

**FORMER M. ARGUESO AND CO., INC.  
441 & 442 WAVERLY AVENUE  
VILLAGE OF MAMARONECK  
WESTCHESTER COUNTY, NEW YORK**

**SITE MANAGEMENT PLAN  
NYSDEC Site Number: C360108**

**Prepared for:**

New Waverly Avenue Associates, LLC  
566 Westchester Avenue  
Rye Brook, New York 10573

**Prepared by:**

Sterling Environmental Engineering, P.C.  
24 Wade Road  
Latham, NY 12110  
(518) 456-4900

October 2013

**Revisions to Final Approved Site Management Plan:**

<b>Revision #</b>	<b>Submitted Date</b>	<b>Summary of Revision</b>	<b>NYSDEC Approval Date</b>

## TABLE OF CONTENTS

<b>TABLE OF CONTENTS .....</b>	<b>ii</b>
<b>LIST OF TABLES.....</b>	<b>iv</b>
<b>LIST OF FIGURES.....</b>	<b>iv</b>
<b>LIST OF APPENDICES .....</b>	<b>v</b>
<b>CERTIFICATION.....</b>	<b>vi</b>
<b>1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM .....</b>	<b>1</b>
1.1 Introduction.....	1
1.1.1 General.....	1
1.1.2 Purpose .....	1
1.1.3 Revisions.....	2
1.2 Site Background.....	3
1.2.1 Site Location and Description .....	3
1.2.2 Site History .....	3
1.2.2.1 441 Waverly Avenue .....	3
1.2.2.2 442 Waverly Avenue .....	3
1.2.3 Geologic Conditions .....	4
1.3 Summary of Remedial Investigation Findings .....	4
1.4 Summary of Remedial Actions.....	8
1.4.1 Removal of Contaminated Materials from the Site .....	9
1.4.2 Site-Related Treatment Systems.....	10
1.4.3 Remaining Contamination .....	11
<b>2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN .....</b>	<b>12</b>
2.1 Introduction.....	12
2.1.1 General.....	12
2.1.2 Purpose .....	12
2.2 Engineering Controls .....	12
2.2.1 Engineering Control Systems .....	12
2.2.1.1 Asphalt and Soil Cover.....	12
2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems .....	13
2.2.2.1 Monitored Natural Attenuation.....	13

2.3	Institutional Controls .....	13
2.3.1	Excavation Work Plan .....	14
2.3.2	Soil Vapor Intrusion Evaluation .....	15
2.4	Inspections and Notifications .....	16
2.4.1	Inspections .....	16
2.4.2	Notifications .....	16
2.5	Contingency Plan.....	17
2.5.1	Emergency Telephone Numbers.....	17
2.5.2	Map and Directions to Nearest Health Facility .....	18
2.5.3	Response Procedures .....	20
<b>3.0</b>	<b>SITE MONITORING PLAN.....</b>	<b>20</b>
3.1	Introduction.....	20
3.1.1	General.....	20
3.1.2	Purpose and Schedule .....	21
3.2	Soil and Asphalt Cover System Monitoring .....	22
3.3	Media Monitoring Program .....	22
3.3.1	Groundwater Monitoring .....	22
3.3.1.1	Sampling Protocol .....	24
3.3.1.2	Monitoring Well Repairs, Replacement and Decommissioning .....	25
3.4	Site-Wide Inspection .....	25
3.5	Monitoring Quality Assurance/Quality Control .....	26
3.6	Monitoring Reporting Requirements.....	27
<b>4.0</b>	<b>OPERATION AND MAINTENANCE PLAN.....</b>	<b>28</b>
4.1	Introduction.....	28
<b>5.0</b>	<b>INSPECTIONS, REPORTING AND CERTIFICATIONS .....</b>	<b>28</b>
5.1	Site Inspections .....	28
5.1.1	Inspection Frequency.....	28
5.1.2	Inspection Forms, Sampling Data and Maintenance Reports.....	28
5.1.3	Evaluation of Records and Reporting.....	28
5.2	Certification of Institutional Controls.....	29
5.3	Periodic Review Report.....	30
5.4	Corrective Measures Plan .....	31

### **LIST OF TABLES**

Table 1A – 1B	Remedial Investigation Soil Borings Analytical Summary Tables
Table 2A – 2B	Remedial Investigation Groundwater Analytical Summary Tables
Table 3	Part 375 Restricted Commercial Soil Cleanup Objectives
Table 4	Soil Stockpile Analytical Results
Table 5	Backfill Material Analytical Results
Tables 6A – 10B	IRM Soil Samples Analytical Results
Table 11	Comparison of Soil Vapor Analytical Results to VOCs Detected in Groundwater
Table 12	Sub-Slab Vapor and Indoor Air Analytical Results

### **LIST OF FIGURES**

Figure 1	Site Location Map
Figures 2 - 3	Geologic Cross Section A-A' Location – 442 Waverly Avenue
Figures 4 - 5	Geologic Cross Section B-B' Location – 441 Waverly Avenue
Figure 6	2009 and 2012 Overburden Aquifer Groundwater Elevations
Figure 7	2009 and 2010 Soil and Groundwater Sample Locations – 442 Waverly Avenue
Figure 8	2009 Soil and Groundwater Sample Locations – 441 Waverly Avenue
Figure 9	2005, 2009 & 2012 VOCs Reported for Groundwater – 442 Waverly Avenue
Figure 10	2005, 2009 & 2012 VOCs Reported for Groundwater – 441 Waverly Avenue
Figure 11	Tank Locations and Extent of Remedial Excavations – 442 Waverly Avenue
Figure 12	Location of Remaining Soil Contamination Above Unrestricted Levels – 442 Waverly Avenue
Figure 13	Location of Remaining Soil Contamination Above Unrestricted Levels – 441 Waverly Avenue



- Figure 14     Asphalt Cover System Cross Section
- Figure 15     January 2012 Groundwater Monitoring Well Locations
- Figure 16     HRC Treatment Area

#### **LIST OF APPENDICES**

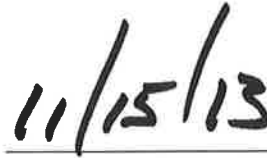
- Appendix A    Environmental Easement (Metes and Bounds)
- Appendix B    Laboratory Reports (on Compact Disc)
- Appendix C    Daily Field Reports
- Appendix D    Soil Disposal Manifests
- Appendix E    Nyack Quarry – Virgin Source Documentation
- Appendix F    Excavation Work Plan
- Appendix G    HASP & CAMP
- Appendix H    Asphalt & Soil Cover System Inspection Form
- Appendix I    Monitoring Well Construction Logs
- Appendix J    Groundwater Sampling Log
- Appendix K    Institutional and Engineering Control Evaluation Form
- Appendix L    QAPP
- Appendix M    Site-Wide Inspection Form

## CERTIFICATION

I, Mark P. Millspaugh, P.E., certify that I am currently a New York State registered professional engineer and that this Site Management Plan (SMP) was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.



Mark P. Millspaugh, P.E.



Date



# **SITE MANAGEMENT PLAN**

## **1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM**

### **1.1 Introduction**

This document is required as an element of the remedial program at the Former M. Argueso and Co., Inc. Site, 441 & 442 Waverly Avenue, Mamaroneck, New York (hereinafter referred to as the “Site”) under the New York State (NYS) Brownfield Cleanup Program (BCP) administered by the New York State Department of Environmental Conservation (NYSDEC). The site was remediated in accordance with Brownfield Cleanup Agreement (BCA) Index #W3-1134-09-03, Site #C360108, which was executed on April 9, 2009.

#### **1.1.1 General**

New Waverly Avenue Associates, LLC entered into a BCA with the NYSDEC to remediate a 1.04 acre property located in Mamaroneck, Westchester County, New York. The BCA required the Remedial Party, New Waverly Avenue Associates, LLC, to investigate and remediate contaminated media at the Site. A figure showing the site location and boundaries of this 1.04-acre Site is provided in Figure 1. The boundaries of the Site are more fully described in the Metes and Bounds site description that is part of the Environmental Easement and is provided in Appendix A.

After completion of the remedial work described in the Remedial Action Work Plan (RAWP), some contamination remained in the subsurface at this Site, hereafter referred to as “remaining contamination.” This Site Management Plan (SMP) was prepared to manage the remaining contamination at the Site until the Environmental Easement is extinguished in accordance with Environmental Conservation Law (ECL) Article 71, Title 36. All reports associated with the Site may be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by Sterling Environmental Engineering, P.C., on behalf of New Waverly Avenue Associates, LLC, in accordance with the requirements in NYSDEC Division of Environmental Remediation 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 Institutional Controls (ICs) and Engineering Controls (ECs) required by the Environmental Easement for the Site.

#### **1.1.2 Purpose**

Following completion of the Remedial Action, some remaining contamination is present at the Site. ECs have been incorporated into the Site remedy to control exposure to remaining contamination during the use of the Site to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Westchester County Clerk, will require compliance with this SMP and all ICs placed on the Site.

The ICs place restrictions on Site use, and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ICs required by the Environmental Easement for contamination that remains at the Site. This SMP 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.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the Site after completion of the Remedial Action, including: (1) implementation and management of all Engineering and Institutional Controls (ECs/ICs); (2) media monitoring; (3) performance of additional groundwater treatment, if needed; (4) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and (5) defining criteria for termination of groundwater treatment.

To address these needs, this SMP includes: (1) an Engineering and Institutional Control Plan for implementation and management of ECs/ICs, (2) a Monitoring Plan for implementation of Site monitoring, (3) performance of additional groundwater treatment, if deemed necessary, (4) requirements for inspections, reporting and certifications, and (5) definition of criteria for termination of groundwater treatment. An Operation and Maintenance Plan is not required as there are no mechanical collection or treatment systems at the Site.

The SMP also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to 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, 6 NYCRR Part 375 and the BCA (Index #W3-1134-09-03; Site #C360108) for the Site, and thereby subject to applicable penalties.

### **1.1.3 Revisions**

Revisions to the SMP will be proposed in writing to the NYSDEC's project manager. 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 the NYSDEC's files.

## **1.2 Site Background**

### **1.2.1 Site Location and Description**

The Site is comprised of two (2) separate properties located in the Village and Town of Mamaroneck, County of Westchester, New York. 441 Waverly Avenue includes the parcels of 441, 501 and 513 Waverly Avenue which are identified by the Town of Mamaroneck Tax Map 28-37 (Section/Block/Lot) as 8/25/278, 8/25/273 and 8/25/268.2, respectively. 442 Waverly Avenue is 8/25/33. The Site is an approximate 1.04-acre area bounded by commercial and residential properties to the north, Railroad Way to the south and commercial and residential properties to the east and west (see Figure 1). The property boundaries of the Site are defined in Appendix A – Environmental Easement (Metes and Bounds).

### **1.2.2 Site History**

A summary of historical uses and investigations of the Site are presented below, based on the Phase I and Phase II Environmental Site Assessment (ESA) Reports by GZA GeoEnvironmental, Inc. dated December 2005.

#### **1.2.2.1 441 Waverly Avenue**

441 Waverly Avenue was originally a residential property until 1934, when a store was constructed. The property was purchased in the 1960s by Argueso, which constructed the existing two (2) story office building and former storage/parking garage. Raw materials were stored at 441 Waverly Avenue for use at the wax manufacturing facility across the street, located at 442 Waverly Avenue. Stored materials included virgin wax, recycled wax, additives and Tetrachloroethylene (PCE), which were stored in the below grade section of the storage/parking garage. Wax manufacturing operations ceased in the spring of 2005.

441 Waverly Avenue includes a two (2) story office building and contained a two (2) level parking area (one level was underground and the second level was at grade) that was demolished in 2009. The office building is currently unoccupied. An oil/water separator tank and three (3) connecting drywell units are located under the northern portion of the concrete paved parking lot that serves as a stormwater discharge system for the parking area. The oil/water separator tank is a 750-gallon concrete underground storage tank (UST) connected to three (3) precast concrete drywell units approximately four (4) feet in diameter and five (5) feet high.

#### **1.2.2.2 442 Waverly Avenue**

442 Waverly Avenue was a lumber planing mill in 1912. Subsequent uses include Mamaroneck Sash, Trim and Door, followed by the Mamaroneck Chemical Company. The property was purchased by Argueso in the 1930s. Site operations initially refined waxes and subsequently changed to manufacturing waxes for the investment casting industry. Three (3) USTs were removed from the property in 1996. An Underground Storage Tank Closure Report was not submitted to the NYSDEC and therefore the property was designated as a Leaking Underground Storage Tank (LUST) site.

The Site features at 442 Waverly Avenue included a one (1) story manufacturing building (former Argueso facility) and multiple USTs. The building has been demolished and all known USTs have been removed.

### **1.2.3 Geologic Conditions**

According to the Topographic Quadrangle Map of Mamaroneck, New York (U.S. Geological Survey, 1970), Site topography is approximately twenty-five (25) feet above mean sea level (National Geodetic Vertical Datum (NGVD)) and is generally level.

