decision of its intent to commence an Article 78 proceeding and commences such proceeding within sixty (60) Days after receipt of a copy of the Director's final decision. Volunteer shall be in violation of this Agreement if it fails to comply with the final decision resolving this dispute within sixty (60) Days after the date of such final decision, or such other time period as may be provided in the final decision, unless it seeks judicial review of such decision within the sixty (60) Day period provided. In the event that Volunteer seeks judicial review, Volunteer shall be in violation of this Agreement if it fails to comply with the final Court Order or settlement within thirty (30) Days after the effective date of such Order or settlement, unless otherwise directed by the Court.

For purposes of this Subparagraph, a Court Order or settlement shall not be final until the time to perfect an appeal of same has expired.

5. The invocation of dispute resolution shall not extend, postpone, or modify Volunteer's obligations under this Agreement with respect to any item not in dispute unless or until the Department agrees or a Court determines otherwise. The invocation of the procedures set forth in this Paragraph XIV shall constitute a waiver of any and all other administrative remedies which may otherwise be available to Volunteer regarding the issue in dispute.

6. The Department shall keep an administrative record of any proceedings under this Paragraph XIV which shall be available consistent with Article 6 of the Public Officers Law.

7. Nothing in this Paragraph XIV shall be construed as an agreement by the parties to resolve disputes through administrative proceedings pursuant to the State Administrative Procedure Act, the ECL, or 6 NYCRR Part 622 or Section 375-2.1.

XV. Miscellaneous

A. If the information provided and any certifications made by Volunteer are not materially accurate and complete, this Agreement, except with respect to Volunteer's obligations pursuant to Paragraphs V, VII.B, and VIII, shall be null and void *ab initio* fifteen (15) Days after the Department's notification of such inaccuracy or incompleteness or fifteen (15) Days after issuance of a final decision resolving a dispute pursuant to Paragraph XIV, whichever is later, unless Volunteer submits information within that fifteen (15) Day time period indicating that the information provided and the certifications made were materially accurate and complete. In the event this Agreement is rendered null and void, any Certificate of Completion and/or Liability Limitation that may have been issued or may have arisen under this Agreement shall also be null and void *ab initio*, and the Department shall reserve all rights that it may have under law.

B. Volunteer shall allow the Department to attend, and shall notify the Department at least seven (7) Days in advance of, any field activities to be conducted pursuant to this Agreement, as well as any pre-bid meetings, job progress meetings, substantial completion meeting and inspection, and final inspection and meeting; nothing in this Agreement shall be construed to require Volunteer to allow the Department to attend portions of meetings where privileged matters are discussed.

C. The Department may exempt Volunteer from the requirement to obtain any state or local permit or other authorization for any activity conducted pursuant to this Agreement that (i) is conducted on the Site or on different premises that are under common control or contiguous to or physically connected with the Site and such activity manages exclusively hazardous waste and/or petroleum from such Site, and (ii) satisfies all substantive technical requirements applicable to like activity conducted pursuant to a permit, as determined by the Department.

D. Volunteer shall use "best efforts" to obtain all Site access, permits, easements, rights-of-way, rights-of-entry, approvals, institutional controls, or authorizations necessary to perform Volunteer's obligations under this Agreement. If, despite Volunteer's best efforts, any access, permits, easements, rights-of-way, rights-of-entry, approvals, institutional controls, or authorizations required to perform this Agreement are not obtained, Volunteer shall promptly notify the Department, and include a summary of the steps taken to obtain access. The Department may, as it deems appropriate and within its authority, assist Volunteer in obtaining same. If an interest in property is needed to implement an institutional control required by a Work Plan and such interest cannot be obtained, the Department may require Volunteer to modify the Work Plan pursuant to Subparagraph II.C of this Agreement to reflect changes necessitated by the lack of access and/or approvals.

E. All approved Work Plans, Final Reports, and other documents required under this Agreement shall be submitted to the Department in an electronic format acceptable to the Department within thirty (30) Days of approval. If any document cannot be converted into electronic format, Volunteer shall so advise the Department and, if the Department concurs, submit such document in an alternative format acceptable to the Department.

F. Volunteer shall provide a copy of this Agreement to each contractor hired to perform work required by this Agreement and shall condition all contracts entered into for the obligations identified in this Agreement upon performance in conformity with the terms of this Agreement. Volunteer or its contractor(s) shall provide written notice of this Agreement to all subcontractors hired to perform any portion of the work required by this Agreement. Volunteer shall nonetheless be responsible for ensuring that Volunteer's contractors and subcontractors perform the work in satisfaction of the requirements of this Agreement.

G. The paragraph headings set forth in this Agreement are included for convenience of reference only and shall be disregarded in the construction and interpretation of any provisions of this Agreement.

H. 1. The terms of this Agreement shall constitute the complete and entire agreement between the Department and Volunteer concerning the implementation of the activities required by this Agreement. No term, condition, understanding, or agreement purporting to modify or vary any term of this Agreement shall be binding unless made in writing and subscribed by the party to be bound. No informal advice, guidance, suggestion, or comment by the Department shall be construed as relieving Volunteer of Volunteer's obligation to obtain such formal approvals as may be required by this Agreement. In the event of a conflict between the terms of this Agreement and any Work Plan submitted pursuant to this Agreement, the terms of this Agreement shall control over the terms of the Work Plan(s) attached as Exhibit "D." Volunteer consents to and agrees not to contest the authority and jurisdiction of the Department to enter into or enforce this Agreement.

2. i. Except as set forth herein, if Volunteer desires that any provision of this Agreement be changed, other than a provision of a Work Plan or a time frame, Volunteer

shall make timely written application to the Commissioner with copies to the parties listed in Subparagraph XII.A.1.

ii. Changes to the Work Plan shall be accomplished as set forth in Subparagraph II.C of this Agreement.

iii. Requests for a change to a time frame set forth in this Agreement shall be made in writing to the Department's project attorney and project manager; such requests shall not be unreasonably denied and a written response to such requests shall be sent to Volunteer promptly.

I. 1. If there are multiple parties signing this Agreement, the term "Volunteer" shall be read in the plural, the obligations of each such party under this Agreement are joint and several, and the insolvency of or failure by any Volunteer to implement any obligations under this Agreement shall not affect the obligations of the remaining Volunteer(s) under this Agreement.

2. If Volunteer is a partnership, the obligations of all general partners (including limited partners who act as general partners) under this Agreement are joint and several and the insolvency or failure of any general partner to implement any obligations under this Agreement shall not affect the obligations of the remaining partner(s) under this Agreement.

3. Notwithstanding the foregoing Subparagraphs XV.I.1 and 2, if multiple parties sign this Agreement as Volunteers but not all of the signing parties elect to implement a Work Plan, all Volunteers are jointly and severally liable for each and every obligation under this Agreement through the completion of activities in such Work Plan that all such parties consented to; thereafter, only those Volunteers electing to perform additional work shall be jointly and severally liable under this Agreement for the obligations and activities under such additional Work Plan(s). The parties electing not to implement the additional Work Plan(s) shall have no obligations under this Agreement relative to the activities set forth in such Work Plan(s). Further, only those Volunteers electing to implement such additional Work Plan(s) shall be eligible to receive the Liability Limitation referenced in Paragraph VI.

J. 1. Volunteer shall be entitled to contribution protection to the extent authorized by ECL 27-1421(6).

2. Notwithstanding the foregoing, with respect to the issue of contribution protection, any written contracts or other written agreements between the Volunteers and/or any of their former, present and future affiliates, shareholders, directors, officers, agents and employees shall, to the extent provided therein, supersede this Agreement and govern the legal relationship between the Volunteers.

K. Volunteer shall not be considered an operator of the Site solely by virtue of having executed and/or implemented this Agreement.

L. Volunteer and Volunteer's agents, grantees, lessees, sublessees, successors, and assigns shall be bound by this Agreement. Any change in ownership of Volunteer including, but not limited to, any transfer of assets or real or personal property, shall in no way alter Volunteer's responsibilities under this Agreement.

M. Unless otherwise expressly provided herein, terms used in this Agreement which are defined in ECL Article 27 or in regulations promulgated thereunder shall have the meaning assigned to them under said statute or regulations. Whenever terms listed in the Glossary attached hereto are used in this Agreement or its Exhibits, the definitions set forth in the Glossary shall apply. In the event of a conflict, the definition set forth in the Glossary shall control.

N. Volunteer's obligations under this Agreement represent payment for or reimbursement of response costs, and shall not be deemed to constitute any type of fine or penalty.

O. This Agreement may be executed for the convenience of the parties hereto, individually or in combination, in one or more counterparts, each of which shall be deemed to have the status of an executed original and all of which shall together constitute one and the same.

P. The effective date of this Agreement is the date it is signed by the Commissioner or the Commissioner's designee.

DATED: MAY 30 2006

DENISE SHEEHAN, COMMISSIONER
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION AND
TRUSTEE OF THE STATE'S NATURAL RESOURCES

By:

Dale A. Desnoyers, Director
Division of Environmental Remediation

CONSENT BY VOLUNTEER

Volunteer hereby consents to the issuing and entering of this Agreement, waives Volunteer's right to a hearing herein as provided by law, and agrees to be bound by this Agreement.

The Scenic Hudson Land Trust, Inc.

By: _____
Steve Rosenberg

Title: Executive Director

Date: May 11, 2006

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

On the 11 day of May, in the year 2006 before me, the undersigned, personally appeared Steve Rosenberg, 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.

_____
Signature and Office of individual
taking acknowledgment

GAIL L. KREIN
Notary Public, State of New York
No. 01KR6111621
Qualified in Ulster County
Commission Expires June 14, 2008

CONSENT BY VOLUNTEER

Volunteer hereby consents to the issuing and entering of this Agreement, waives Volunteer's right to a hearing herein as provided by law, and agrees to be bound by this Agreement.