According to the Westchester Government GIS Data for Westchester County (2005), the Site is mapped within the Sheldrake River Basin. The Sheldrake River is located approximately 700 feet to the northeast and the Mamaroneck River is located approximately 2,200 feet to the east of the Site. The Sheldrake River flows to the southeast to the Mamaroneck River that discharges to Mamaroneck Harbor located 2,900 feet southeast of the Site.

There is approximately five (5) feet of fill underlain by ten (10) feet of brown fine-medium grain sand that is underlain by a gray-brown, fine-medium grain sand unit which is at least twenty-three (23) feet thick across the Site. Geologic cross-sections are shown in Figures 2 through 5.

The hydraulic gradient (change of groundwater elevation over distance) is relatively flat. Groundwater flow in the overburden aquifer is towards the north - northwest. The average depth to groundwater is approximately 8.4 feet. Groundwater elevations and flow directions for the overburden aquifer are provided in Figure 6.

Based on the January 2012 groundwater elevations, groundwater flow direction is to the north for the offsite well locations and then curves to the east towards 442 Waverly Avenue as shown in Figure 6. This flow direction is similar to the groundwater elevation pattern in 2009 which indicates there are lower groundwater elevations in the area of 441 and 442 Waverly Avenue trending in a northerly-southerly direction.

## **1.3 Summary of Remedial Investigation Findings**

A Remedial Investigation (RI) was performed in 2009-2012 to characterize the nature and extent of contamination at the Site. The results of the RI are described in detail in the following report:

- Interim Remedial Measures & Remedial Investigation (IRM/RI) Report by Sterling Environmental Engineering, P.C. dated September 7, 2012.

Below is a summary of site conditions.

### **Soil**

Soil samples were collected from six (6) soil borings in September 2009 and one (1) test pit in October 2010 (see Figures 7 and 8 for locations). Samples were analyzed for Part 375 Volatile



Organic Compounds (VOCs) (Method 8260C) and Part 375 Semi-Volatile Organic Compounds (SVOCs) (Method 8270D).

No SVOCs were detected in SB-04 (7-8'), SB-04 (11-12'), SB-05 (8-12') and the duplicate of SB-05. No VOCs were detected in SB-04 (7-8'). Reported concentrations of VOCs and SVOCs for all soil boring and test pit samples do not exceed the 6 NYCRR Part 375-6.8(b) Soil Cleanup Objectives (SCOs) for Restricted Commercial Use, Protection of Public Health. The laboratory reports are provided on compact disc in Appendix B and soil boring sample results are summarized in Tables 1A and 1B.

The analytical results for the following soil boring samples report the following parameter concentrations that exceed the Part 375-6.8(a) Unrestricted SCOs:

Sample ID	Location	Parameter
SB-02 (11-12')	442 Waverly Avenue	n-Propylbenzene
SB-04 (11-12')	442 Waverly Avenue	Acetone
SB-06 (2-3')	441 Waverly Avenue	Acetone
SW-Test-Pit (7.5')	442 Waverly Avenue	n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene

#### Site-Related Groundwater

Groundwater samples were collected in August 2009 from the monitoring wells listed below and shown on Figures 7 and 8. Reported VOCs that exceed the NYSDEC TOGS 1.1.1 Ambient Water Quality Standards (June 1998) are summarized for each well below and in Tables 2A and 2B and Figures 9 and 10.

#### 441 Waverly Avenue

- **B6-OWD:** 1,2-Dichloroethane, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, Tetrachloroethene, Trichloroethene
- **B9A-OW:** Benzene, 1,2-Dichloroethane, cis-1,2-Dichloroethene, Vinyl chloride
- **GZ-21D:** Benzene, 1,2-Dichloroethane, cis-1,2-Dichloroethene, Tetrachloroethene, Trichloroethene, trans-1,2-Dichloroethene, Vinyl chloride
- **GZ-21S:** Benzene, Hexachlorobutadiene, and tert-Butylbenzene
- **GZ-22D:** Benzene, Tetrachloroethene, cis-1,2-Dichloroethene, 1,2-Dichloroethane, and Trichloroethene
- **GZ-22S:** cis-1,2-Dichloroethene, Tetrachloroethene, Trichloroethene, Vinyl chloride



#### **442 Waverly Avenue**

- **GZ-23D:** Benzene, 1,2-Dichloroethane, cis-1,2-Dichloroethene, 1,1-Dichloroethene, Tetrachloroethene, Trichloroethene
- **GZ-24D:** Benzene
- **VW-2:** n-Butylbenzene, sec-Butylbenzene, tert-Butylbenzene, n-Propylbenzene
- **B5-OW:** No reported exceedances. Duplicate sample from this location reports Vinyl Chloride exceedance.
- **VW-5:** cis-1,2-Dichloroethene

SVOCs are reported at non-detectable concentrations that do not exceed the regulatory standard or guidance values for all sample locations for the August 2009 monitoring event with the exception of Naphthalene at VW-2. This detection does not exceed the regulatory standard or guidance value.

#### **2012 Monitoring Well Sampling and Analytical Results**

Four (4) deep overburden monitoring wells were installed and developed during December 19-22, 2011 at locations offsite and to the southwest of the subject property (see Figure 15 for monitoring well locations). Groundwater samples were collected from the offsite wells and existing deep monitoring wells at 441 and 442 Waverly Avenue on January 10 and 11, 2012 and analyzed for VOCs listed in 6 NYCRR Part 375-6.8(b). The monitoring event was conducted to determine if there is an offsite source of chlorinated solvents impacting groundwater quality at 441 and 442 Waverly Avenue, or if the chlorinated solvent source is localized near the northwest section of 442 Waverly Avenue.

On January 10 and 11, 2012, offsite monitoring wells OSMW-1, OSMW-2, OSMW-3 and OSMW-4 and four (4) existing onsite deep monitoring wells GZ-21D, GZ-22D, GZ-23D and B6-OWD were sampled.

Reported VOCs that exceed the NYSDEC TOGS 1.1.1 Ambient Water Quality Standards are summarized in Tables 2A and 2B and Figures 9 and 10.

PCE and TCE were detected at concentrations of 4,300 parts per billion (ppb) and 1,600 ppb, respectively, for the groundwater sample collected from monitoring well GZ-23D in the northwest corner at 442 Waverly Avenue. Offsite monitoring well OSMW-3 sample results report 760 ppb for PCE and 91 ppb for TCE. The OSMW-4 sample results report 790 ppb for PCE and 230 ppb for TCE. OSMW-1 and OSMW-2 sample results report no detections for PCE and TCE. Sample results for GZ-21D, GZ-22D and B6-OWD all have lower reported detections of chlorinated solvents than OSMW-3 and OSMW-4.

### Site-Related Soil Vapor Intrusion

A Soil Vapor Intrusion Investigation (SVII) was conducted on March 28 and 29, 2013 for the existing two-story building located at 441 Waverly Avenue. The SVII was performed in accordance with the Soil Vapor Intrusion Investigation Work Plan, submitted by STERLING for the Site on March 18, 2013, and approved by the NYSDEC on March 22, 2013.

The SVII described below was conducted in accordance with the New York State Department of Health (NYSDOH) October 2006 "Guidance for Evaluating Soil Vapor Intrusion in the State of New York", NYSDEC DER-10, "Technical Guidance for Site Investigation and Remediation" (May 2010) and the NYSDEC "Generic Field Activities Plan" (April 2011, revised January 2013). The SVII is described in more detail in the report entitled "Soil Vapor Intrusion Investigation Summary Report" prepared by STERLING, dated July 9, 2013.

One (1) sub-slab vapor sampling location, one (1) indoor air sampling location, and one (1) outdoor air sampling location were identified.

The analytical data for samples collected at the Site detected organic vapors in the sub-slab vapor, the indoor and the outdoor air. As shown in Table 11, only three (3) compounds previously detected in groundwater were detected in the sub-slab vapor samples. None of the compounds detected in the sub-slab vapor were above Air Guideline Values as show in Table 12. TCE was the only compound detected in the indoor air sample above Air Guideline Values at a concentration of 91 ug/ m<sup>3</sup>.

The data collected for Carbon Tetrachloride and TCE, both of which are the subject of Decision Matrix 1 of the NYSDOH 2006 Guidance Document, indicates reasonable action should be taken to identify the source and reduce exposure. According to the decision matrices in the NYSDOH Guidance Document, the concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor intrusion due to the low concentration detected in the sub-slab vapor sample. Therefore, steps should be taken to identify potential sources and reduce exposures. The presence of elevated concentrations of TCE will require future sub-slab vapor and indoor air sampling to be collected prior to the building being occupied. Mitigative measures will be implemented if necessary.

The data collected for PCE and 1,1,1-trichloroethane, which are the subject of Decision Matrix 2, indicates that no further action needs to be taken.

### Underground Storage Tanks

The following underground storage tanks (USTs) were removed prior to the Remedial Investigation:

- Concrete Mineral Spirits UST removed in 1979-1980
- 8,000 gallon steel Fuel Oil UST removed July 1, 1996
- 3,000 gallon steel Fuel Oil UST removed July 1, 1996

The following USTs were removed as part of the Interim Remedial Measures in August 2009 and October 2010:

- 3 Chamber Concrete Industrial Wastewater Settling Tank
- 8,000 gallon steel Fuel Oil UST
- Concrete Industrial Wastewater Internal Discharge Pit
- 1,000 gallon steel Fuel Oil UST
- Brick Industrial Wastewater Sump Pump Pit

Associated piping for all tanks was also removed up to fifteen (15) feet from the tank ends (see Figure 7 for tank locations).

#### **1.4 Summary of Remedial Actions**

The Site was remediated in accordance with the NYSDEC-approved Remedial Action and Interim Remedial Measure Work Plan dated July 29, 2009 and the Remedial Action Work Plan (RAWP) dated October 9, 2012. The following is a summary of the Remedial Actions performed at the Site.

An Interim Remedial Measure (IRM) for the Site was conducted in August and September 2009 and continued in October 2010. In 2009, an 8,000 gallon underground storage tank (UST) was excavated and removed and partial excavation of soil around the settling tanks at 442 Waverly Avenue was completed. In 2010, excavation and removal of the settling tanks was completed. In addition, an internal discharge pit, a 1,000 gallon UST (previously unidentified), and a sump pump pit (previously unidentified) at 442 Waverly Avenue were excavated and removed. Piping associated with the tanks was excavated and removed up to a distance of fifteen (15) feet from the associated tank. Additionally, a lateral sanitary sewer line located at 442 Waverly Avenue was partially excavated and removed and the remaining sections were capped in place by plugging the ends with concrete (see Figure 7 for tank locations).

Soils in the excavations were inspected and monitored for potential contamination. Following removal of impacted soils, confirmatory sidewall and bottom soil samples were collected and analyzed for 6 NYCRR Part 375 VOCs by USEPA Method 8260C and SVOCs by USEPA Method 8270D. Soil sample locations are provided in Figures 7 and 8 and laboratory reports are provided in Appendix B. Daily Field Reports documenting the work are provided in Appendix C.

An asphalt and soil cover system was placed over the excavated areas at 442 Waverly Avenue, consisting of a 5-inch thick asphalt layer underlain by a compacted subbase 8 to 18 inches thick and 12 inches of clean backfill soil. The remaining areas of the site are covered with concrete or structures.

Implementation of the groundwater treatment component of the remedy was completed June 10 through June 13, 2013.

In accordance with the RAWP, hydrogen release compound (HRC), provided by Regenesys, was injected into the area surrounding wells GZ-22D at 441 Waverly Avenue and GZ-23D at 442 Waverly Avenue. Figure 16 shows the locations of the injections. At 441 Waverly Avenue, 480 pounds of HRC was injected into sixteen (16) locations. At 442 Waverly Avenue, 120 pounds of HRC was injected into four (4) locations.

The following is a summary of the Remedial Actions performed at the Site:

1. Excavation of soil/fill exceeding 6 NYCRR Part 375 commercial SCOs which are listed in Table 3. Figure 11 provides the estimated depth and area for each excavation.
2. Construction and maintenance of an asphalt pavement and soil cover system to prevent human exposure to remaining contaminated soil/fill remaining at the Site.
3. HRC injection into two (2) areas surrounding wells GZ-22D and GZ-23D for treatment of groundwater.
4. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the Site.
5. Development and implementation of a Site Management Plan (SMP) for long term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, and (3) reporting.

Remedial activities were completed at the Site in August and September 2009, October 2010 and June 2013.