Foss Group Beacon, LLC

By: _____
Ned Foss

Title: Managing Member

Date: May 11, 2006

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

HEATHER A. SMITH
NOTARY PUBLIC-STATE OF NEW YORK
No. 01SM6112282
Qualified in Albany County
Commission Expires June 28, 2008

On the 11th day of MAY, in the year 2006 before me, the undersigned, personally appeared NED FOSS, 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.

Heather A. Smith
Signature and Office of individual
taking acknowledgment

Glossary of Terms

The following terms shall have the following meanings:

"Day": a calendar day. In computing any period of time under this Agreement, if the last day would fall on a Saturday, Sunday, or State holiday, the period shall run until the close of business of the next working day.

"Force Majeure Event": an event which is brought on as a result of fire, lightning, earthquake, flood, adverse weather conditions, strike, shortages of labor and materials, war, riot, obstruction or interference by adjoining landowners, or any other fact or circumstance beyond Volunteer's reasonable control.

"IRM": an interim remedial measure which is a discrete set of activities which can be undertaken without extensive investigation and evaluation to prevent, mitigate, or remedy environmental damage or the consequences of environmental damage attributable to a Site.

"OM&M": operation, maintenance, and monitoring.

"Professional engineer": an individual registered as a professional engineer in accordance with Article 145 of the New York State Education Law. If such individual is a member of a firm, that firm must be authorized to offer professional engineering services in the State of New York in accordance with Article 145 of the New York State Education Law.

"State Costs": all the State's expenses including, but not limited to, direct labor, fringe benefits, indirect costs, travel, analytical costs, and contractor costs incurred by the State of New York for negotiating, implementing, and administering this Agreement. Approved agency fringe benefit and indirect cost rates will be applied.

"Termination Date": the date upon which (i) the Department issues the Certificate of Completion or approves the Final Report relative to the OM&M at the Site, whichever is later, or (ii) the Agreement terminates pursuant to Paragraph XIII or Subparagraph XV.A,.

"Trustee": the Trustee of New York State's natural resources.

"Work Plan": a Department-approved work plan, as may be modified, that Volunteer shall implement and that is attached to this Agreement.

EXHIBIT "A"

Metes and Bounds Description

METES AND BOUNDS DESCRIPTION
Parcel 1 & 2
Subject to NYS Brown Field Clean Up Program

All that parcel of land situate in the City of Beacon, County of Dutchess and State of New York being more particularly bounded and described as follows:

Parcel 2
Beginning at a point being located in the westerly road boundary of Red Flynn Drive at its intersection with the division line between Parcel 1 & 2 of lands now or formerly of the Scenic Hudson Land Trust Inc. (L. 2000 Pg. 13); thence along aforementioned road boundary the following (2) two courses and distances:

1. South 07°-46'-50" East, a distance of 19.04 feet to a point;
2. South 44°-35'-01" East, a distance of 99.85 feet to a point; thence along other lands now or

formerly of the Scenic Hudson Land Trust Inc. South 85°-41'-40" West, a distance of 1205.94 feet to a point at its intersection with the division line of lands now or formerly of the State of New York; thence North 03°-23'-50" East, a distance of 229.51 feet to a point; thence through the lands of the aforementioned Scenic Hudson (division line between parcels 1 & 2) the following (5) courses and distances:

1. South 89°-43'-10" East, a distance of 209.35 feet to a point;
2. South 84°-30'-10" East, a distance of 87.25 feet to a point;
3. North 84°-42'-20" East, a distance of 444.28 feet to a point;
4. South 69°-08'-10" East, a distance of 239.30 feet to a point;
5. North 88°-07'-50" East, a distance of 154.16 feet to a point of place of Beginning.

Containing 4.73 acres more or less.
Parcel 1
Also, said parcel of land beginning at same Point of beginning for previous parcel; thence along aforementioned division line for parcels 1 & 2 the following (5) five courses and distances:

1. South 88°-07'-50" West, a distance of 154.16 feet to a point;
2. North 69°-08'-10" West, a distance of 239.30 feet to a point;
3. South 84°-42'-20" West, a distance of 444.28 feet to a point;
4. North 84°-30'-10" West, a distance of 87.25 feet to a point;
5. North 89°-43'-10" West, a distance of 209.35 feet to a point; at its intersection with the division

line of the lands now or formerly of the state of New York; thence North 03°-21'-33" East, a distance of 211.36 feet to a point at its intersection with the division line between lands now or formerly of the aforementioned Scenic Hudson and lands now or formerly of the City of Beacon (L. 1180 Pg. 13); thence South 84°-55'-09" East, a distance of 1085.82 feet to a point in the westerly road boundary of Red Flynn Drive; thence South 07°-46'-49" East, a distance of 164.94 feet to the Point or Place of Beginning. Containing 4.22 acres more or less.

Subject to any other enforceable easements restrictions or covenants of record that may exist.

EXHIBIT "B"

Citizen Participation Plan

EXHIBIT "C"

Environmental Easement

ENVIRONMENTAL EASEMENT

THIS INDENTURE made this ____day of _____, 200__, between ***Owner(s)*** _____ residing at (or having an office at) _____(the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("brownfield 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 of ensuring the potential 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 brownfield site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and;

WHEREAS, Grantor, is the owner of real property located in the City/Town/Village of _____, _____County, New York known and designated on the tax map of the _____ of _____ as tax map parcel number_____, section ___block ___ lot____ , being the same as that property conveyed to Grantor by deed on _____, and recorded in the Land Records of the _____ County Clerk at page ____, liber _____ of Deeds, comprised of approximately ____ acres, and hereinafter more fully described in Schedule A attached hereto and made a part hereof (the " Controlled Property"); and;

Attach an adequate legal description of the property subject to the easement, or reference a recorded map. If the easement is on only a part of a parcel of land which is not subdivided into encumbered and unencumbered portions, a legal description needs to be created by a survey bearing the seal and signature of a licensed land surveyor with reference to a metes and bounds description.

WHEREAS, the Commissioner does hereby acknowledge that the Department accepts this Environmental Easement in order to ensure the protection of human health and the environment and to achieve the requirements for remediation established at this 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 covenants and mutual promises contained herein and the terms and conditions of **Brownfield Cleanup Agreement Number_____/State Assistance Contract Number_____/Order on Consent Number_____**, Grantor grants, conveys and releases to Grantee a permanent Environmental Easement pursuant to Article 71, Title 36 of the ECL 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 potential restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The following controls 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. The Controlled Property may be used for

residential
commercial
industrial
use as long as the following long-term engineering controls are employed:

B. The Controlled Property may not be used for a higher level of use such as **unrestricted/ residential / commercial** use and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of 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 of Title 36 to Article 71 of the Environmental Conservation Law.

C. 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.

D. Grantor covenants and agrees that it shall annually, or such time as NYSDEC may allow, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury that the controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls employed at the Controlled Property were approved by the NYSDEC, and that nothing has occurred that would impair the ability of such control to protect the public health and environment or constitute a violation or failure to comply with any Site Management Plan for such controls and giving access to such Controlled Property to evaluate continued maintenance of such controls.

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 Controlled Property, including:

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

2. The right to give, sell, assign, or otherwise transfer the underlying fee interest to the Controlled Property by operation of law, by deed, or by indenture, subject and subordinate to this Environmental Easement;

5. Enforcement

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

B. If any person intentionally violates this environmental easement, the Grantee may revoke the Certificate of Completion provided under ECL Article 27, Title 14, or the Satisfactory Completion of Project provided under ECL Article 56, Title 5 with respect to the Controlled Property.

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

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar its enforcement rights in the event of a subsequent breach of or noncompliance with any of the terms of this Environmental easement.

6. Notice. Whenever notice to the State (other than the annual certification) or approval from the State is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing its County tax map number or the Liber and Page or computerized system tracking/ identification number and address correspondence to:

Division of Environmental Enforcement
Office of General Counsel
New York State Department of Environmental Conservation
625 Broadway
Albany New York 12233-5500

Such correspondence shall be delivered by hand, or 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. This environmental easement may be amended only by an amendment executed by the Commissioner of the New York State Department of Environmental Conservation 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 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.

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

Grantor's Name
By:_____

Title:_____

Date:_____

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

By: _____
Denise M. Sheehan, Commissioner

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF)

On the _____ day of _____, in the year 200_ before me, the undersigned, personally appeared _____, 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

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF)

On the _____ day of _____, in the year 200_, before me, the undersigned, personally appeared _____, 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 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

DRAFT

EXHIBIT "D"

Approved Work Plans

BROWNFIELD CLEANUP PROGRAM
DECISION DOCUMENT

Long Dock Beacon Site
City of Beacon, Dutchess County
Site No. C314112

April; 2008

Statement of Purpose and Basis: This Brownfields Cleanup Program (BCP) Decision Document presents the remedy approved by the New York Department of Environmental Conservation (the Department) for the Long Dock Beacon Site. The approved remedial program was chosen in accordance with 6 NYCRR Part 375-3.8 (c) and relative guidance to remedy selection in the BCP.

Description of the Site: The Long Dock Beacon Site is an irregularly shaped 8.85 acre former industrial parcel located on a peninsula adjacent to the Hudson River in the City of Beacon, Duchess County, New York (see Figure 1). The site is bordered by the Hudson River to the west, Red Flynn Drive to the east, land owned by Scenic Hudson to the south and the Hudson River and the Metro North Railroad station to the north. The site is currently inactive, with a former residential dwelling and storage barn on the north side of the site. The Dutchess Boat Club also uses the south side of the site to access the Hudson River. The surrounding area has a combination of residential, commercial, and light industrial land uses.

Prior uses of the site included a salvage yard, which operated on the northeastern portion of the site from approximately 1962 to 1983 and a Major Oil Storage Facility (MOSF), which operated on the southern portion of the site from approximately 1936 to 1994. In addition unregulated filling of the site may have also led to site contamination. The site is comprised of two former Voluntary Cleanup Program (VCP) sites, the Beacon Salvage site (V00444) and the Garret Storm site (V00096). An Interim Remedial Measure (IRM) to remove petroleum contamination was completed at the Garret Storm site in 2000 and an IRM to remove polychlorinated biphenyl (PCB) contamination was completed at the Beacon Salvage site in 2002.

Nature and Extent of Contamination: A Remedial Investigation (RI) was conducted at the site in 2006 and 2007. Primary contaminants of concern identified during the RI based on the Standards, Criteria, and Guidelines (SCGs) established for this site include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals (arsenic, lead, mercury), and PCBs. Figure 2 illustrates the contamination delineation as determined by the RI.

Contaminants of concern in soil, associated with the former MOSF, include VOCs and SVOCs in exceedence of SCGs. SVOC contamination in soils in the former MOSF area extends vertically from approximately 3 to 5 feet below surface grade, while VOC contamination in soils in the former MOSF area extends vertically from approximately 3 to 20 feet.

Contaminants of concern associated with the historic salvage operations of the site include PCBs, metals (arsenic, lead, mercury) and SVOCs [mostly Polycyclic Aromatic Hydrocarbons (PAHs)] in exceedence of SCGs. PCB contamination in soils is limited to the northeast portion of the site from 0 to 3 feet below surface grade. Arsenic contamination in soils is present in several areas throughout the site at 0 to 4 feet and extends to a depth of 10 feet in isolated areas on the eastern portion of the site. Lead contamination is present in surface soils in the northeast portion of the site as well as in subsurface soils in three isolated areas. SVOC and mercury contamination in soils is present in an isolated pocket in the northeast portion of the site from 7 to 9 feet below grade.

Groundwater contamination is present in the area of the former MOSF and extends off-site, south of the former MOSF. Low-levels of VOCs and SVOCs are present in groundwater within the area of the former MOSF. No site related surface water or sediment contamination was encountered during the RI.

The contamination of soil and groundwater identified above does not represent a significant threat to public health or the environment; however remedial action to address these areas is required.

Description of the Remedy: The remedy is more fully described in the Remedial Alternatives Report and Remedial Work Plan, dated February 2008. The remedy addresses only on-site contamination, as the BCP applicant is a volunteer. The off-site exposure assessment did not identify any exposures.

The elements of this Track 4 remedy are as follows:

1) A remedial design program to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedy.

2) Excavation and off-site disposal of soil/fill material identified as containing concentrations of PCBs, metals (arsenic, lead, mercury) and SVOCs that exceed the 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs) for commercial land use. The volume of this material is estimated at from 8,000 to 11,500 cubic yards. Excavated areas will be back-filled utilizing clean fill meeting Department guidelines and restored to grade. The areas of soil removal are shown on Figure 2.

3) Implementation of in-situ chemical oxidation (ISCO) treatment to reduce petroleum contamination, which is present within the site boundaries, in the south-central portion of the site. The periodic injection of oxidant will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible. The area of ISCO treatment is shown on Figure 2.

4) Installation of a one foot thick soil cover over the entire Site that also could include a combination of building footprints and paved surfaces to eliminate direct contact with contamination remaining in the site soil. A visual demarcation layer will be placed beneath

the Site cover.

5) Since the remedy results in contamination above unrestricted levels remaining at the site, an institutional control in the form of an environmental easement will be required for the site. The environmental easement will:
   (a) restrict the use of the site to commercial uses;
   (b) restrict the use of groundwater at the site;
   (c) require the management of the site in accordance with the provisions of the site management plan, to be approved by the Department; and
   (d) require the property owner complete and submit to the NYSDEC a periodic certification.

6) A site management plan (SMP) will be developed and implemented. The SMP will identify the institutional controls and engineering controls (IC/ECs) required for the proposed remedy and detail their implementation. The SMP for the proposed remedy will include:
   (a) an IC/EC control plan to establish the controls and procedures necessary to; (i) manage remaining contaminated soils that may be excavated from the site during future activities, including procedures for soil characterization, handling, health and safety of workers and the community as well as, disposal/reuse in accordance with applicable NYSDEC regulations and procedures; (ii) evaluate the potential for vapor intrusion for any buildings developed on the site, including mitigation of any impacts identified; (iii) installation of a vapor barrier and sub-slab depressurization system (SSDS) as necessary under any proposed on-site structures to minimize soil vapor intrusion.; (iv) maintain use restrictions regarding site development or groundwater use identified in the environmental easement; and (v) require the property owner to provide an institutional control/engineering control (IC/EC) certification on a periodic basis;
   (b) a monitoring plan to monitor the effectiveness of the ISCO on groundwater and to monitor the effectiveness of the proposed remedy and the trend of contaminants concentrations in the groundwater;
   (c) an operation and maintenance plan to provide the detailed procedures necessary to operate and maintain the remedy, including the ISCO and SSDS treatment systems. The operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the NYSDEC determines that continued operation is technically impracticable or not feasible.

7) The property owner will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submission will:
   (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications;
   (b) allow the Department access to the site; and

(c) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action and will allow for the identified use of the site. This remedy utilizes permanent solutions and alternative treatment to the maximum extent practicable, and satisfies the preference for remedies that reduce remove or otherwise treat or contain sources of contamination and protection of groundwater.

MAY 8, 2008
Date

Robert W. Schick, P.E.
Director
Remedial Bureau C
Division of Environmental Remediation

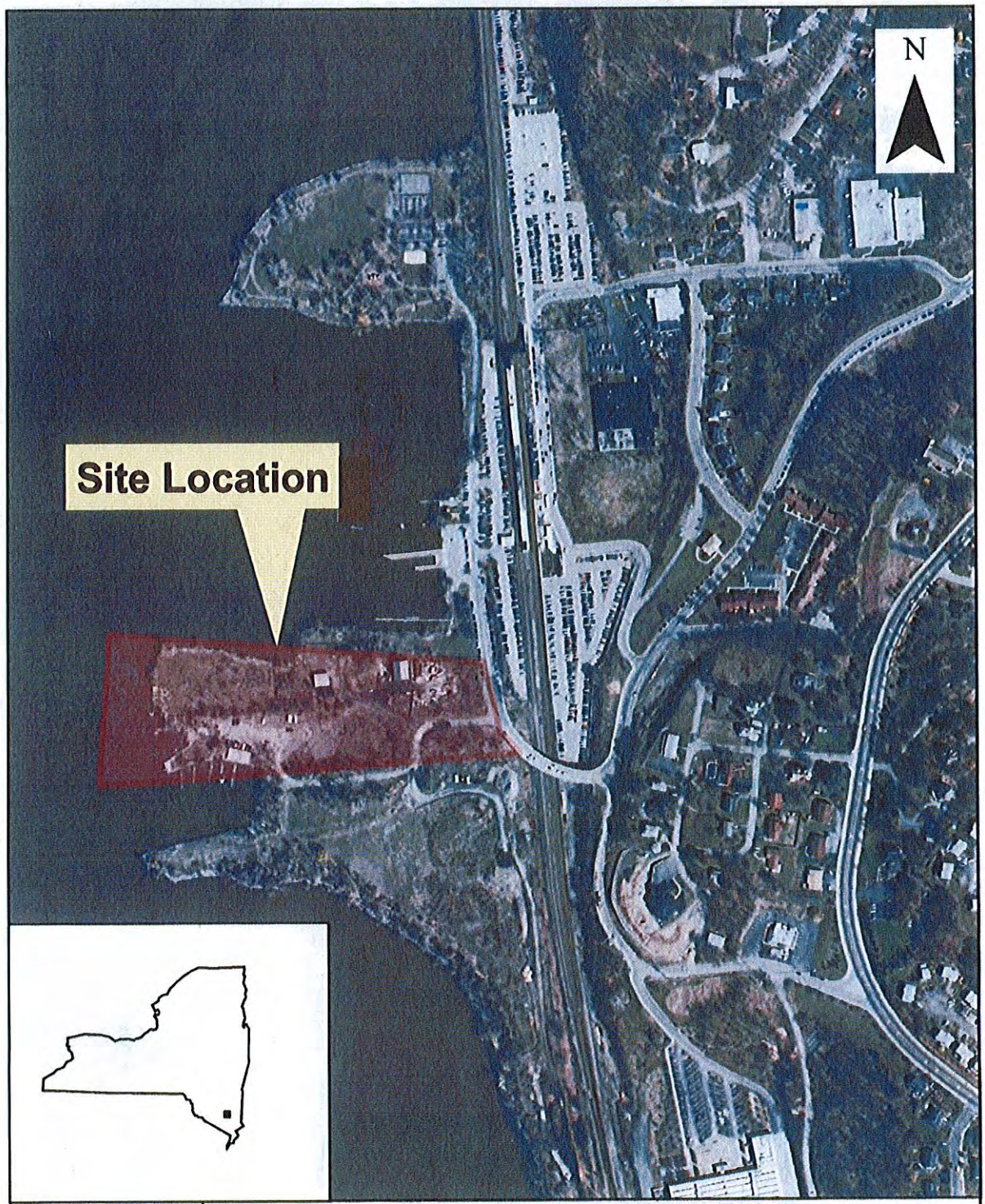
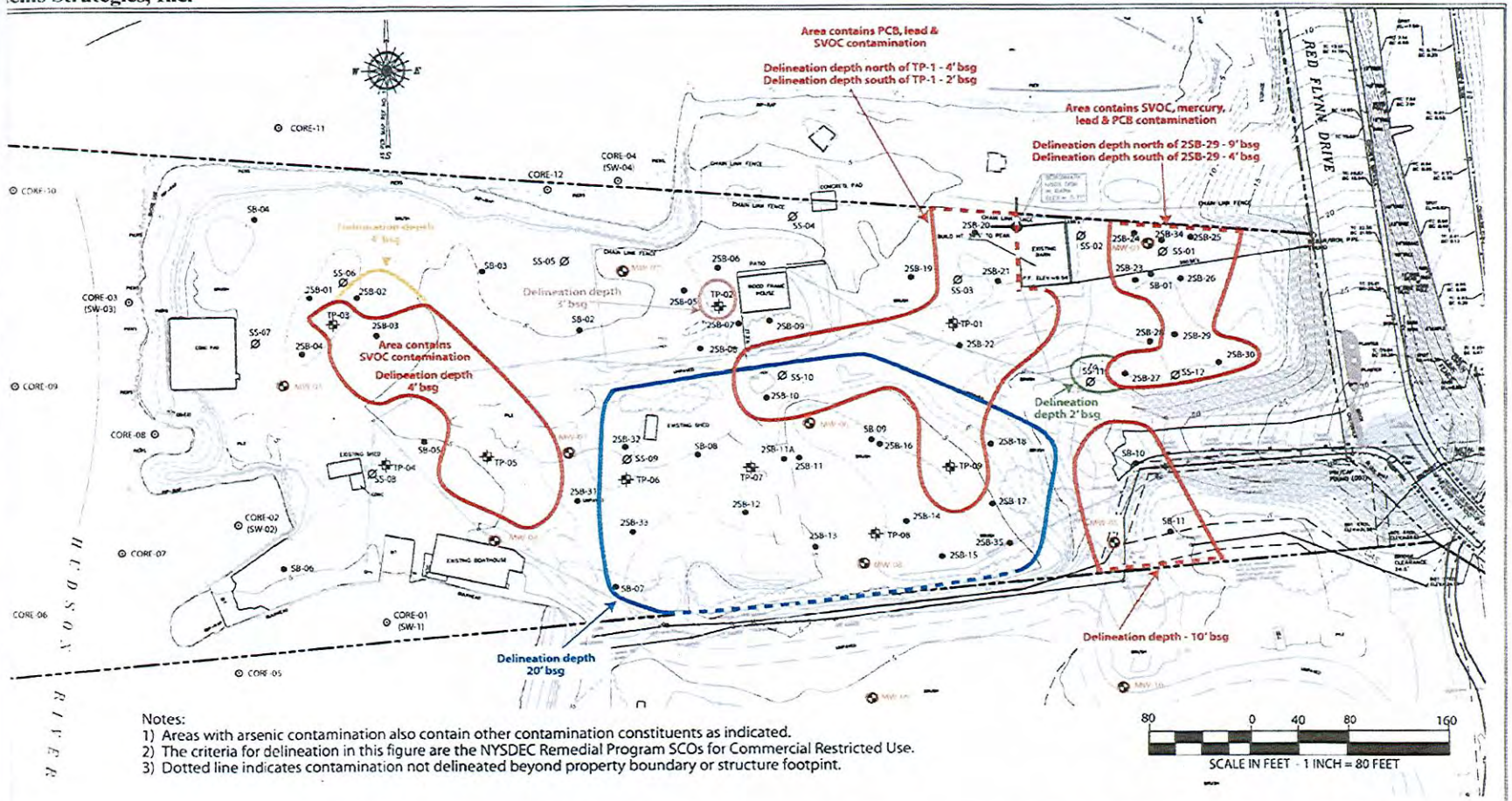