#### **1.4.1 Removal of Contaminated Materials from the Site**

One (1) soil stockpile was created from the 2009 8,000 gallon UST excavation of approximately 100 cubic yards. Two (2) soil stockpiles were created from the 2010 tank excavations at 442 Waverly Avenue. Soil was separated based on photo ionization detector (PID) measurements and visual observations into Stockpile A (impacted soil) and Stockpile B (non-impacted soil). The total approximate volumes of Stockpile A and Stockpile B are 150 cubic yards and 400 cubic yards, respectively. A third stockpile (Stockpile C) of approximately 150 cubic yards was generated from excavated soil for the installation of the retaining wall base on the southern property edge at 442 Waverly Avenue during November 8-11, 2010. The retaining wall is part of the parking area construction, which is part of site grading and asphalt cover system.

A figure showing areas where excavations were performed and average depth of each excavation is shown in Figure 11.

A composite sample was collected from the 8,000 gallon UST excavated soil stockpile on September 2, 2009 and analyzed for 6 NYCRR Part 375 parameters (excluding VOCs) and one

(1) grab sample was collected from the stockpile and analyzed for VOCs. Analytical results are provided in Table 4.

One (1) composite soil sample was collected from each of the three (3) 2010 soil stockpiles on October 12, 2010 and November 11, 2010 and analyzed for Part 375 parameters (excluding VOCs) and one (1) grab sample was collected from each of the three (3) stockpiles and was analyzed for VOCs. Analytical results are provided in Table 4.

Excavated soil must meet or exceed 6 NYCRR Part 375-6.8(b), Soil Cleanup Objectives, Restricted Commercial Use, for Protection of Public Health standards to be approved for reuse onsite. A list of the SCOs for the primary contaminants of concern and applicable land use for this Site is provided in Table 3.

Analytical results indicate the 8,000 gallon UST excavated soil stockpile was acceptable for reuse on the Site property as backfill, as all parameter concentrations were reported less than Part 375 Restricted Commercial Use SCOs.

Analytical results for Stockpile A indicate the soil must be disposed of at a permitted disposal facility as some reported parameter concentrations exceed the Part 375 Restricted Commercial Use SCOs. A copy of the disposal manifest is provided in Appendix D. Analytical results indicate Stockpiles B and C are acceptable for reuse on the Site property as backfill, as all parameter concentrations are reported less than Part 375 Restricted Commercial Use SCOs.

In 2009, No. 4 stone was delivered to the Site to fill the remaining portion of the 8,000 gallon UST excavation. The stone originated from Nyack Quarry, and a letter from the quarry documenting the stone is from a virgin source is provided in Appendix E.

In 2010, soil samples were collected from stockpiles at A&E Garden Center, located at Noell Avenue, Bronx, New York (Sample ID: Backfill-Coarse) and the New York Botanical Gardens located at 200<sup>th</sup> Street and Kazirmiroff Boulevard, Bronx, New York (Sample IDs: Bot Gar-1, Bot Gar-2) to be used as backfill on 442 Waverly Avenue in the remaining portion of the excavations for the three (3) chamber concrete settling tank, 1,000 gallon steel UST, internal discharge pit, sump pump pit and pipe trenches. The samples were analyzed for 6 NYCRR Part 375 VOCs, SVOCs, Metals, PCBs, and Pesticides. Soil sample results were compared with 6 NYCRR Part 375-6.8(b), Soil Cleanup Objectives, Restricted Commercial Use, for Protection of Public Health (see Table 5). The New York Botanical Gardens' soil samples met all standards, and the A&E Garden Center soil sample marginally exceeded the standard for Benzo(a)pyrene. Both sources were approved for use on the Site by the NYSDEC.

#### **1.4.2 Site-Related Treatment Systems**

No long-term treatment systems were installed as part of the Site remedy.



### 1.4.3 Remaining Contamination

Analytical results for all confirmatory soil samples collected for the 2009-2010 IRM and for all characterization soil samples collected for the 2009-2010 RI are reported at concentrations that are less than or equal to the 6 NYCRR Part 375-6.8(b) Restricted Commercial Use SCOs. Some residual soil contamination remains at the Site at reported levels that exceed the 6 NYCRR Part 375-6.8(b) Unrestricted Use SCOs. However, Site conditions indicate Protection of Groundwater SCOs are not applicable. Specifically, contaminated soil was removed from the settling tanks and 1,000 gallon steel tank excavations to the top of the groundwater table, and an Environmental Easement that prohibits groundwater use has been established. The reported concentrations for the following parameters exceed Part 375 Protection of Groundwater SCOs for soil samples collected in 2010:

Sample ID	Location	Parameter
SS-01	442 Waverly Avenue	Methylene Chloride
SS-04	442 Waverly Avenue	Acetone
Set. Tank North Bot.	442 Waverly Avenue	Naphthalene, 1,4-Dioxane, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene
Set. Tank North Bottom	442 Waverly Avenue	n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene
Set Tank South – Bot.	442 Waverly Avenue	n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene
Set Tank Center Bot.	442 Waverly Avenue	1,4-Dioxane, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene
S-DIS-PIPE-STEEL-TANK	442 Waverly Avenue	Benzo(b)fluoranthene
N-BOT-STEEL TANK	442 Waverly Avenue	n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene
S-2-BOT-STEEL-TANK	442 Waverly Avenue	n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene
N-2-BOT-STEEL-TANK	442 Waverly Avenue	n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene

A layer of plastic was placed at the bottom of each excavation prior to backfilling (see Figure 11).

Tables 6A – 10B and Figures 12 and 13 summarize the results of all soil samples remaining at the Site after completion of Remedial Action that exceed the Track 1 (unrestricted) SCOs.

## **2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN**

### **2.1 Introduction**

#### **2.1.1 General**

Since remaining contaminated soil and groundwater exists beneath the Site at levels exceeding the Unrestricted Use Criteria, Engineering Controls and Institutional Controls (ECs/ICs) are required to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all ECs/ICs at the Site. The EC/IC Plan is one component of the SMP and is subject to revision by the NYSDEC.

#### **2.1.2 Purpose**

This EC/IC Plan provides:

- A description of all ECs/ICs on the Site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of ECs/ICs, such as the implementation of the Excavation Work Plan (EWP) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site; and
- Any other provisions necessary to identify or establish methods for implementing the ECs/ICs required by the Site remedy, as determined by the NYSDEC.

### **2.2 Engineering Controls**

#### **2.2.1 Engineering Control Systems**

##### **2.2.1.1 Asphalt and Soil Cover**

Exposure to remaining contamination in soil/fill at the Site is prevented by an asphalt and soil cover system placed over the Site. This cover system is comprised of a minimum of an asphalt layer five (5) inches thick, underlain by a compacted sub-base eight to eighteen (8 to 18) inches thick and 12 inches of clean backfill soil. The EWP provided in Appendix F 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 and maintenance of this cover system are provided in the Monitoring Plan included in Section 3 of this SMP.

### **2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems**

Generally, remedial processes are considered complete when effectiveness monitoring indicates 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 6.6 of NYSDEC DER-10.

#### **2.2.2.1 Monitored Natural Attenuation**

Groundwater monitoring activities to assess natural attenuation will continue, as determined by the NYSDEC, until residual groundwater concentrations are found to be consistently below NYSDEC standards or have become asymptotic at an acceptable level over an extended period. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, additional source removal, treatment and/or control measures will be evaluated. An additional application of HRC will be considered.

### **2.3 Institutional Controls**

A series of Institutional Controls (ICs) are required by the Decision Document to: (1) maintain and monitor Engineering Control systems (asphalt/soil cover); (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the Site to commercial uses only. Adherence to these ICs on the Site is required by the Environmental Easement and will be implemented under this SMP. These ICs are:

- Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP;
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP; and
- Data and information pertinent to site management of the controlled property must be reported at the frequency and in a manner defined in this SMP.

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

The Site has a series of ICs in the form of Site restrictions. Adherence to these ICs is required by the Environmental Easement. Site restrictions that apply to the Controlled Property are:

- The property may only be used for restricted commercial use provided that the long-term ECs and ICs included in this SMP are employed.
- The property may not be used for a higher level of use, such as unrestricted, or restricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use;
- The potential for vapor intrusion must be evaluated for any buildings developed on the Site property and prior to the leasing of 441 Waverly Avenue for human occupation (as compared to storage) and any potential impacts that are identified must be monitored or mitigated;
- Vegetable gardens and farming on the property are prohibited;
- The Site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

### **2.3.1 Excavation Work Plan**

The Site has been remediated for restricted commercial use. Any future intrusive work that will penetrate the asphalt and soil cover, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with the Excavation Work Plan (EWP) provided as Appendix F in 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 Community Air Monitoring Plan (CAMP) prepared for the Site. A HASP and CAMP are provided as Appendix G to this SMP that is in current compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. Based on future changes to State and Federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section 1.0 of the EWP. Any

intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (see Section 3).

The Site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The Site owner will ensure that Site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

### **2.3.2 Soil Vapor Intrusion Evaluation**

Prior to the construction of any enclosed structures located at the Site property, a Soil Vapor Intrusion (SVI) evaluation will be performed to determine whether any mitigation measures are necessary to address potential exposure to vapors in the proposed structure. Alternatively, an SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive sub-slab depressurization system capable of being converted to an active system.

Currently, the building at 441 Waverly Avenue is unoccupied. As described in Section 1.3, a SVII was conducted in 2013 that showed TCE in the indoor air above Air Guideline Values. Prior to the building being occupied, additional sub-slab and indoor air samples will be collected.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH “Guidance for Evaluating Vapor Intrusion in the State of New York”. Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

Preliminary (unvalidated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation. If any indoor air test results exceed NYSDOH guidelines, relevant NYSDOH fact sheets will be provided to all tenants and occupants of the property within 15 days of receipt of validated data.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the Periodic Review Report.

## **2.4 Inspections and Notifications**

### **2.4.1 Inspections**

Inspections of all remedial components installed at the Site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Effectiveness of Engineering Controls (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;
- Sampling and analysis of appropriate media during monitoring events;
- If site records are complete and up to date; and
- Changes, or needed changes, to the remedial or monitoring system.

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 5).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the Site will be conducted within five (5) days of the event to verify the effectiveness of the ECs/ICs implemented at the Site by a qualified environmental professional as determined by the NYSDEC.

### **2.4.2 Notifications**

Notifications will be submitted by the property owner to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in Site use that are required under the terms of the Brownfield Cleanup Agreement (BCA), 6 NYCRR Part 375, and/or Environmental Conservation Law.
- Seven (7) day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan (EWP).
- Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of ECs and likewise any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, 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 seven (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 shall be submitted to the NYSDEC within 45 days and shall describe and document 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 has been provided with a copy of the 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.

## 2.5 Contingency Plan

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

### 2.5.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance, the Owner or Owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to the Site Owner's Emergency Coordinator, currently Sterling Environmental Engineering, P.C. These emergency contact lists must be maintained in an easily accessible location at the Site.

<b>Emergency Contact Numbers *</b>	
Medical, Fire and Police:	911
Dig Safely NY	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362
Site Owner's Emergency Coordinator (currently Sterling Environmental Engineering, P.C.)	(518) 456-4900

\*Note: Contact numbers subject to change and should be updated as necessary

### **2.5.2 Map and Directions to Nearest Health Facility**

Site Location:	441/442 Waverly Avenue, Mamaroneck, New York 10543
Nearest Hospital Name:	Sound Shore Medical Center
Hospital Location:	16 Guion Place New Rochelle, New York 10801
Hospital Telephone:	(914) 632-5000