Figure 1 - Site Location Map
Long Dock Beacon Site
Site No. C314112
City of Beacon, Dutchess County, New York
1:5,000



Notes:
1) Areas with arsenic contamination also contain other contamination constituents as indicated.
2) The criteria for delineation in this figure are the NYSDEC Remedial Program SCOs for Commercial Restricted Use.
3) Dotted line indicates contamination not delineated beyond property boundary or structure footpint.

Figure 2 - Delineation of Contamination

Long Dock Beacon
Red Flynn Drive
City of Beacon
Dutchess County, New York

Legend:
- Soil Boring
- Test Pit
- Surface Sample
- Sediment Sample
- Monitoring Well
- Area of former MOSF (VOC, SVOC and TPH-DRO contamination)
- Boundary of areas with arsenic contamination
- Site Boundary
- Boundary of area with lead contamination and no arsenic contamination
- Boundary of area with PCB contamination and no arsenic contamination
- Boundary of area with significant SVOC contamination and no arsenic contamination

ESI File: SG96152.51
November 2007
Scale as shown
Appendix A

Explanation of Significant Differences
Long Dock Beacon Site

City of Beacon / Dutchess County / Site No. C3-14-112 / September 2008

Prepared by the New York State Department of Environmental Conservation
Division of Environmental Remediation

The purpose of this Explanation of Significant Differences (ESD) is to document a change in the selected remedy for the Long Dock Beacon Site. The selected remedy for this Site was previously documented in the Brownfields Cleanup Program (BCP) Decision Document approved by the New York State Department of Environmental Conservation (the Department) in April 2008. The Explanation of Significant Differences (ESD) will become part of the Administrative Record for this Site.

1.0 Description of Site

The Long Dock Beacon Site is an irregularly shaped 8.85 acre former industrial parcel located on a peninsula adjacent to the Hudson River in the City of Beacon, Dutchess County, New York (see Figure 1). The site is bordered by the Hudson River to the west, Red Flynn Drive to the east, land owned by Scenic Hudson to the south and the Hudson River and the Metro North Railroad station to the north. The site is currently inactive, with a former residential dwelling and storage barn on the north side of the site. The Dutchess Boat Club also uses the south side of the site to access the Hudson River. The surrounding area has a combination of residential, commercial, and light industrial land uses.

Prior uses of the site included a salvage yard, which operated on the northeastern portion of the site from approximately 1962 to 1983 and a Major Oil Storage Facility (MOSF), which operated on the southern portion of the site from approximately 1936 to 1994. In addition unregulated filling of the site may have also led to site contamination. The site is comprised of two former Voluntary Cleanup Program (VCP) sites, the Beacon Salvage site (V00444) and the Garret Storm site (V00096). An Interim Remedial Measure (IRM) to remove petroleum contamination was completed at the Garret Storm site in 2000 and an IRM to remove polychlorinated biphenyl (PCB) contamination was completed at the Beacon Salvage site in 2002.

2.0 Description of Significant Differences

The April 2008 BCP Decision Document which described the remedy for this site approved by the Department was based upon a restriction on the future use of the site to commercial use, as defined by 6 NYCRR 375-1.8(g)(2)(iii). At the request of the BCP applicant the Department approved remedy is modified by this ESD to allow the use of the Site to be restricted-residential use, as defined by 6 NYCRR 375-1.8(g)(2)(ii). The modifications to the Department approved Track 4 remedy for this Site, to allow for restricted residential use of the site, are as follows:

- Excavation and off-site disposal of source area soil/fill materials identified as containing

elevated concentrations of arsenic, lead, mercury, and SVOCs. The limits of the source areas are shown on Figure 2.

- Excavation and off-site disposal of soil/fill materials identified as containing concentrations of PCBs exceeding 1 part per million (ppm) in surface soils and 10 ppm in subsurface soils. The area of excavation for PCBs is defined on Figure 2.

- Installation of a two foot thick soil cover over those areas of the Site that will not otherwise be covered by building footprints or paved surfaces to eliminate direct contact with contamination remaining in the site soil. The soil cover must conform to the requirements of 6 NYCRR 375-6.7(d) (1) for restricted-residential use.

- The environmental easement will now restrict use to restricted-residential uses consistent with 6 NYCRR 375-1.8(g)(2)(ii).

3.0 More Information

Interested persons are invited to contact the Department's Project Manager for this site to obtain more information or have questions answered. The Project Manager for this site it William Bennett. Mr. Bennett can contacted in writing at 625 Broadway, Albany, New York, 12233-7014; by telephone at (518) 402-9662; or by e-mail at wbbennet@gw.dec.state.ny.us. The information here is a summary of what can be found in greater detail in existing documents that have been placed in the following repositories:

NYSDEC Region 3
21 South Putt Corners Rd
New Paltz, New York 12561
Attn: Michael Knipfing
Phone: (845) 256-3154
Hours: Monday-Friday 8:30am - 4:30pm
(by appointment only)

Howland Public Library
313 Main Street
Beacon, New York 12508
Phone: (845) 831-1165
Hours: Mon/Wed/Fri 9:30am - 5:30pm,
Tue/Thu 9:00am - 5:00pm,
Sat 10:00am - 4:00pm, Sun 12:00pm - 4:00pm

Beacon City Hall
Municipal Center, lower level
One Municipal Plaza
Beacon, New York 12508
Phone: (845) 838-5000
Hours: Monday-Friday 8:30am - 3:30pm

The Beacon Institute
199 Main Street
Beacon, New York 12508
Phone: (845) 838-1600
Hours: Monday-Friday 9:00am - 5:00pm

4.0 Declaration

The Department approved remedy, as modified by this ESD, is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action and will allow for the identified use of the site. This remedy utilizes permanent solutions and alternative treatment to the maximum extent practicable, and satisfies the preference for remedies that reduce remove or otherwise treat or contain sources of contamination and protection of groundwater.