#### **Directions to the Hospital:**

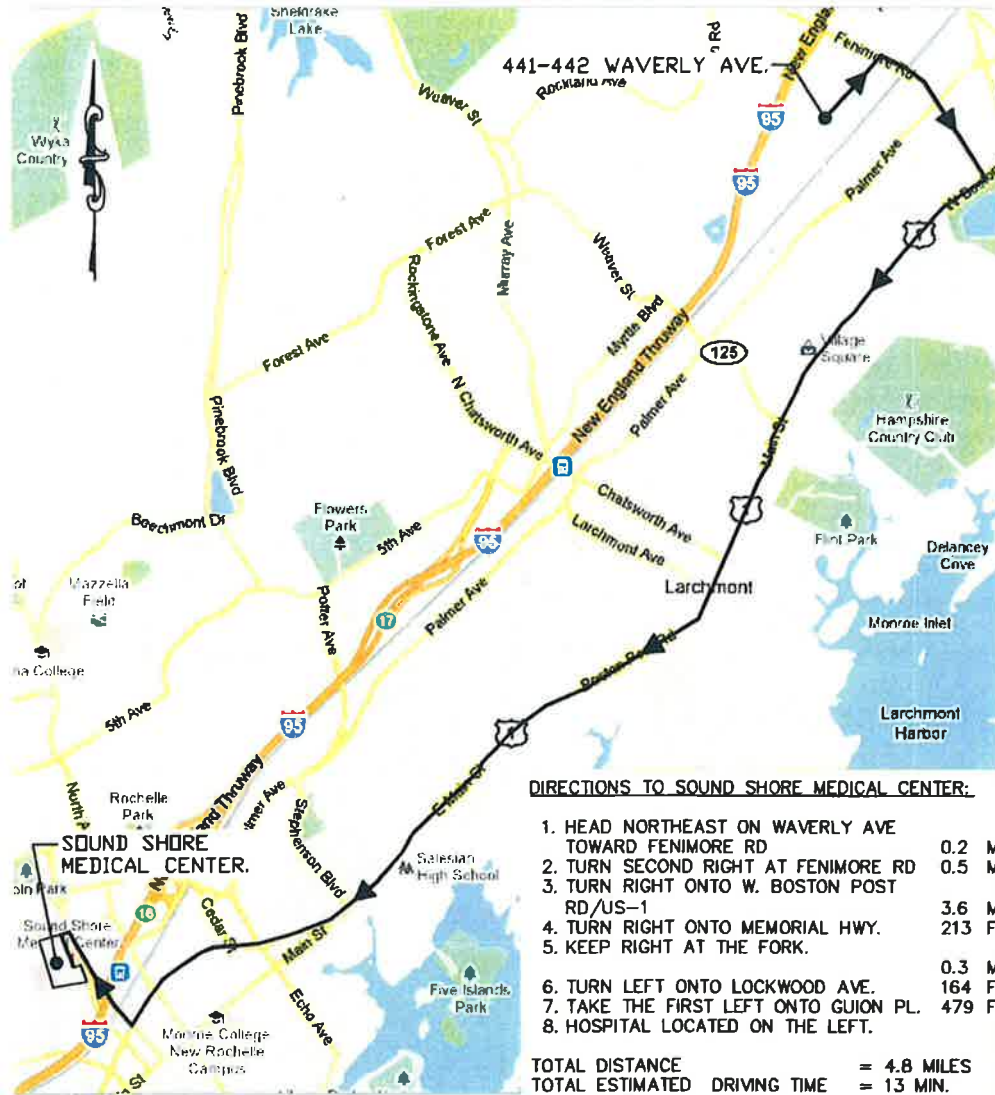
1. Head Northeast on Waverly Avenue toward Fenimore Road (0.2 mi.).
2. Turn right at Fenimore Road (0.5 mi.).
3. Turn right onto West Boston Post Road/US-1 (3.6 mi.).
4. Turn right onto Memorial Highway (213 feet).
5. Keep Right at the fork (0.3 mi.).
6. Turn Left onto Lockwood Avenue (164 feet).
7. Take the first left onto Guion Place (479 feet).
8. Hospital located on the left.

Total Distance: 4.8 Miles

Total Estimated Time: 13 Minutes



SOUND SHORE MEDICAL CENTER  
16 GUION PLACE  
NEW ROCHELLE, NY 10801  
(914) 632-5000



NOTE: SCALE IS APPROXIMATE

**S + ERLING**

Sterling Environmental Engineering, P.C.

24 Wade Road • Latham, New York 12110

HOSPITAL ROUTE

SITE #C360108

441-442 WAVERLY AVENUE

NEW WAVERLY AVENUE ASSOCIATES, LLC

T/V OF MAMARONECK

WESTCHESTER CO., N.Y.

PROJ. No.: 28012 | DATE: 7-13-11 | SCALE: 1" = 2000' | DWG. NO. 28012012



### **2.5.3 Response Procedures**

As appropriate, the fire department and other emergency response groups will be notified immediately by telephone of the emergency. The emergency telephone number list is provided in Section 2.5.1. The list will also be posted prominently at the Site and made readily available to all personnel at all times.

In the event of a spill, it will be contained through the use of equipment provided in the Emergency Response Station (ERS), including spill booms, absorbent pads and granular adsorbents. After the placement of spill control devices, the source of the spill will be identified and eliminated. Resultant waste materials will be placed in secure 55 gallon drums for removal from the site for proper disposal. In the event of the discovery of any spill, the Site Owner's Emergency Coordinator listed in Section 2.5.1 will be contacted immediately. For petroleum spills, the NYSDEC Spills Hotline (1-800-457-7362) will be called within two (2) hours of discovery of the spill unless:

- The quantity is known to be less than five (5) gallons;
- The spill is contained and under the control of the spiller;
- The spill has not and will not reach the State's water or any land; and
- The spill is cleaned up within two (2) hours of discovery.

If a hazardous substance that is not petroleum is spilled on the Site, the Owner will determine if a reportable quantity has been spilled following 6 NYCRR Parts 596-598. If required, the NYSDEC Spills Hotline (1-800-457-7362) will be called within two (2) hours of discovery of the spill.

Should emergency conditions at the subject property warrant evacuation, the evacuation will be initiated and all staff personnel, facility customers, and the Site Owner's Emergency Coordinator will be notified. Upon notification to evacuate, facility personnel and customers will proceed in an orderly manner to leave and proceed upwind from the Site.

Amendment to the Contingency Plan will be made as necessary, if changes in response procedures are required.

## **3.0 SITE MONITORING PLAN**

### **3.1 Introduction**

#### **3.1.1 General**

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the Site, the asphalt and soil cover system, and all affected Site media identified below. This Monitoring Plan may only be revised with the approval of the NYSDEC.

### **3.1.2 Purpose and Schedule**

This Monitoring 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, particularly ambient groundwater standards and Part 375 SCOs for soil;
- Assessing achievement of the remedial performance criteria;
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

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

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Quarterly monitoring of the performance of the remedy and overall reduction in contamination onsite will be conducted for the first year. The frequency thereafter will be determined by the NYSDEC. Trends in contaminant levels in groundwater in the affected areas will be evaluated to determine if the remedy continues to be effective in achieving remedial goals.

Monitoring programs are summarized in the table below and outlined in detail in Sections 3.2 and 3.3.

<b>Monitoring/Inspection Schedule</b>			
<b>Monitoring Program</b>	<b>Frequency*</b>	<b>Matrix</b>	<b>Analysis</b>
Soil and Asphalt Cover Inspection	Annual	Soil and Asphalt Cover System.	Inspection.
Groundwater Monitoring	Quarterly for the first year	Groundwater	VOCs and SVOCs Methods 8260 and 8270, 6 NYCRR Part 375 Parameters.
Site-Wide Inspection	Annual	Monitoring Wells Condition. Stormwater Drainage Catch Basins Condition.	Inspection.

\*The frequency of events will be conducted as specified until otherwise approved by the NYSDEC and NYSDOH.

### **3.2 Soil and Asphalt Cover System Monitoring**

Inspection of soil and asphalt cover systems should be conducted when snow/ice are absent. Asphalt cover will be visually inspected for cracks wider than one-quarter (1/4) inch and potholes. Soil cover will be visually inspected for signs of erosion and areas of bare soil. Routine asphalt maintenance will be conducted by the property owner. The components of the asphalt cover system are shown in Figure 14 and the Inspection Form is provided in Appendix H.

### **3.3 Media Monitoring Program**

#### **3.3.1 Groundwater Monitoring**

Groundwater monitoring will be performed on a quarterly basis initially to assess the performance of the remedy.

A network of existing monitoring wells allows monitoring of both upgradient and downgradient groundwater conditions at the site.

Site monitoring well locations are provided on Figures 7, 8 and 15. Placement with respect to groundwater flow is summarized below. Groundwater flow direction in the overburden aquifer appears to flow towards the centers of 441 and 442 Waverly Avenue and eventually to the north/northwest (see Figure 6).

<b>Monitoring Wells</b>		
<b>Screened Portion of Overburden Aquifer</b>	<b>Monitoring Well ID</b>	<b>Placement Criteria</b>
D	B6-OWD	Upgradient well on 441 Waverly Avenue.
D	GZ-21D	Downgradient well on 441 Waverly Avenue.
D	GZ-22D	In vicinity of oil/water separator tank and dry wells location at 441 Waverly Avenue.
D	OSMW-3	Offsite.
D	OSMW-4	Offsite.
D	GZ-23D	Well with the highest TCE concentration at 442 Waverly Avenue.

The wells listed above will be sampled on an annual basis for Part 375 VOCs and SVOCs by Methods 8260C and 8270D for three (3) years.

Well depths and top of PVC elevations are summarized below. All deep overburden wells are screened in a fine-medium grain sand.

<b>Well ID</b>	<b>Depth to Water August 2009 (feet)</b>	<b>Depth to Bottom August 2009 (feet)</b>	<b>Depth to Water January 2012 (feet)</b>	<b>Depth to Bottom January 2012 (feet)</b>	<b>Top of PVC Casing Elevation <sup>[1]</sup> (feet)</b>	<b>Groundwater Elevation August 2009 (feet)</b>	<b>Groundwater Elevation January 2012 (feet)</b>
GZ-22D	9.2	46	9.4	---	99.5	90.3	21.08
GZ-21D	8.11	44.21	8.3	---	98.4	90.29	21.08
B6-OWD	8.7	36.05	9.3	---	99.6	90.9	20.06
OSMW-3	NA	NA	9.2	39	30.50	NA	21.30
OSMW-4	NA	NA	9.38	35	30.84	NA	21.46
GZ-23D	7.82	44.86	10.2	---	98.3	90.48	20.82

**Notes:** [1] Provided in Phase II Environmental Assessment Reports by GZA GeoEnvironmental, Inc., December 2005.

Monitoring well construction logs indicate wells GZ-21D, GZ-22D and GZ-23D are screened at a depth of 40-45 feet below grade with 2" diameter PVC screen in fine sand. OSMW-3 is screened at a depth of 29-39 feet below grade with 1" diameter PVC screen in fine sand. OSMW-4 is screened at a depth of 25-35 feet below grade with 1" diameter PVC screen in fine sand. Geologic cross-sections are provided in Figures 2 through 5. Monitoring well construction logs are included in Appendix I.

Baseline post-remedial groundwater quality conditions, water levels and flow patterns will be provided after the first annual event in the Periodic Review Report.

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

Deliverables for the groundwater monitoring program are specified below.

### **3.3.1.1 Sampling Protocol**

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 the inspection form for the groundwater monitoring well network.

Depth to static water level and depth to bottom will be recorded on the form provided in Appendix J prior to collection of the groundwater sample.

Groundwater samples will be collected using low-flow purging and sampling techniques as specified in the United States Environmental Protection Agency (USEPA) Ground Water Issue EPA/540/S-95/504, Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures (USEPA, April 1996). Low-flow purging and sampling techniques are designed to provide samples representative of groundwater quality in the aquifer formation being sampled and involves the purging and collection of samples from the screened interval of the monitoring well at a low rate of flow through the sampling device. Flow should be between 0.1 and 0.5 liter per minute, with the goal being to sample at the lowest sustainable rate. During purging, water quality is monitored using in-line real-time field monitoring units via a flow cell. Monitored parameters include pH, temperature, specific conductance, oxidation reduction potential (ORP), dissolved oxygen (DO), and turbidity. The water level is also monitored during purging and the sampling rate can be adjusted to minimize drawdown (< 0.1 meter), to the extent possible based on rate of recharge to the monitoring well. Readings for real-time parameters and water level are recorded every three to five (3 to 5) minutes during well purging. Wells are purged until parameters stabilize, indicating that flow patterns have been established, bringing water from the sampled formation through the well screen and into the sampling inlet. In order to be considered stabilized, parameters must fall within the following guidance ranges for three (3) consecutive readings:

<b>Parameter</b>	<b>Range</b>
pH	± 0.1
Conductivity	± 3%
ORP	± 10mv
Turbidity	± 10%
Temp (°C)	± 3%
DO	± 10%

Following stabilization of the field parameters, the tubing will be disconnected from the flow cell and the groundwater sample will be collected. Samples will be collected at the mid-point of the well screen if the water level at the time of sampling exceeds the top of the well screen, or the

mid-point of the water level at the time of sampling and the bottom of the well screen, if the water level at the time of sampling is within the well screen. Discharge water must be contained and analyzed for offsite disposal at a permitted facility.

Samples will be placed in appropriate containers prepared a NYSDOH ELAP certified laboratory for analysis of Part 375 VOCs by USEPA Method 8260C and Part 375 SVOCs by USEPA Method 8270D. Upon collection, samples will be placed in coolers and preserved on ice.

All groundwater samples will be collected in accordance with the NYSDEC Department of Environmental Remediation DER-10-Technical Guidance for Site Investigation and Remediation (May 2010).

### **3.3.1.2 Monitoring Well Repairs, Replacement and Decommissioning**

If biofouling or silt accumulation occurs in the onsite monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced as described below, 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 monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will only be performed with the prior approval of the NYSDEC. Well abandonment will be performed accordance with NYSDEC's "Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

## **3.4 Site-Wide Inspection**

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls (ECs) or monitoring devices and evaluation and inspection forms will be completed (Appendices K and M). The forms 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.

### **3.5 Monitoring Quality Assurance/Quality Control**

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the Site (Appendix L). Main components of the QAPP include:

- Sampling Program:
  - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
  - Sample holding times will be in accordance with the NYSDEC ASP requirements.
  - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures:
  - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
  - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Decontamination Procedures;
- Analytical Procedures;
- Preparation of a Data Usability Summary Report (DUSR), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.
- Internal QC and Checks; and
- Field Work Documentation.



### 3.6 Monitoring Reporting Requirements

Forms and any other information generated during regular monitoring events and inspections will be kept on file by the Owner and/or the Owner's Emergency Coordinator. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to the approval by the NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in Section 5.

All monitoring results will be reported to the NYSDEC on a periodic basis in the Periodic Review Report. A letter report will also be prepared, subsequent to each sampling event. The report (or letter) will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., groundwater);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables 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 groundwater conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by the NYSDEC. A summary of the monitoring program deliverables are summarized in the table below.

<b>Schedule of Monitoring/Inspection Reports</b>	
<b>Task</b>	<b>Reporting Frequency*</b>
Groundwater Monitoring	Quarterly <sup>1</sup>
Site-Wide Inspection	Annually
Asphalt and Soil Cover System Inspection	Annually

- \* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC.
- 1 The Groundwater monitoring frequency will initially be quarterly for the first year.

## **4.0 OPERATION AND MAINTENANCE PLAN**

### **4.1 Introduction**

The Site remedy does not rely on any mechanical systems, such as 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.

## **5.0 INSPECTIONS, REPORTING AND CERTIFICATIONS**

### **5.1 Site Inspections**

#### **5.1.1 Inspection Frequency**

All inspections will be conducted at the frequency specified in the schedules provided in Section 3, Monitoring Plan of this SMP. At a minimum, a site-wide inspection will be conducted annually.

#### **5.1.2 Inspection Forms, Sampling Data and Maintenance Reports**

All inspections and monitoring events will be recorded on the appropriate forms for their respective system which are contained in Appendices H (Asphalt and Soil Cover System Inspection Form), and J (Groundwater Sampling Log). Additionally, a general site-wide inspection form will be completed during the site-wide inspection (see Appendix M). These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the Site during the reporting period will be provided in electronic format in the Periodic Review Report.

#### **5.1.3 Evaluation of Records and Reporting**

The results of the inspection and Site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented; and based on the above items,

- The Site remedy continues to be protective of public health and the environment and is performing as designed in the RAWP and Final Engineering Report (FER).

## 5.2 Certification of Institutional Controls

After the last inspection of the reporting period, the Site Owner will prepare a certification incorporating the following:

*For each institutional control (IC) identified for the Site, I certify that all of the following statements are true:*

- *The IC employed at this Site is unchanged from the date the control was put in place, or last approved by the NYSDEC;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *Access to the Site will continue to be provided to the NYSDEC 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 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, Mr. TJ Milo, of New Waverly Avenue Associates, LLC, 566 Westchester Avenue, Rye Brook, New York, am certifying as Owner for the site.*
- *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 offsite contamination are no longer valid; and*

Every five (5) years the following certification will be added:

- *The assumptions made in the qualitative exposure assessment remain valid.*

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

### 5.3 Periodic Review Report

A Periodic Review Report will be submitted to the NYSDEC every year, beginning fifteen (15) months after the Certificate of Completion (COC) is issued. 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 A (Metes and Bounds). The report will be prepared in accordance with NYSDEC 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 inspection forms and other records generated for the Site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor), 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 electronically in a NYSDEC-approved format;
- A Site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the Site-specific RAWP, Decision Document and BCA.
  - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and;
  - The overall performance and effectiveness of the remedy.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Central Office and Regional Office in which the Site is located, and in electronic format to NYSDEC Central Office, Regional Office and the NYSDOH Bureau of Environmental Exposure Investigation.

#### **5.4 Corrective Measures 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 (IC/EC), a Corrective Measures 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 Plan until it is approved by the NYSDEC.

## TABLES



Table 1A  
Comparison of Soil Boring Sample Results to 6 NYCRR Part 375 Restricted Commercial Use Soil Cleanup Objectives  
441 and 442 Waverly Avenue  
Semi-Volatile Organic Compounds  
Site #C360108

Sample ID		Soil Cleanup Objectives [1]	SB-01	SB-02	SB-03	SB-04 (0708)	SB-04 (1112)	SB-05	SB-06	Dup-01 [3]	SW-TEST-PIT
Sample Depth			0-3 feet	8-12 feet	0-4 feet	7-8 feet	11-12 feet	8-12 feet	0-3.5 feet	8-12 feet	7.5 feet
Location			442 Waverly Ave	442 Waverly Ave	442 Waverly Ave	442 Waverly Ave	442 Waverly Ave	442 Waverly Ave	441 Waverly Ave	442 Waverly Ave	442 Waverly Ave
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Sample Date			09/02/09	09/02/09	09/02/09	09/02/09	09/02/09	09/02/09	09/02/09	09/02/09	10/07/10
Parameter	CAS#										
<b>Semivolatile Organic Compounds:</b>											
Acenaphthene	83-32-9	500	<0.350	<0.400	<0.380	<0.410	<0.370	<0.400	<0.390	<0.400	<0.4
Acenaphthylene	208-96-8	500	0.059 J	<0.400	<0.380	<0.410	<0.370	<0.400	0.041 J	<0.400	<0.4
Anthracene	120-12-7	500	0.048 J	<0.400	<0.380	<0.410	<0.370	<0.400	<0.390	<0.400	<0.4
Benzo(a)anthracene	56-55-3	5.6	0.1 J	<0.400	0.043 J	<0.410	<0.370	<0.400	0.098 J	<0.400	<0.4
Benzo(a)pyrene	50-32-8	1	0.12 J	<0.400	<0.380	<0.410	<0.370	<0.400	0.1 J	<0.400	<0.4
Benzo(b)fluoranthene	205-99-2	5.6	0.17 J	0.06 J	0.055 J	<0.410	<0.370	<0.400	0.16 J	<0.400	<0.4
Benzo(g,h,i)perylene	191-24-2	500	0.14 J	<0.400	<0.380	<0.410	<0.370	<0.400	0.099 J	<0.400	<0.4
Benzo(k)fluoranthene	207-08-9	56	0.083 J	<0.400	<0.380	<0.410	<0.370	<0.400	0.059 J	<0.400	<0.4
Chrysene	218-01-9	56	0.15 J	0.051 J	0.042 J	<0.410	<0.370	<0.400	0.12 J	<0.400	<0.4
Dibenzo(a,h)anthracene	53-70-3	0.56	<0.350	<0.400	<0.380	<0.410	<0.370	<0.400	<0.390	<0.400	<0.4
Dibenzofuran	132-64-9	350	<0.350	<0.400	<0.380	<0.410	<0.370	<0.400	<0.390	<0.400	<0.4
Fluoranthene	206-44-0	500	0.2 J	0.086 J	0.053 J	<0.410	<0.370	<0.400	0.19 J	<0.400	<0.4
Fluorene	86-73-7	500	<0.350	<0.400	<0.380	<0.410	<0.370	<0.400	<0.390	<0.400	<0.4
Hexachlorobenzene	1118-74-1	6	<0.350	<0.400	<0.380	<0.410	<0.370	<0.400	<0.390	<0.400	<0.4
Indeno(1,2,3-cd)pyrene	193-39-5	5.6	0.1 J	<0.400	<0.380	<0.410	<0.370	<0.400	0.086 J	<0.400	<0.4
m&p-Cresol (3&4-Methylphenol)	106-44-5	500 [2]	<0.350	<0.400	<0.380	<0.410	<0.370	<0.400	<0.390	<0.400	<0.4
Naphthalene	91-20-3	500	<0.350	0.14 J	<0.380	<0.410	<0.370	<0.400	<0.390	<0.400	0.24 J
o-Cresol (2-Methylphenol)	95-48-7	500	<0.350	<0.400	<0.380	<0.410	<0.370	<0.400	<0.390	<0.400	<0.4
Pentachlorophenol	87-86-5	6.7	<0.720	<0.820	<0.770	<0.840	<0.740	<0.810	<0.790	<0.810	<0.82
Phenanthrene	85-01-8	500	0.094 J	0.052 J	0.045 J	<0.410	<0.370	<0.400	0.082 J	<0.400	<0.4
Phenol	108-95-2	500	<0.350	<0.400	<0.380	<0.410	<0.370	<0.400	<0.390	<0.400	<0.4
Pyrene	129-00-0	500	0.18 J	0.062 J	0.043 J	<0.410	<0.370	<0.400	0.18 J	<0.400	<0.4

Notes:

- [1] Soil Cleanup Objectives are obtained from 6 NYCRR Subpart 375-6.8(b), Restricted Commercial Use, for Protection of Public Health.  
[2] Sample results combine m- and p-Cresol. Most stringent SCO is listed.  
[3] Dup-01 sample collected from soil boring location SB-05.

Laboratory Qualifiers:

- J Indicates an estimated value because the parameter was detected below the reporting limit.  
< Indicates the parameter was not detected at or above the laboratory reporting limit for organic analysis and the laboratory detection limit for inorganic analysis.

Table 1B  
Comparison of Soil Boring Sample Results to 6 NYCRR Part 375 Restricted Commercial Use Soil Cleanup Objectives  
441 and 442 Waverly Avenue  
Volatile Organic Compounds  
Site #C360108

Sample ID		Soil Cleanup Objectives [1]	SB-01	SB-02	SB-03	SB-04 0708	SB-04 1112	SB-05	SB-06	Dup-01 [2]	SW-TEST-PIT
Sample Depth			2-3 feet	11-12 feet	3-4 feet	7-8 feet	11-12 feet	11-12 feet	2-3 feet	11-12 feet	7.5 feet
Location			442 Waverly Ave	442 Waverly Ave	442 Waverly Ave	442 Waverly Ave	442 Waverly Ave	442 Waverly Ave	441 Waverly Ave	442 Waverly Ave	442 Waverly Ave
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Sample Date			09/02/09	09/02/09	09/02/09	09/02/09	09/02/09	09/02/09	09/02/09	09/02/09	10/07/10
Parameters	CAS#										
<b>Volatile Organic Compounds: *</b>											
1,1,1-Trichloroethane	71-55-6	500	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
1,1-Dichloroethane	75-34-3	240	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
1,1-Dichloroethene	75-35-4	500	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
1,2-Dichlorobenzene	95-50-1	500	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
1,2-Dichloroethane	107-06-2	30	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
cis -1,2-Dichloroethene	156-59-2	500	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
trans-1,2-Dichloroethene	156-60-5	500	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
1,3-Dichlorobenzene	541-73-1	280	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
1,4-Dichlorobenzene	106-46-7	130	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
1,4-Dioxane	123-91-1	130	<5.3	<11	<0.084	<6.0	<0.075	<0.092	<0.096	<0.097	<110
Acetone	67-64-1	500	<0.260	<0.530	<0.0042	<0.300	0.12	0.046	0.19	0.018	<5.3
Benzene	71-43-2	44	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	0.0029 J	35
n-Butylbenzene	104-51-8	500	<0.260	5.9	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
Carbon tetrachloride	56-23-5	22	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
Chlorobenzene	108-90-7	500	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
Chloroform	67-66-3	350	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
Ethylbenzene	100-41-4	390	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
Methyl ethyl ketone (2-Butanone)	78-93-3	500	0.11 J	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
Methyl tert-butyl ether	1634-04-4	500	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
Methylene chloride	75-09-2	500	<0.260	<0.530	0.049	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
n-Propylbenzene	103-65-1	500	<0.260	16	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	28
sec-Butylbenzene	135-98-8	500	<0.260	11	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	32
tert-Butylbenzene	98-06-6	500	<0.260	3	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	4.6 J
Tetrachloroethene	127-18-4	150	<0.260	<0.530	0.0017 J	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
Toluene	108-88-3	500	<0.260	<0.530	0.002 J	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
Trichloroethene	79-01-6	200	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
1,2,4-Trimethylbenzene	95-63-6	190	<0.260	<0.530	0.0012 J	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
1,3,5-Trimethylbenzene	108-67-8	190	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
Vinyl chloride	75-01-4	13	<0.260	<0.530	<0.0042	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3
Xylene (mixed)	1330-20-7	500	<0.260	<0.530	0.0016 J	<0.300	<0.0038	<0.0046	<0.0048	<0.0048	<5.3

Notes:

- \* Hexachlorobenzene data is presented in Table 1A.
- [1] Soil Cleanup Objectives are obtained from 6 NYCRR Subpart 375-6.8(b), Restricted Commercial Use, for Protection of Public Health.
- [2] Dup-01 sample collected from Soil Boring Location SB-05.

Shaded value indicates the reported concentration is greater than the 6 NYCRR Subpart 375-6.8(a) Unrestricted Use Soil Cleanup Objective.