9/3/08
Date

William Bennett
William Bennett
Project Manager
Remedial Bureau C
Division of Environmental Remediation

9/8/08
Date

David Crosby, P.E.
Section Chief
Remedial Bureau C
Division of Environmental Remediation

September 8, 2008
Date

Robert W. Schick, P.E.
Director
Remedial Bureau C
Division of Environmental Remediation

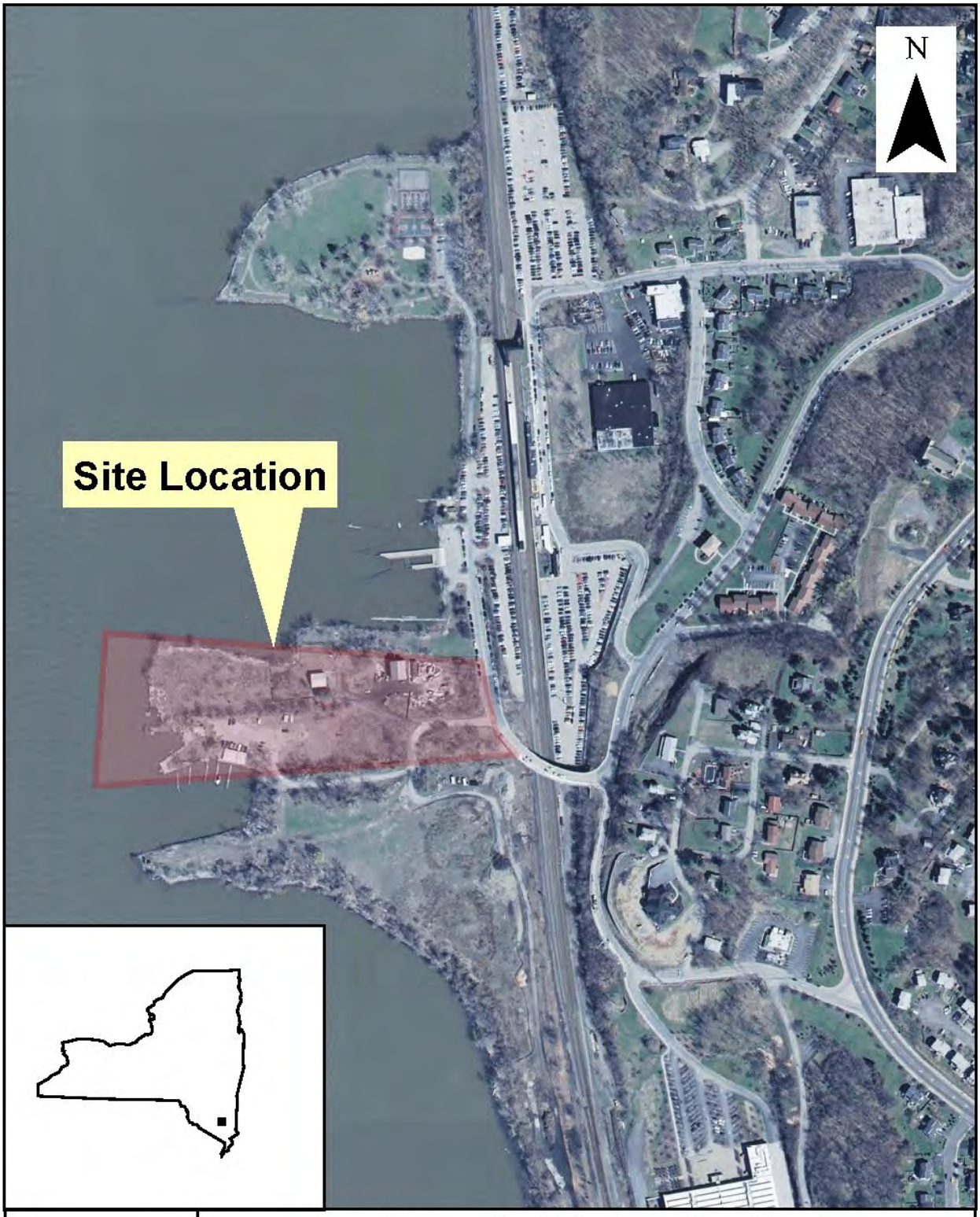


Figure 1 - Site Location Map
Long Dock Beacon Site
Site No. C314112
City of Beacon, Dutchess County, New York
1:5,000

Ecosystems Strategies, Inc. *Environmental Services and Solutions*

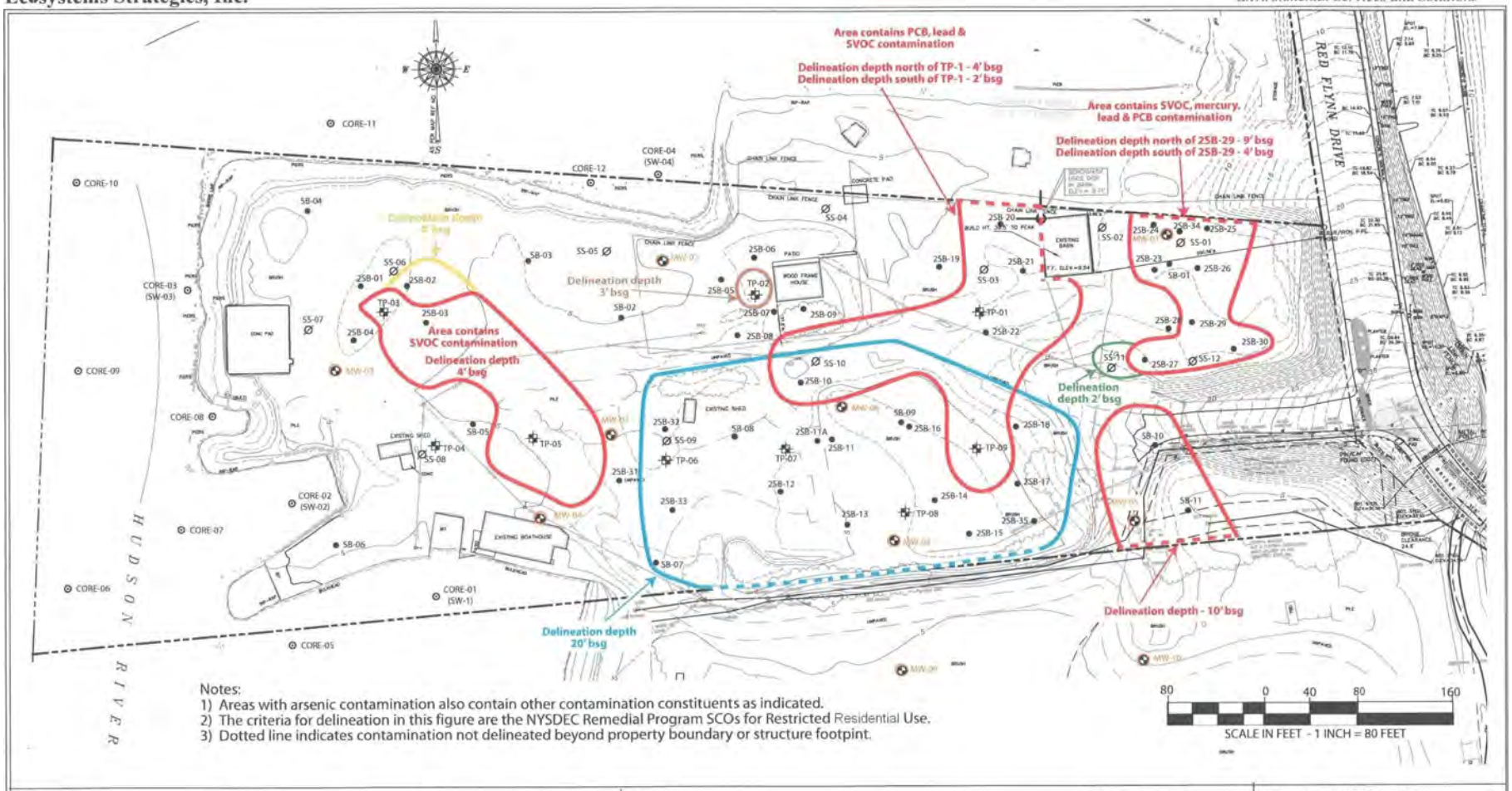


Figure 2 - Delineation of Contamination

Long Dock Beacon
Red Flynn Drive
City of Beacon
Dutchess County, New York

Legend:
- Soil Boring
- Test Pit
- Surface Sample
- Sediment Sample
- Monitoring Well
- Area of former MOSF (VOC, SVOC and TPH-DRO contamination)
- Boundary of areas with arsenic contamination
- Site Boundary
- Boundary of area with lead contamination and no arsenic contamination
- Boundary of area with PCB contamination and no arsenic contamination
- Boundary of area with significant SVOC contamination and no arsenic contamination

ESI File: SG96152.51
November 2007
Scale as shown
Appendix A

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau C, 11th Floor
625 Broadway, Albany, New York 12233-7014
Phone: (518) 402-9662 • **Fax:** (518) 402-9679
Website: www.dec.ny.gov

Joe Martens
Commissioner

Transmitted via E-mail and US Mail

December 26, 2013

Mr. Paul Ciminello
Ecosystems Strategies, Inc.
24 Davis Avenue
Poughkeepsie, NY 12603

Ms. Margery Groten
Scenic Hudson
One Civic Center Plaza, Suite 200
Poughkeepsie, NY 12601

Re: Interim Site Management Plan, November 2013
Long Dock Beacon Site, Site No. C314112, City of Beacon, Dutchess County

Dear Mr. Ciminello and Ms. Groten,

The New York State Department of Environmental Conservation (Department) in consultation with the New York State Department of Health has completed its review of the revised Interim Site Management Plan dated November 2013 for the site listed above. In accordance with 6 NYCRR Part 375-1.6(d)(2) the Interim Site Management Plan is hereby approved. Please provide a copy of the approved Interim Site Management Plan to the document repositories for the site.