Laboratory Qualifiers:

- J Indicates an estimated value because the parameter was detected below the reporting limit.
- < Indicates the parameter was not detected at or above the laboratory reporting limit for organic analysis and the laboratory detection limit for inorganic analysis.



Table 2A  
Summary of Groundwater Analytical Data Results to Title 6 Part 703.5 Groundwater Standards and NYSDEC TOGS 1.1.1 Guidance Values  
441 and 442 Waverly Avenue  
Volatile Organic Compounds and Semi-Volatile Organic Compounds  
Site #C360108

Location		441 Waverly Avenue										
Sample ID		Water Quality Standard*	B6OW-D		B6OW-S	B9A-OW	GZ-21D		GZ-21S	GZ-22D		GZ-22S
Unit		µg/L	µg/L		µg/L	µg/L	µg/L		µg/L	µg/L		µg/L
Sample Date			08/21/09	01/11/12	08/21/09	08/20/09	08/20/09	01/11/12	08/20/09	08/19/09	01/11/12	8/19/2009
Parameter	CAS#											
<b>Volatile Organic Compounds:</b>												
1,1-Dichloroethane	75-34-3	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	75-35-4	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2,3-Trichlorobenzene	87-61-6	5	NA	NA	NA	<5.0	<5.0	NA	1.1 J	<5.0	NA	<5.0
1,2,4-Trichlorobenzene	120-82-1	5	NA	NA	NA	<5.0	<5.0	NA	1 J	<5.0	NA	<5.0
1,2-Dichloroethane	107-06-2	0.6	<b>9.7</b>	<5.0	<5.0	<b>120</b>	<b>170</b> D	<b>5.3</b>	<5.0	<b>22</b>	<b>17</b>	<5.0
cis-1,2-Dichloroethene	156-59-2	5	<b>390</b> D	1.5 J	2 J	<b>19</b>	<b>270</b> D	<b>10</b>	<5.0	<b>8.4</b>	<b>6.5</b>	<b>23</b>
trans-1,2-Dichloroethene	156-60-5	5	<b>150</b>	<5.0	<5.0	<5.0	<b>6.6</b>	<5.0	<5.0	<5.0	1.3 J	<5.0
Acetone	67-64-1	50 GV	<50.0	<5.0	---	---	<50.0	<5.0	---	<50.0	<5.0	---
Benzene	71-43-2	1	<5.0	0.51 J	<5.0	<b>190</b> D	<b>61</b>	<5.0	<b>5.6</b>	<b>2.6</b> J	<b>1.3</b> J	<5.0
n-Butylbenzene	104-51-8	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	3.2 J	<5.0	<5.0	<5.0
sec-Butylbenzene	135-98-8	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	3.2 J	1.2 J	<5.0	<5.0
tert-Butylbenzene	98-06-6	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<b>6.6</b>	<5.0	<5.0	<5.0
Carbon disulfide	75-15-0	---	NA	NA	NA	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0
Ethylbenzene	100-41-4	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Hexachlorobutadiene	87-68-3	0.5	NA	NA	NA	<5.0	<5.0	NA	<b>2</b> J	<5.0	NA	<5.0
Isopropylbenzene	98-82-8	5	NA	NA	NA	<5.0	<5.0	NA	<5.0	1.5 J	NA	<5.0
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<b>14</b>	<b>31</b>	<b>17</b>
n-Propylbenzene	103-65-1	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	4.4 J	<5.0	1 J
Tetrachloroethene	127-18-4	5	<b>23</b>	<b>6.2</b>	2.6 J	<5.0	<b>41</b>	1.7 J	<5.0	<b>120</b>	<b>97</b>	<b>17</b>
Trichloroethene	79-01-6	5	<b>43</b>	2.1 J	1.6 J	<5.0	<b>33</b>	0.58 J	<5.0	<b>110</b>	<b>92</b>	<b>9.8</b>
Toluene	108-88-3	5	<5.0	<5.0	<5.0	1.1	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl chloride	75-01-4	2	<5.0	<5.0	<5.0	<b>67</b>	<b>4</b> J	<5.0	<5.0	<5.0	<5.0	<b>3.8</b> J
<b>Semi-Volatile Organic Compounds:</b>												
Napthalene	91-20-3	---	<10	NA	<10	<10	<10	NA	<10	<10	NA	<10

Notes:

**BOLD** value indicates the reported concentration is greater than the applicable water quality standard or guidance value.

\* Groundwater Standards are obtained from Title 6 Part 703.5, and Guidance Values are obtained from NYSDEC TOGS (1.1.1) "Ambient Water Quality Standards and Guidance Values".

< Indicates the parameter was not detected at the laboratory detection limit shown.

NA Not Analyzed.

--- No standard or not applicable.

Laboratory Qualifiers:

D Indicates the undiluted analysis exceeded the equipment calibration range. The concentration shown is obtained from a diluted analysis.

J Indicates the concentration shown is an estimated value because the compound was detected below the reporting limit.

Table 2B  
Summary of Groundwater Analytical Data Results to Title 6 Part 703.5 Groundwater Standards and NYSDEC TOGS 1.1.1 Guidance Values  
441 and 442 Waverly Avenue  
Volatile Organic Compounds and Semi-Volatile Organic Compounds  
Site #C360108

Location		Water Quality Standard*	442 Waverly Avenue								
Well ID			GZ-23D		GZ-24D	GZ-25S	VW-2	B5-OW [1]	VW-5	Dup [2]	Equip. Blank
Unit			µg/L		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Sample Date			08/20/09	01/11/12	08/20/09	08/20/09	08/21/09	08/21/09	08/21/09	08/21/09	08/21/09
Parameter	CAS#										
Volatile Organic Compounds											
1,1-Dichloroethane	75-34-3	5	<5.0	<5.0	2 J	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	75-35-4	5	5.5	1.6 J	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2,3-Trichlorobenzene	87-61-6	5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	0.6	13	9	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	156-59-2	5	10	780 D	<5.0	1.6 J	<5.0	<5.0	9.9	<5.0	<5.0
trans-1,2-Dichloroethene	156-60-5	5	<5.0	9.1	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Acetone	67-64-1	50 GV	<50.0	200	---	---	---	---	---	---	---
Benzene	71-43-2	1	11	4 J	13	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
n-Butylbenzene	104-51-8	5	<5.0	<5.0	<5.0	<5.0	41	<5.0	<5.0	<5.0	<5.0
sec-Butylbenzene	135-98-8	5	<5.0	<5.0	<5.0	<5.0	90	<5.0	<5.0	<5.0	<5.0
tert-Butylbenzene	98-06-6	5	<5.0	<5.0	<5.0	<5.0	33	<5.0	<5.0	<5.0	<5.0
Carbon disulfide	75-15-0	---	<5.0		NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	5	<5.0	<5.0	<5.0	<5.0	1.9 J	<5.0	<5.0	<5.0	<5.0
Hexachlorobutadiene	87-68-3	0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	2.1 J	1.6 J	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
n-Propylbenzene	103-65-1	5	<5.0	<5.0	<5.0	<5.0	280 D	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	127-18-4	5	9700 D	4300 D	<5.0	<5.0	<5.0	<5.0	2.5 J	<5.0	<5.0
Trichloroethene	79-01-6	5	450 DJ	1600 D	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	108-88-3	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl chloride	75-01-4	2	<5.0	1.2 J	1.3 J	<5.0	<5.0	<5.0	<5.0	19	<5.0
Semi-Volatile Organic Compounds											
Napthalene	91-20-3	---	<10	NA	<10	<10	1.2 J	<10	<10	<10	<10

Notes:

**BOLD** value indicates the reported concentration is greater than the applicable water quality standard or guidance value.

\* Groundwater Standards are obtained from Title 6 Part 703.5, and Guidance Values are obtained from NYSDEC TOGS (1.1.1) "Ambient Water Quality Standards and Guidance Values".

< Indicates the parameter was not detected at the laboratory detection limit shown.

NA Not Analyzed.

--- No standard or not applicable.

[1] Laboratory report and chain of custody identify this sample as VZ-3. Based on the depth of the monitoring well, the correct identification is B5-OW.

[2] Dup sample collected from monitoring well location B5-OW.

Laboratory Qualifiers:

D Indicates the undiluted analysis exceeded the equipment calibration range. The concentration shown is obtained from a diluted analysis.

J Indicates the concentration shown is an estimated value because the compound was detected below the reporting limit.

**TABLE 3**  
**SOIL CLEANUP OBJECTIVES**  
**SITE #C360108**  
**441/442 WAVERLY AVENUE**

Parameter	Soil Cleanup Objectives <sup>(1)</sup> (ppm)
<b>Metals (for composite soil samples):</b>	
Antimony	NA
Arsenic	16
Barium	400
Beryllium	590
Cadmium	9.3
Chromium (hexavalent)	400
Chromium (trivalent)	1,500
Cobalt	NA
Copper	270
Total Cyanide	27
Lead	1,000
Manganese	10,000
Mercury	2.8
Nickel	310
Selenium	1,500
Silver	1,500
Zinc	10,000

NA = Not available.

<sup>(1)</sup> As provided in 6 NYCRR Part 375-6.8(b) – Restricted Commercial Use, Protection of Health. Applicable land uses include the primary purposes of buying, selling or trading of merchandise or services. Commercial use includes passive recreational uses, with limited potential for soil contact (from 6 NYCRR Part 375-1.8(g)(2)(iii)).

Parameter	Soil Cleanup Objectives <sup>(1)</sup> (ppm)
<b>SVOCs (for composite soil samples):</b>	
Acenaphthene	500
Acenaphthylene	500
Anthracene	500
Benzo(a)anthracene	5.6
Benzo(a)pyrene	1
Benzo(b)fluoranthene	5.6
Benzo(g,h,i)perylene	500
Benzo(k)fluoranthene	56
Chrysene	56
Dibenz(a,h)anthracene	0.56
Fluoranthene	500
Fluorene	500
Indeno(1,2,3-cd)pyrene	5.6
m-Cresol	500
Naphthalene	500
o-Cresol	500
p-Cresol	500
Pentachlorophenol	6.7
Phenanthrene	500
Phenol	500
Pyrene	500

NA = Not available.

<sup>(1)</sup> As provided in 6 NYCRR Part 375-6.8(b) – Restricted Commercial Use, Protection of Health. Applicable land uses include the primary purposes of buying, selling or trading of merchandise or services. Commercial use includes passive recreational uses, with limited potential for soil contact (from 6 NYCRR Part 375-1.8(g)(2)(iii)).



Parameter	Soil Cleanup Objectives <sup>(1)</sup> (ppm)
<b>VOCs (grab soil samples only):</b>	
1,1,1-Trichloroethane	500
1,1-Dichloroethane	240
1,1-Dichloroethene	500
1,2-Dichlorobenzene	500
1,2-Dichloroethane	30
cis-1,2-Dichloroethene	500
trans-1,2-Dichloroethene	500
1,3-Dichlorobenzene	280
1,4-Dichlorobenzene	130
1,4-Dioxane	130
Acetone	500
Benzene	44
Butylbenzene	500
Carbon tetrachloride	22
Chlorobenzene	500
Chloroform	350
Ethylbenzene	390
Hexachlorobenzene	6
Methyl ethyl ketone	500
Methyl tert-butyl ether	500
Methylene chloride	500

NA = Not available.

<sup>(1)</sup> As provided in 6 NYCRR Part 375-6.8(b) – Restricted Commercial Use, Protection of Health. Applicable land uses include the primary purposes of buying, selling or trading of merchandise or services. Commercial use includes passive recreational uses, with limited potential for soil contact (from 6 NYCRR Part 375-1.8(g)(2)(iii)).

<b>Parameter</b>	<b>Soil Cleanup Objectives <sup>(1)</sup> (ppm)</b>
n-Propylbenzene	500
sec-Butylbenzene	500
tert-Butylbenzene	500
Tetrachloroethene	150
Toluene	500
Trichloroethene	200
1,2,4-Trimethylbenzene	190
1,3,5-Trimethylbenzene	190
Vinyl chloride	13
Xylene (mixed)	500

28012\Waverly SMP 2013\Tables\Table 3 – Soil Cleanup Objectives

NA = Not available.

<sup>(1)</sup> As provided in 6 NYCRR Part 375-6.8(b) – Restricted Commercial Use, Protection of Health. Applicable land uses include the primary purposes of buying, selling or trading of merchandise or services. Commercial use includes passive recreational uses, with limited potential for soil contact (from 6 NYCRR Part 375-1.8(g)(2)(iii)).