The Department appreciates your efforts in implementing a Brownfield Cleanup Program for the Long Dock Beacon site. If you have any questions or concerns please contact me at (518) 402-9662.

Sincerely,

William B Bennett III

William B. Bennett III, P.E.
Environmental Engineer 2
Remedial Bureau C
Division of Environmental Remediation

ec: U. Shrestha, Ecosystems
G. Schwalbe
A. Perretta, NYSDOH
D. Crosby

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau C, 11th Floor
625 Broadway, Albany, New York 12233-7014
Phone: (518) 402-9662 • **Fax:** (518) 402-9679
Website: www.dec.ny.gov

Joe Martens
Commissioner

Transmitted via E-mail and US Mail

December 27, 2013

Mr. Paul Ciminello
Ecosystems Strategies, Inc.
24 Davis Avenue
Poughkeepsie, NY 12603

Ms. Margery Groten
Scenic Hudson
One Civic Center Plaza, Suite 200
Poughkeepsie, NY 12601

Re: Construction Completion Report – Phase I, November 2013
Long Dock Beacon Site, Site No. C314112, City of Beacon, Dutchess County

Dear Mr. Ciminello and Ms. Groten,

The New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health has completed its review of the revised Construction Completion Report – Phase I dated November 2013 for the site listed above. In accordance with 6 NYCRR Part 375-1.6(d)(2) the Construction Completion Report – Phase I is hereby approved. Please provide a copy of the approved Construction Completion Report – Phase I to the document repositories for the site.

The Department appreciates your efforts in implementing a Brownfield Cleanup Program for the Long Dock Beacon site. If you have any questions or concerns please contact me at (518) 402-9662.

Sincerely,

William B Bennett III

William B. Bennett III, P.E.
Environmental Engineer 2
Remedial Bureau C
Division of Environmental Remediation

ec: U. Shrestha, Ecosystems
G. Schwalbe
A. Perretta, NYSDOH
D. Crosby

New York State Department of Environmental Conservation
Division of Environmental Remediation
Office of the Director, 12th Floor
625 Broadway, Albany, New York 12233-7011
Phone: (518) 402-9706 • **Fax:** (518) 402-9020
Website: www.dec.ny.gov

Joe Martens
Commissioner

Transmitted via E-mail and US mail

March 12, 2012

Ms. Marge Groten
Scenic Hudson, Inc.
One Civic Center Plaza, Suite 200
Poughkeepsie, NY 12601

Re: Brownfield Cleanup Agreement, Index # W3-1038-04-12
Long Dock Beacon, Site No. C314112, City of Beacon, Dutchess County

Dear Ms. Groten,

The New York State Department of Environmental Conservation (Department) is in receipt of your letter dated February 9, 2012 in regards to the Long Dock Beacon site (Site) in the Department's Brownfield Cleanup Program (BCP).

The Department is willing to accept the request for an extension relative to the Phase 2 – Remedial Action. However, in addition to the final report (Construction Completion Report) referenced in your letter, certain Phase 1 – Remedial Action tasks remain incomplete as specified below:

- Gravel cover in the boat club parking area: The approved Phase 1 - Remedial Design specified a 4 to 6 inch thick temporary gravel layer for the boat club parking area. Site inspections by the Department conducted in October 2011 and February 2012 observed that only a partial gravel cover of this area, approximately 1 inch thick, is in place. This is unacceptable. The temporary gravel layer must be placed as required by the Phase 1 – Remedial Design.

- Management of trench excavation soil: Soil excavated during the construction of utility trenches at the site was placed at the surface in the area of the former house. The placement of this soil at this location with no cover is not appropriate, as it potentially increases the concentrations of constituents of concern in surface soil. In addition, the soil was derived from subsurface excavations and therefore cannot sustain vegetation in order to prevent erosion. SHLT must manage trench excavation soil properly prior to completion of the Phase 1 – Remedial Action. Status Memo # 15 dated May 4, 2011 included a management proposal for the soil which was commented on by the Department by e-mail on May 11, 2011.

- Completion of site fencing: Based on the site figure included in Status Memo # 20 dated January 12, 2012, temporary fencing has been installed in liu of a gate as specified in the

Phase 1 – Remedial Design. The final gate must be installed as required by the Phase 1 – Remedial Design.

- Interim site management plan: An interim Site Management Plan must be submitted to the Department documenting the engineering and institutional controls for the Phase 1 - Remedial Action. As requested in Status Memo # 20 dated January 12, 2012, the Department has reviewed the groundwater monitoring program implemented following the Phase 1 - Remedial Action. The Department requires the following annual groundwater monitoring program be incorporated into the Phase 1 Interim Site Management Plan:

    - MW-1, MW-5: Arsenic
    - MW-8, MW-10 VOCs + TICs, SVOCs + TICs

  Please be advised that the groundwater monitoring plan specified above is intended as a temporary measure pending the completion of the Phase 2 – Remedial Action. A more comprehensive groundwater monitoring program will likely be necessary following the Phase 2 – Remedial Action Plan in the final Site Management Plan for the site.

Please provide to the Department no later than **March 31, 2012** a schedule for addressing the remaining Phase 1 – Remedial Action tasks described above. The schedule must indicate completion of the tasks outlined above within 60 days of submittal of the schedule. Upon receipt of this schedule, I can coordinate a meeting of SHLT and relevant Department staff, if one is required.

The Department is also in receipt of a letter dated January 23, 2012 from Foss Group Beacon, LLC, indicating that Foss Group Beacon, LLC wishes to withdraw from the Brownfield Cleanup Agreement (BCA). Please be advised, in order for the Department to accept this withdrawal, the BCA Volunteers must submit to the Department a BCP Amendment Application for Change in Party. This application can be found at:
http://www.dec.ny.gov/chemical/8450.html

If you have any questions regarding the remedial program and/or the tasks outlined above, please contact Mr. William Bennett, Project Manager, at (518) 402-9662. If you have any questions regarding the BCA, please contact Ms. Rosalie Rusinko, Project Attorney at (914)428-2505.

Sincerely,

Michael J. Ryan, P.E.
Director
Remedial Bureau C
Division of Environmental Remediation

ec: S. Rosenberg, Scenic Hudson Land Trust, Inc.
P. Ciminello, Ecosystems
U. Shrestha, Ecosystems
A. Perretta, NYSDOH
C. Bethoney, NYSDOH
D. Crosby
R. Rusinko
M. Ryan
W. Bennett

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau C, 11th Floor
625 Broadway, Albany, New York 12233-7014
Phone: (518) 402-9662 • **Fax:** (518) 402-9679
Website: www.dec.ny.gov

Joe Martens
Commissioner

Transmitted via E-mail and US mail

June 7, 2012

Mr. Paul Ciminello
Ecosystems Strategies, Inc.
24 Davis Street
Poughkeepsie, NY 12603

Ms. Marge Groten
Scenic Hudson, Inc.
One Civic Center Plaza, Suite 200
Poughkeepsie, NY 12601

Re: Brownfield Clean-up Agreement, Index # W3-1038-04-12
Long Dock Beacon, Site No. C314112, City of Beacon, Dutchess County

Dear Mr. Ciminello & Ms. Groten,

The New York State Department of Environmental Conservation (Department) is in receipt of your letter dated March 30, 2012 in regards to the Long Dock Beacon site (Site) in the Department's Brownfield Cleanup Program (BCP). Based on the contents of this letter the Department approves of your February 9, 2012 request for a one year extension on the implementation on the remaining components of the Remedial Action documented under the May 2008 Decision Document and September 2008 Explanation of Significant Differences for the site.

Your March 30, 2012 letter indicates that all Phase I remedial work was to be completed by May 31, 2012. As indicated by Ecosystems Strategies, Inc. e-mail on May 31, 2012, the 6 inch soil cover has not been placed yet. Please be advised that the Department cannot approve the Phase I Interim Site Management Plan or Construction Completion Report until the Phase I remedy is complete.

If you have any questions or concerns, please contact me at (518) 402-9662.

Sincerely,

William Bennett

William Bennett
Environmental Engineer 1
Remedial Bureau C
Division of Environmental Remediation

ec: S. Rosenberg, Scenic Hudson Land Trust, Inc.
U. Shrestha, Ecosystems
A. Perretta, NYSDOH
C. Bethoney, NYSDOH
D. Crosby

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Phone: (518) 402-9662 • **Fax:** (518) 402-9679
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Joe Martens
Commissioner

Transmitted via E-mail and US mail

October 9, 2014

Ms. Meg Rasmussen
Scenic Hudson, Inc.
One Civic Center Plaza, Suite 200
Poughkeepsie, NY 12601-3157

Re: Letter Proposal to Conduct Initial Remedial Action Activities
Long Dock Beacon Site, Site No. C314112, City of Beacon, Dutchess County

Dear Ms. Rasmussen,

The New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health has completed its review of your letter proposal to conduct initial remedial action activities for the above referenced site submitted to the Department on September 29, 2014. In accordance with 6 NYCRR Part 375-1.6(d)(3), the Department hereby approves of the proposal with the following modifications:

Modification 1: All work conducted under the proposal must be certified by a Professional Engineer in the Final Engineering Report for the site in accordance with DER-10, Section 1.5(b)(3).

Modification 2: The alternative source of fill material referenced in Morris Associates' September 25, 2014 letter must be certified in the same manner as the previous source of fill material approved by the Department on July 7, 2014. The September 25, 2014 letter is not sufficient documentation of this fill source. The material certification must be provided to and approved by the Department prior to the placement of the fill material on the site.