Table 4  
Comparison of Soil Sample Results for Stockpiles to  
6 NYCRR Part 375 Restricted Commercial use Soil Cleanup Objectives  
442 Waverly Avenue  
VOCs, SVOCs, Metals, PCBs and Pesticides  
Site #C360108

Sample ID	Soil Cleanup Objectives[1]	Stock Pile A 2009 (8,000 Gallon UST Stock Pile)	Stock Pile A-Part 375	Stock Pile B- Part 375	Stock Pile C- Part 375
Location					
Unit	ppm	442 Waverly	442 Waverly	442 Waverly	442 Waverly
Sample Date		09/02/09	10/12/2010	10/12/2010	11/11/2010
Parameter					
<b>Volatiles Organic Compounds:</b>					
CAS#					
1,1,1-Trichloroethane	500	<0.0035	<0.0038	<0.0041	<0.0041
1,1-Dichloroethane	240	<0.0035	<0.0038	<0.0041	<0.0041
1,1-Dichloroethene	500	<0.0035	<0.0038	<0.0041	<0.0041
1,2-Dichlorobenzene	500	<0.0035	<0.0038	<0.0041	<0.0041
1,2-Dichloroethane	30	<0.0035	<0.0038	<0.0041	<0.0041
cis -1,2-Dichloroethene	500	<0.0035	<0.0038	<0.0041	<0.0041
trans-1,2-Dichloroethene	500	<0.0035	<0.0038	<0.0041	<0.0041
1,3-Dichlorobenzene	280	<0.0035	<0.0038	<0.0041	<0.0041
1,4-Dichlorobenzene	130	<0.0035	<0.0038	<0.0041	<0.0041
1,4-Dioxane	130	<0.07	<0.075	<0.083	<0.082
Acetone	500	<0.0035	0.016	<0.0041	0.0019
Benzene	44	<0.0035	<0.0038	<0.0041	<0.0041
n-Butylbenzene	500	<0.0035	13	<0.0041	<0.0041
Carbon tetrachloride	22	<0.0035	<0.0038	<0.0041	<0.0041
Chlorobenzene	500	<0.0035	<0.0038	<0.0041	<0.0041
Chloroform	350	<0.0035	<0.0038	<0.0041	<0.0041
Ethylbenzene	100-41-4	<0.0035	0.0057	<0.0041	<0.0041
Methyl ethyl ketone (2-Butanone)	78-93-3	<0.0035	<0.0038	<0.0041	<0.0041
Methyl tert-butyl ether (MTBE)	1634-04-4	<0.0035	<0.0038	<0.0041	<0.0041
Methylene chloride	75-09-2	<0.0035	<0.0038	<0.0041	<0.0041
n-Propylbenzene	103-65-1	<0.0035	4.7	<0.0041	<0.0041
sec-Butylbenzene	135-98-8	<0.0035	10	<0.0041	<0.0041
tert-Butylbenzene	98-06-6	<0.0035	0.064	<0.0041	<0.0041
Tetrachloroethene	127-18-4	<0.0035	<0.0038	<0.0041	<0.0041
Toluene	108-88-3	<0.0035	<0.0038	<0.0041	<0.0041
Trichloroethene	79-01-6	<0.0035	<0.0038	<0.0041	<0.0041
1,2,4-Trimethylbenzene	95-63-6	<0.0035	0.014	<0.0041	<0.0041
1,3,5-Trimethylbenzene	108-67-8	<0.0035	<0.0038	<0.0041	<0.0041
Vinyl chloride	75-01-4	<0.0035	<0.0038	<0.0041	<0.0041
Xylene (mixed)	1330-20-7	<0.0035	0.007	<0.0123	<0.0041
<b>Semivolatile Organic Compounds:</b>					
Acenaphthene	500	<0.34	<0.42	<0.350	<0.380
Acenaphthylene	500	<0.34	<0.42	<0.350	0.066
Anthracene	500	<0.34	<0.42	0.049	0.04
Benzo(a)anthracene	5.6	<0.34	<0.42	0.1	0.12
Benzo(a)pyrene	1	<0.34	<0.42	0.096	0.16
Benzo(b)fluoranthene	205-99-2	<0.34	<0.42	0.13	0.24
Benzo(g,h,i)perylene	191-24-2	<0.34	<0.42	0.056	0.12
Benzo(k)fluoranthene	207-08-9	<0.34	<0.42	0.058	0.09
Chrysene	218-01-9	<0.34	<0.42	0.094	0.16
Dibenz(a,h)anthracene	53-70-3	<0.34	<0.42	<0.350	<0.380
Fluoranthene	206-44-0	<0.34	<0.42	0.2	0.2
Fluorene	86-73-7	<0.34	<0.42	<0.350	<0.380
Hexachlorobenzene	1118-74-1	<0.34	<0.42	<0.350	<0.380
Indeno(1,2,3-cd)pyrene	193-39-5	<0.34	<0.42	0.05	0.11
m&p-Cresol (3&4-Methylphenol)	106-44-5	<0.34	<0.42	NA	<0.380
Naphthalene	91-20-3	<0.34	0.75	<0.350	<0.380
o-Cresol (2-Methylphenol)	95-48-7	<0.34	<0.42	NA	<0.380
Pentachlorophenol	87-86-5	<0.7	<0.84	<0.71	<0.770
Phenanthrene	85-01-8	<0.34	<0.42	0.12	<0.380
Phenol	108-95-2	<0.34	<0.42	<0.350	<0.380
Pyrene	129-00-0	<0.34	<0.42	0.19	0.2
<b>Metals:</b>					
Arsenic	7440-38-2	16	0.65	1.2	4.5
Barium	7440-39-3	400	51.9	32.7	33.1
Beryllium	7440-41-7	590	0.13	0.16	0.3
Cadmium	7440-43-9	9.3	0.023	0.038	0.3
Chromium, hexavalent	18540-29-9	400	<5.2	<4.4	5.1
Chromium, trivalent	16065-83-1	1,500	14.4	8.5	5.8
Copper	7440-50-8	270	15.3	19.1	8.8
Total Cyanide	---	27	<0.91	<0.42	<0.46
Lead	7439-92-1	1,000	16.2	6.2	11.2
Manganese	7439-96-5	10,000	183	176	110
Total Mercury	---	2.8	0.03	0.017	0.026
Nickel	7440-02-0	310	5.1	8.1	7.6
Selenium	7782-49-2	1,500	<0.64	<0.038	<0.46
Silver	7440-22-4	1,500	<0.065	<0.038	<0.046
Zinc	7440-66-6	10,000	42	27.3	40.5
<b>PCBs/Pesticides:</b>					
2,4,5-TP Acid (Silvex)	93-72-1	500	<0.0085	<0.00716	<0.00735
4,4'-DDE	72-55-9	62	<0.0034	<0.0034	0.0051
4,4'-DDT	50-29-3	47	<0.0034	0.0086	0.057
4,4'-DDD	72-54-8	92	<0.0034	<0.0034	0.01
Aldrin	309-00-2	0.68	<0.0017	<0.0018	<0.0019
alpha-BHC	319-84-6	3.4	<0.0017	<0.0018	<0.0019
beta-BHC	319-85-7	3	<0.0017	<0.0018	<0.0019
Chlordane (alpha)	5103-71-9	24	<0.0017	<0.0018	0.0036
delta-BHC	319-86-8	500	<0.0017	<0.0018	<0.0019
Dibenzofuran	132-64-9	350	<0.340	<0.35	<0.380
Dieldrin	60-57-1	1.4	<0.0034	<0.0034	0.012
Endosulfan I	959-98-8	200	<0.0017	<0.0018	<0.0019
Endosulfan II	33213-65-9	200	<0.0034	<0.0034	<0.0038
Endosulfan sulfate	1031-07-8	200	<0.0034	<0.0034	<0.0038
Endrin	72-20-8	89	<0.0034	<0.0034	0.004
Heptachlor	76-44-8	15	<0.0017	0.0035	<0.0019
Lindane	58-89-9	9.2	0.0033	<0.0021	<0.0019
Polychlorinated biphenyls	1336-36-3	1	<0.238	<0.287	0.97

Notes:

[1] Soil Cleanup Objectives are obtained from 6 NYCRR Subpart 375-6.8(b), Restricted Commercial Use, for Protection of Public Health.

[2] Sample results combine m- and p-Cresol. The individual SCO for both m-cresol and p-cresol is shown.

Laboratory Qualifiers:

< Indicates the parameter was not detected at or above the laboratory reporting limit.

B The compound was also detected in the associated method blank

D Indicated the undiluted analysis exceeded the equipment calibration range. The concentration shown is obtained from a diluted analysis.

J Indicates an estimated value because the parameter was detected below the reporting limit.

P Greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. The lower of the two values is reported.

Table 5  
Comparison of Soil Sample Results for Backfill Material to  
6 NYCRR Part 375 Restricted Commercial use Soil Cleanup Objectives  
442 Waverly Avenue  
VOCs, SVOCs, Metals, PCBs and Pesticides  
Site #C360108

Sample ID		CAS#	Soil Cleanup Objectives(1)		Backfill- Coarse A&E Gardens ppm 10/12/10	Bot Gar - 1 NYC Botanical Gardens ppm 11/04/10	Bot Gar - 2 NYC Botanical Gardens ppm 11/04/10
Location	Unit		ppm	ppm			
Sample Date			Parameter				
Volatile Organic Compounds:							
	1,1,1-Trichloroethane	71-55-6	500	<0.0038		<0.0048	<0.0037
	1,1-Dichloroethane	75-34-3	240	<0.0038		<0.0048	<0.0037
	1,1-Dichloroethene	75-35-4	500	<0.0038		<0.0048	<0.0037
	1,2-Dichlorobenzene	95-50-1	500	<0.0038		<0.0048	<0.0037
	1,2-Dichloroethane	107-06-2	30	<0.0038		<0.0048	<0.0037
	cis -1,2-Dichloroethene	156-59-2	500	<0.0038		<0.0048	<0.0037
	trans-1,2-Dichloroethene	156-60-5	500	<0.0038		<0.0048	<0.0037
	1,3-Dichlorobenzene	541-73-1	280	<0.0038		<0.0048	<0.0037
	1,4-Dichlorobenzene	106-46-7	130	<0.0038		<0.0048	<0.0037
	1,4-Dioxane	123-91-1	130	<0.075		<0.095	<0.074
	Acetone	67-64-1	500	0.026		<0.0048	<0.0037
	Benzene	71-43-2	44	<0.0038		<0.0038	<0.0037
	n-Butylbenzene	104-51-8	500	<0.0038		<0.0048	<0.0037
	Carbon tetrachloride	56-23-5	22	<0.0038		<0.0048	<0.0037
	Chlorobenzene	108-90-7	500	<0.0038		<0.0048	<0.0037
	Chloroform	67-66-3	350	<0.0038		<0.0048	<0.0037
	Ethylbenzene	100-41-4	390	<0.0038		<0.0048	<0.0037
	Methyl ethyl ketone (2-Butanone)	78-93-3	500	<0.0038		<0.0048	<0.0037
	Methyl tert-butyl ether (MTBE)	1634-04-4	500	<0.0038		<0.0048	<0.0037
	Methylene chloride	75-09-2	500	<0.0038		<0.0048	<0.0037
	n -Propylbenzene	103-65-1	500	<0.0038		<0.0048	<0.0037
	sec-Butylbenzene	135-98-8	500	<0.0038		<0.0048	<0.0037
	tert-Butylbenzene	98-06-6	500	<0.0038		<0.0048	<0.0037
	Tetrachloroethene	127-18-4	150	<0.0038		<0.0048	<0.0037
	Toluene	108-88-3	500	<0.0038		<0.0048	<0.0037
	Trichloroethene	79-01-6	200	<0.0038		<0.0048	<0.0037
	1,2,4-Trimethylbenzene	95-63-6	190	<0.0038		<0.0048	<0.0037
	1,3,5-Trimethylbenzene	108-67-8	190	<0.0038		<0.0048	<0.0037
	Vinyl chloride	75-01-4	13	<0.0038		<0.0048	<0.0037
	Xylene (mixed)	1330-20-7	500	<0.0114		<0.0048	<0.0037
Semivolatile Organic Compounds:							
	Acenaphthene	83-32-9	500	0.45		<0.36	<0.38
	Acenaphthylene	208-96-8	500	0.46		0.1	0.079
	Anthracene	120-12-7	500	1.2		0.11	0.085
	Benzo(a)anthracene	56-55-3	5.6	1.8		0.43	0.28
	Benzo(a)pyrene	50-32-8	1	1.6		0.38	0.24
	Benzo(b)fluoranthene	205-99-2	5.6	2		0.47	0.32
	Benzo(g,h,i)perylene	191-24-2	500	0.96		0.24	0.15
	Benzo(k)fluoranthene	207-08-9	56	1.1		0.22	0.16
	Chrysene	218-01-9	56	1.8		0.42	0.27
	Dibenzo(a,h)anthracene	53-70-3	0.56	0.4		0.067	0.046
	Fluoranthene	206-44-0	500	2.8		0.66	0.54
	Fluorene	86-73-7	500	0.73		<0.36	<0.38
	Hexachlorobenzene	1118-74-1	6	<0.36		<0.36	<0.38
	Indeno(1,2,3-cd)pyrene	193-39-5	5.6	0.88		0.2	0.14
	m&p-Cresol (3&4-Methylphenol)	106-44-5	500 [2]	<0.36		<0.36	<0.38
	Naphthalene	91-20-3	500	0.26	J	<0.36	<0.38
	o-Cresol (2-Methylphenol)	95-48-7	500	<0.36		<0.36	<0.38
	Pentachlorophenol	87-86-5	6.7	<0.73		<0.72	<0.78
	Phenanthrene	85-01-8	500	2.8		0.24	0.26
	Phenol	108-95-2	500	<0.36		<0.36	<0.38
	Pyrene	129-00-0	500	3.1		0.63	0.44
Metals:							
	Arsenic	7440-38-2	16	2.4		7	6.8
	Barium	7440-39-3	400	88.3		70.8	83.2
	Beryllium	7440-41-7	590	0.19		0.32	0.35
	Cadmium	7440-43-9	9.3	0.18		0.66	0.77
	Chromium, hexavalent	18540-29-9	400	<4.3		<4.3	<4.5
	Chromium, trivalent	16065-83-1	1,500	20.6		17.5	21.5
	Copper	7440-50-8	270	35	B	34.4	36
	Total Cyanide	---	27	<0.36		<0.29	<0.35
	Lead	7439-92-1	1,000	51.5		233	417
	Manganese	7439-96-5	10,000	200		292	271
	Total Mercury	---	2.8	0.095		0.099	0.082
	Nickel	7440-02-0	310	14.2		15.1	15.2
	Selenium	7782-49-2	1,500	<0.38		<0.36	<0.40
	Silver	7440-22-4	1,500	<0.038		<0.036	<0.040
	Zinc	7440-66-6	10,000	117		82.7	95.8
PCBs/Pesticides:							
	2,4,5-TP Acid (Silvex)	93-72-1	500	<0.00733		<7.08	<7.65
	4,4'-DDE	72-55-9	62	<0.0036		0.031	<0.0038
	4,4'-DDT	50-29-3	47	0.0063		0.061	<0.0038
	4,4'-DDD	72-54-8	92	<0.0036		<0.018	0.01
	Aldrin	309-00-2	0.68	<0.0019		<0.0092	<0.002
	alpha-BHC	319-84-6	3.4	<0.0019		<0.0092	<0.002
	beta-BHC	319-85-7	3	<0.0019		<0.0092	<0.002
	Chlordane (alpha)	5103-71-9	24	0.0076	P	0.018	0.012
	delta-BHC	319-86-8	500	<0.0019		<0.0092	0.0024
	Dibenzofuran	132-64-9	350	0.34	J	<0.360	<0.380
	Dieldrin	60-57-1	1.4	<0.0036		0.052	0.058
	Endosulfan I	959-98-8	200	<0.0019		<0.0092	<0.002
	Endosulfan II	33213-65-9	200	<0.0036		<0.018	<0.0038
	Endosulfan sulfate	1031-07-8	200	0.007	P	<0.018	<0.0038
	Endrin	72-20-8	89	<0.0036		<0.018	0.016
	Heptachlor	76-44-8	15	<0.0019		<0.0092	<0.002
	Lindane	58-89-9	9.2	<0.0019		<0.0092	<0.002
	Polychlorinated biphenyls	1336-36-3	1	<0.252		<0.252	<0.273