Modification 3: Approved material will be placed in the Phase 2 remediation area via the boat club parking lot. To facilitate this access the fence separating the Phase 2 remediation area will need to be removed and/or modified. Scenic Hudson will ensure that during and after the importation of approved material, access controls on the Phase 2 remediation area will remain in place.

In accordance with 6 NYCRR Part 375-1.6(3) should Scenic Hudson accept the Department's modification to the proposal, please document this acceptance in writing within 15 days of receipt of this letter.

If you have any questions or concerns, please feel free to contact me at (518) 402-9662.

Sincerely,

William B. Bennett III, P.E.
Environmental Engineer 2
Remedial Bureau C
Division of Environmental Remediation

ec: U. Shrestha, Ecosystems
P. Ciminello, Ecosystems
J. Dennis, Morris
A. Perretta, NYSDOH
D. Crosby

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Division of Environmental Remediation
Remedial Bureau C, 11th Floor
625 Broadway, Albany, New York 12233-7014
Phone: (518) 402-9662 • **Fax:** (518) 402-9679
Website: www.dec.ny.gov

Joe Martens
Commissioner

Transmitted via E-mail and US mail

January 30, 2015

Ms. Meg Rasmussen
Scenic Hudson, Inc.
One Civic Center Plaza, Suite 200
Poughkeepsie, NY 12601-3157

Re: Remedial Action Work Plan, December 2014
Long Dock Beacon Site, Site No. C314112, City of Beacon, Dutchess County

Dear Ms. Rasmussen,

The New York State Department of Environmental Conservation (the Department) has completed its review of the Remedial Action Work Plan (RAWP) dated December 2014 for the above referenced site under the Brownfield Cleanup Program (BCP). In accordance with 6 NYCRR Part 375-1.6(d)(3), the Department hereby approves the RAWP with the following modifications:

Modification 1, Section 2.7: Change "Remediation Areas A and B" to "Remediation Area A" and "Remediation Area C" to "Remediation Area B".

Modification 2, Section 4.2: The sentence: "The site clearing and grubbing activities are also described in Section 311000 of the Phase II Project Manual provided in Appendix J" is from an earlier version of the RAWP and is therefore removed.

Modification 3, Section 4.5.2: 4 sidewall samples shall be collected following the excavation of Area A, spread evenly around the perimeter of the excavation.

Modification 4, Section 4.6: "Excavation Area B" shall be changed to "Remediation Area B".

Modification 5, Section 4.8.2: As required by the Department's November 7, 2014 letter, if temporary stockpiles must be established outside the limits of excavated areas a composite surface soil sample must be taken from beneath the staging area and analyzed for contaminants of concern. Based on the results of this confirmation sample, additional excavation may be required by the Department if the stockpile has impacted underlying soil.

Modification 6, Section 4.8.9: The following text which was removed from the October 2014 RAWP shall be reinserted into the final RAWP, and altered as italicized: "All materials proposed for import onto the Site will be approved by the NYSDEC in accordance with Part 375-6.7(d) and DER-10 5.4(e) prior to receipt at the Site. Imported fill or soil will be sampled at the

frequency specified in DER-10 Table 5.4(e)10 and will not exceed allowable constituent levels as specified in DER-10 Appendix 5 (*Commercial Use category*)."

Modification 7, Section 4.8.9: All imported material that is part of the one foot site cover must be placed above the demarcation layer. This may include gravel and rocks.

Modification 8, Section 7.0: In-situ treatment must be completed prior to the approval of the Final Engineering Report and Site Management Plan and placement of the Environmental Easement.

Please note, the Department's approval with modifications of this RAWP does not exempt the BCP volunteer from permits required by federal and local entities.

In accordance with 6 NYCRR Part 375-1.6(d)(3) should Scenic Hudson elect to modify the RAWP, please notify the Department within 15 days of receipt of this letter and submit a modified RAWP within 30 days of receipt of this letter. The modified RAWP submission must include a hard and electronic copy of the RAWP and a revised and updated project schedule.

If you have any questions or concerns, please feel free to contact me at (518) 402-9662.

Sincerely,

William B Bennett III

William B. Bennett III, P.E.
Environmental Engineer 2
Remedial Bureau C
Division of Environmental Remediation

ec: U. Shrestha, Ecosystems
P. Ciminello, Ecosystems
J. Dennis, Morris
A. Perretta, NYSDOH
D. Crosby, NYSDEC

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau C, 11th Floor
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Phone: (518) 402-9662 • **Fax:** (518) 402-9679
Website: www.dec.ny.gov

Joe Martens
Commissioner

Transmitted via E-mail and US mail

November 24, 2014

Ms. Meg Rasmussen
Scenic Hudson, Inc.
One Civic Center Plaza, Suite 200
Poughkeepsie, NY 12601-3157

Re: Clarification to the Proposed Use and Remedial Objectives for
Long Dock Beacon Site, Site No. C314112, City of Beacon, Dutchess County

Dear Ms. Rasmussen,

The New York State Department of Environmental Conservation (Department) has completed its review of the Clarification to the Proposed Use and Remedial Objectives for the Long Dock Beacon Site (site) submitted by Scenic Hudson on November 7, 2014.

The April 2008 Decision Document (DD) for the site required a site cover for commercial reuse of the site which consists of buildings, parking surfaces and a one foot thick soil cover over the remainder of the site. In September 2008, the DD was modified by an Explanation of Significant Differences (ESD) which specified a site cover for restricted-residential use of the site consisting of a two foot thick soil cover along with a combination of building footprint and paved surfaces. The ESD was finalized in order to accommodate the Volunteer's (Scenic Hudson) planned reuse of the site for active recreational activities in the area of the Red Barn and the eastern end of the site (aka, Phase 1).

Your letter dated November 7, 2014 proposes multiple uses of the BCP site. Under this proposal the use of the Phase 1 portion of the site (subject to a previous remedial action under the DD and ESD) will remain restricted-residential in accordance with 6 NYCRR Part 375-1.8(g)(2)(ii) and allow for active recreational activities. The site cover for the Phase 1 portion of the site will remain a two foot thick soil cover and a combination of building footprints and paved surfaces. Please note that portions of the Phase 1 site cover are currently incomplete. In a November 7, 2014 letter to the volunteer which provided comments on the Phase 2 – Remedial Action Work Plan, the Department required the Volunteer to complete the remedy in the Phase 1 area of the site as part of the Phase 2 remedial action.

The Phase 2 portion of the site (the western portion of the site subject to newly proposed remedial action) was re-designated by the Volunteer as commercial use. Commercial use was previously approved in the April 2008 DD. Commercial use, as defined by 6 NYCRR 375-1.8(g)(2)(iii) shall exclude day care, child care and medical services. Further, the use of the Phase 2 portion of the site shall be limited to buying, selling, or trading of merchandise or services and passive recreational uses, which are public uses with limited potential for soil

contact, including but limited to artificial surface athletic fields, outdoor tennis/basketball courts, paved roller boarding/skating parks, indoor sport/recreational facilities, golf courses, walking/bicycle trails, and green park space. Active recreational uses, which will not be permitted on the Phase 2 portion, are public uses with a reasonable potential for exposure to soil either through dermal contact or by inhalation, including but not limited to natural grass athletic fields, playgrounds, dirt bike/ATV trails, camping areas, and picnic areas. As such, the site cover for the Phase 2 portion of the site remedy is changed from two feet to a one foot thick soil cover that can include a combination of building footprints and paved surfaces.

The Department accepts the proposed multiple uses of the site as described above. The proposal constitutes a minor modification to the DD and ESD and has been noted in the site file.

If you have any questions or concerns, please feel free to contact me at (518) 402-9662.

Sincerely,

For BBBIII

William B. Bennett III, P.E.
Environmental Engineer 2
Remedial Bureau C
Division of Environmental Remediation

ec: U. Shrestha, Ecosystems
P. Ciminello, Ecosystems
J. Dennis, Morris
A. Perretta, NYSDOH
D. Crosby, NYSDEC

Umesh Shrestha

From: Meg Rasmussen <mrasmussen@scenichudson.org>
Sent: Friday, November 07, 2014 2:29 PM
To: Heitzman, George (DEC)
Cc: srosenberg@scenichudson.org; Christine Arnone; Paul Ciminello; Joe Dennis; Umesh Shrestha; Bennett, William B (DEC); Crosby, David (DEC)
Subject: Long Dock ESD Clarification Letter
Attachments: Long Dock ESD clarification letter 11.7.14.pdf; Figure A Spec for Land Use 11-14-1.pdf

George,

Please find attached a letter from Scenic Hudson clarifying the land use designations at Long Dock. Also attached is a figure showing the extents of the restricted residential and commercial areas on the site.

Please let me know if you need anything else, and thank you for your consideration.

Best,

Meg Rasmussen, RLA
Senior Park Planner
Scenic Hudson, Inc.
Tel: 845 473 4440 Ext 263
Fax: 845 473 2648
mrasmussen@scenichudson.org

CONNECTING THE DOTS IN 2014:
Scenic Hudson's Annual Report outlines our bold vision for the future.

Scenic Hudson, Inc.
One Civic Center Plaza, Suite 200
Poughkeepsie, NY 12601-3157
Tel: 845 473 4440
Fax: 845 473 2648
email: info@scenichudson.org
www.scenichudson.org

November 7, 2014

George Heitzman
Division of Environmental Remediation
Remedial Bureau C, 11th Floor
625 Broadway
Albany, New York 12233 via EMAIL: george.heitzman@dec.ny.gov

Re: Clarification to the Proposed Use and Remedial Objectives for
Long Dock Beacon, Site No: C314112, City of Beacon, Dutchess County, New York
ESI File: SG96152.81

Dear Mr. Heitzman:

This letter is prepared to clarify the 2008 request for a change in allowable land uses at the above-referenced NYSDEC Brownfield Cleanup Program (BCP) Site. This 2008 request (for a change from commercial uses to restricted residential uses) was made by Scenic Hudson as the Volunteer in July 2008 and was granted by the NYSDEC in September 2008.

This 2008 request was made to accommodate uses on a portion of the Site that included educational programs for children operating proximal to the "Red Barn" building in the northeastern corner of the Site. This change in prospective land use in this portion of the Site warranted the more protective response actions stemming from the imposition of restricted residential cleanup levels. Consistent with this change, the Volunteer then remediated the eastern portion of the Site (see attached figure) in accordance with the requirements set forth by the NYSDEC; namely, the removal of PCB and metal contaminated soils and the installation of a two foot thick soil cover (or equivalent). All work in this portion of the Site has been reviewed by the NYSDEC and has been determined to be acceptable through the approval of the December 2013 Construction Completion Report (CCR).

It has always been the position of the Volunteer that a portion of this Site would be developed for commercial purposes. This was the position of the Volunteer in 2008 when the initial Remedial Work Plan was submitted and approved by the NYSDEC and it remains so today. The initial commercial plans, as represented to the NYSDEC and to the City of Beacon, included a hotel/conference center which was intended to occupy most of the southern half of the Site; this concept was still the intended use at the time of the 2008 request for a change in use to accommodate the child-oriented activities around the Red Barn. While that concept was determined in the Fall of 2008 to be economically infeasible, the Volunteer has not wavered in its pursuit of a commercial use to complement the parkland to the south.

In this manner, Scenic Hudson has always envisioned the ability to have multiple uses on the same BCP Site, although Scenic Hudson was not aware that multiple uses with respective cleanup levels were permitted on the same site. The configuration of the commercial and the restricted residential uses are different today from what they were in 2008, but the general intent has not changed.

The attached figure presents the areas proposed for active recreation (and therefore subject to restricted residential cleanup requirements) and those areas proposed for eventual commercial use (and therefore subject to the commercial cleanup requirements). All areas that are within the restricted residential boundary have two feet of cover or equivalent; all other areas, designated as commercial, will have one foot of cover. Until such time as an appropriate commercial use is identified for this portion of the Site, the western portion of the Site will be designated for passive recreation. The passive recreation is in essence a "place holder" use that allows for some interim use of the Site by the Beacon community in the near term.

Please review this document and call me at (845) 473-4440 (extension 263) should you have any questions or comments.

Your immediate attention to this matter is appreciated.

Sincerely,

SCENIC HUDSON LAND TRUST, INC.

Meg Rasmussen, RLA
Senior Park Planner

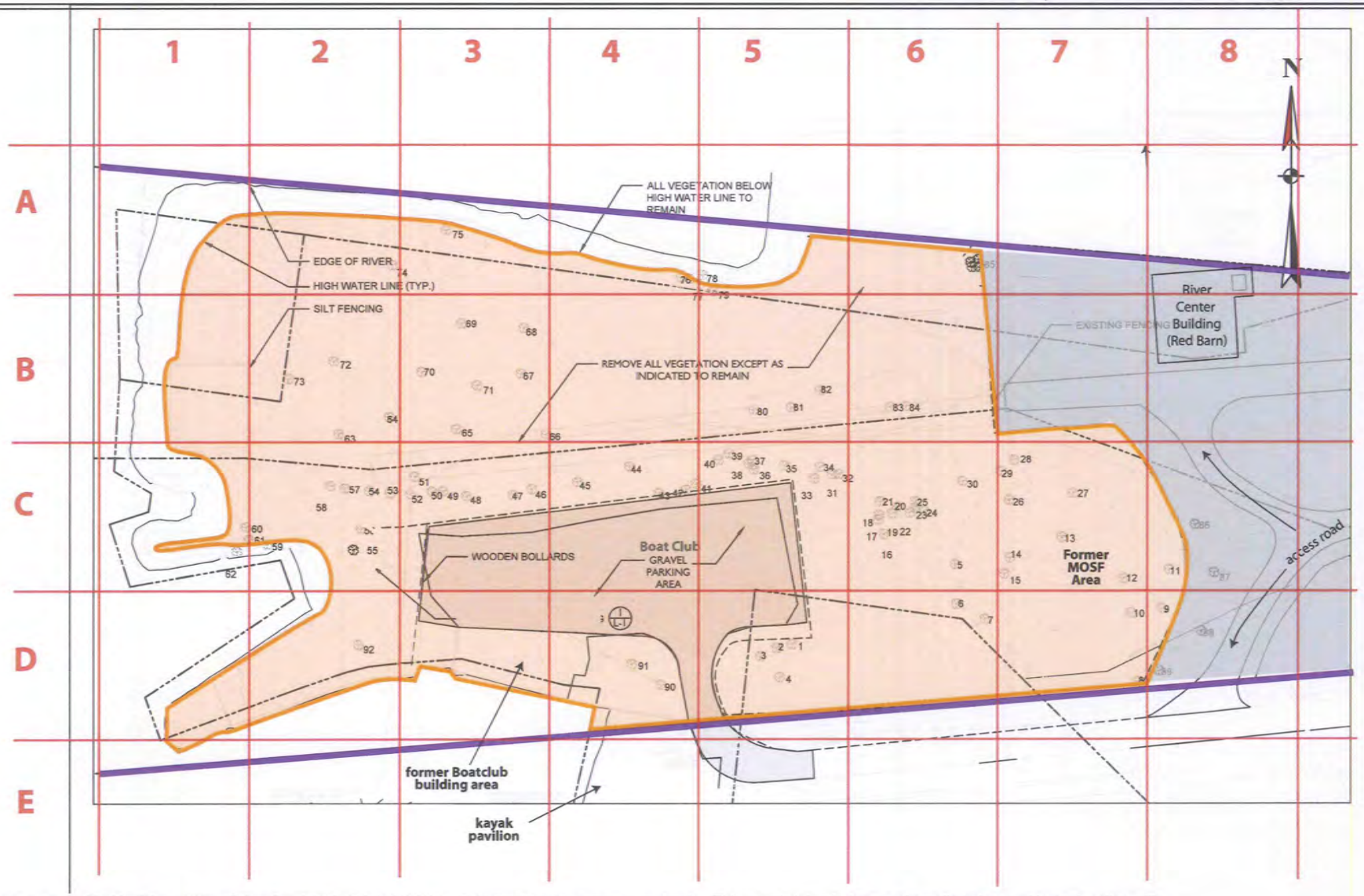
PHC:MR:cla

Attachment: Figure A - Specification of Land Use

cc:

Paul Ciminello, ESI	paul@ecosystemsstrategies.com
Joseph Dennis, MA	JDennis@morrisengineers.com
Meg Rasmussen, SHLT	mrasmussen@scenichudson.org
William Bennett, NYSDEC	william.bennett@dec.ny.gov
David Crosby, NYSDEC	david.crosby@dec.ny.gov

Ecosystems Strategies, Inc.



Base map provided by Divney Tung Schwalbe, LLP L-1 dated 7/1/14. All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Figure A: Specification of Land Use

Long Dock Beacon Site
NYSDEC BCP Site ID: C314112
Red Flynn Drive
City of Beacon, Dutchess County, New York

Legend:

- BCP Site Boundary
- Proposed Phase II Remediation Area
- Active Recreation Area (Restricted Residential Use SCOs)
- Passive Recreation Area (Commercial Use SCOs)
- Tree

ESI File: SG96152.81

November 2014

Scale: 80' (approximately)

Attachment

APPENDIX L – EXCAVATION WORK PLAN (EWP)

L-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the NYSDEC. Table 1 includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix C.

Table [1]: Notifications*

Parag Amin, P.E. NYSDEC Project Manager	Tel: (518) 402-9662 Email: parag.amin@dec.ny.gov
Daniel Bendell, P.E. (NYSDEC, Department's Region 3 Hazardous Waste Engineer)	Tel: (845)-265-3151 Email: daniel.bendell@dec.ny.gov
Kelly A. Lewandowski, P.E. (NYSDEC, Chief of Site Control)	Tel: (518) 402-9553 Email: Kelly.Lewandowski@dec.ny.gov
Anthony Perretta (NYSDOH, Project Manager)	Tel: (518) 402-7860 Email: BEEI@health.ny.gov

* Note: Notifications, recipients, phone numbers and email addresses are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of

concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;

- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix I of this SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

L-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed by a qualified environmental professional during all excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided in Section L-5 of this Appendix.

L-3 SOIL STAGING METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC.

L-4 MATERIALS EXCAVATION AND LOAD-OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a [material] risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

L-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes are provided in Figure 16 - Truck Route Map All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport; [(g) community input [where necessary]

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

L-6 MATERIALS DISPOSAL OFF-SITE

All material excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of material from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

L-7 MATERIALS REUSE ON-SITE

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for reuse on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

L-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development

fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

L-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the [RAWP, decision document, or Record of Decision]. The existing cover system is comprised of a minimum of 12 or 24 inches of clean soil, asphalt pavement, concrete covered sidewalks and concrete building, etc.]. The demarcation layer, consisting of orange snow fencing material will be replaced to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP.

L-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in Tables L-1a through L-1d. Soils that meet ‘exempt’ fill requirements under 6

NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

L-11 STORMWATER POLLUTION PREVENTION

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

L-12 EXCAVATION CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

L-13 COMMUNITY AIR MONITORING PLAN

A figure showing the location of air sampling stations based on generally prevailing wind conditions will be provided. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

L-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis will include applying a deodorant to exposed soils to mitigate odors. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the remedial party's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

L-15 DUST CONTROL PLAN

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

L-16 OTHER NUISANCES

A plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.