Notes:

- [1] Soil Cleanup Objectives are obtained from 6 NYCRR Subpart 375-6.8(b), Restricted Commercial Use, for Protection of Public Health.  
[2] Sample results combine m- and p-Cresol. The individual SCO for both m-cresol and p-cresol is shown.

Laboratory Qualifiers:

- < Indicates the parameter was not detected at or above the laboratory reporting limit.  
B The compound was also detected in the associated method blank.  
J Indicates an estimated value because the parameter was detected below the reporting limit.  
P Greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. The lower of the two values is reported.  
N Spiked sample recovery not within control limits.  
\* Duplicate analysis not within control limits.



**Table 6A**  
**Comparison of Soil Sample Results for 8,000 Gallon UST Excavation to 6 NYCRR Part 375 Restricted Commercial Use Soil Cleanup Objectives**  
**442 Waverly Avenue**  
**Semi-Volatile Organic Compounds**  
**Site #C360108**

Sample ID		Soil Cleanup Objectives [1]	SS-01 [3]	SS-02 [3]	SS-03 [3]	SS-04 [3]	SS-05 [3]
Location			Bottom	East Sidewall	North Sidewall	South Sidewall	West Sidewall
Unit		ppm	ppm	ppm	ppm	ppm	ppm
Sample Date			08/21/09	08/21/09	08/21/09	08/21/09	08/21/09
Parameter	CAS#						
<b>Semivolatile Organic Compounds:</b>							
Acenaphthene	83-32-9	500	<0.390	<0.360	<0.420	<0.390	<0.360
Acenaphthylene	208-96-8	500	<0.390	0.043 J	<0.420	<0.390	<0.360
Anthracene	120-12-7	500	<0.390	<0.360	<0.420	<0.390	0.056 J
Benzo(a)anthracene	56-55-3	5.6	0.081 J	0.13 J	<0.420	<0.390	0.18 J
Benzo(a)pyrene	50-32-8	1	0.077 J	0.11 J	<0.420	<0.390	0.17 J
Benzo(b)fluoranthene	205-99-2	5.6	0.095 J	0.16 J	<0.420	<0.390	0.23 J
Benzo(g,h,i)perylene	191-24-2	500	0.058 J	0.073 J	<0.420	<0.390	0.12 J
Benzo(k)fluoranthene	207-08-9	56	0.061 J	0.11 J	<0.420	<0.390	0.11 J
Chrysene	218-01-9	56	0.084 J	0.13 J	<0.420	0.042 J	0.16 J
Dibenzo(a,h)anthracene	53-70-3	0.56	<0.390	<0.360	<0.420	<0.390	<0.360
Fluoranthene	206-44-0	500	0.092 J	0.11 J	<0.420	<0.390	0.24 J
Fluorene	86-73-7	500	<0.390	<0.360	<0.420	<0.390	<0.360
Hexachlorobenzene	1118-74-1	6	<0.390	<0.360	<0.420	<0.390	<0.360
Indeno(1,2,3-cd)pyrene	193-39-5	5.6	0.06 J	0.072 J	<0.420	<0.390	0.11 J
m&p-Cresol (3&4-Methylphenol)	106-44-5	500 [2]	<0.390	<0.360	<0.420	<0.390	<0.360
Naphthalene	91-20-3	500	<0.390	<0.360	<0.420	<0.390	<0.360
o-Cresol (2-Methylphenol)	95-48-7	500	<0.390	<0.360	<0.420	<0.390	<0.360
Pentachlorophenol	87-86-5	6.7	<0.790	<0.730	<0.850	<0.390	<0.740
Phenanthrene	85-01-8	500	0.046 J	0.04 J	<0.420	<0.390	0.2 J
Phenol	108-95-2	500	<0.390	<0.360	<0.420	<0.390	<0.360
Pyrene	129-00-0	500	0.14 J	0.18 J	0.073 J	0.045 J	0.42

**Notes:**

- [1] Soil Cleanup Objectives are obtained from 6 NYCRR Subpart 375-6.8(b), Restricted Commercial Use, for Protection of Public Health.
- [2] Sample results combine m- and p-Cresol. The individual SCO for both m-cresol and p-cresol is shown.
- [3] Samples reanalyzed due to low bias response of internal standard.


**Laboratory Qualifiers:**

- < Indicates the parameter was not detected at or above the laboratory reporting limit.
- J Indicates an estimated value because the parameter was detected below the reporting limit.

Table 6B  
Comparison of Soil Sample Results for 8,000 Gallon UST Excavation to 6 NYCRR Part 375 Restricted Commercial use Soil Cleanup Objectives  
442 Waverly Avenue  
Volatile Organic Compounds  
Site #C360108

Sample ID		Soil Cleanup Objectives [1]	SS-01	SS-02	SS-03	SS-04	SS-05
Location			Bottom	East Sidewall	North Sidewall	South Sidewall	West Sidewall
Unit		ppm	ppm	ppm	ppm	ppm	ppm
Sample Date			08/21/09	08/21/09	08/21/09	08/21/09	08/21/09
Parameter	CAS#						
Volatile Organic Compounds: *							
1,1,1-Trichloroethane	71-55-6	500	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
1,1-Dichloroethane	75-34-3	240	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
1,1-Dichloroethene	75-35-4	500	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
1,2-Dichlorobenzene	95-50-1	500	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
1,2-Dichloroethane	107-06-2	30	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
cis -1,2-Dichloroethene	156-59-2	500	0.013	<0.0047	<0.0053	0.0031 J	<0.0046
trans-1,2-Dichloroethene	156-60-5	500	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
1,3-Dichlorobenzene	541-73-1	280	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
1,4-Dichlorobenzene	106-46-7	130	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
1,4-Dioxane	123-91-1	130	<0.110	<0.095	<.0110	<0.099	<0.092
Acetone	67-64-1	500	<0.0056	<0.180 D	<0.280 D	0.074	<0.240 D
Benzene	71-43-2	44	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
n-Butylbenzene	104-51-8	500	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
Carbon tetrachloride	56-23-5	22	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
Chlorobenzene	108-90-7	500	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
Chloroform	67-66-3	350	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
Ethylbenzene	100-41-4	390	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
Methyl ethyl ketone (2-Butanone)	78-93-3	500	<0.0056	0.018	0.028	<0.0049	0.013
Methyl tert-butyl ether	1634-04-4	500	<0.0056	0.0016 J	0.0016 J	<0.0049	<0.0046
Methylene chloride	75-09-2	500	0.12	<0.0047	<0.0053	<0.0049	<0.0046
n -Propylbenzene	103-65-1	500	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
sec-Butylbenzene	135-98-8	500	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
tert-Butylbenzene	98-06-6	500	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
Tetrachloroethene	127-18-4	150	0.0074	0.0065	0.0014 J	0.0043 J	0.0033 J
Toluene	108-88-3	500	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
Trichloroethene	79-01-6	200	0.004 J	<0.0047	<0.0053	0.0013 J	<0.0046
1,2,4-Trimethylbenzene	95-63-6	190	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
1,3,5-Trimethylbenzene	108-67-8	190	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
Vinyl chloride	75-01-4	13	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046
Xylene (mixed)	1330-20-7	500	<0.0056	<0.0047	<0.0053	<0.0049	<0.0046

Notes:  
\* Hexachlorobenzene data is presented in Table 6A.  
[1] Soil Cleanup Objectives are obtained from 6 NYCRR Subpart 375-6.8(b), Restricted Commercial Use, for Protection of Public Health.

 Shaded value indicates the reported concentration is greater than the 6 NYCRR Subpart 375-6.8(a) Unrestricted Use Soil Cleanup Objective.

Laboratory Qualifiers:  
< Indicates the parameter was not detected at or above the laboratory reporting limit.  
J Indicates an estimated value because the parameter was detected below the reporting limit.  
D Indicates the undiluted analysis exceeded the equipment calibration range. The concentration shown is obtained from a diluted analysis.



Table 7A  
Comparison of Soil Sample Results for Settling Tank Excavation and Associated Piping to 6 NYCRR Part 375 Restricted Commercial Use Soil Cleanup Objectives  
442 Waverly Avenue  
Semi-Volatile Organic Compounds  
Site #C360108

Sample ID		Soil Cleanup Objectives [1]	Set. Tank North-Wall	Set. Tank S-Wall	Set. Tank East-Wall	Set. Tank-N-Bottom	Set. Tank North-Bot.	Set Tank South-Bot.	Set. Tank Center-Bot.	NW-4"-Clay-Pipe-Set-Tank	Duplicate[3]	SE-Pipe-Set.-Tank
Location			North Sidewall	South Sidewall	East Sidewall	Preliminary Bottom	North Bottom	South Bottom	Center Bottom	Northwest Pipe	Northwest Pipe	Southeast Pipe
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Sample Date			10/08/10	10/08/10	10/08/10	10/04/10	10/08/10	10/08/10	10/08/10	10/12/10	10/12/10	10/07/10
Parameter	CAS#											
<b>Semivolatile Organic Compounds:</b>												
Acenaphthene	83-32-9	500	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	<0.37	<0.350	<0.35
Acenaphthylene	208-96-8	500	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	<0.37	<0.350	<0.35
Anthracene	120-12-7	500	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	<0.37	<0.350	<0.35
Benzo(a)anthracene	56-55-3	5.6	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	<0.37	<0.350	<0.35
Benzo(a)pyrene	50-32-8	1	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	0.64	<0.350	<0.35
Benzo(b)fluoranthene	205-99-2	5.6	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	0.31 J	<0.350	<0.35
Benzo(g,h,i)perylene	191-24-2	500	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	<0.37	<0.350	<0.35
Benzo(k)fluoranthene	207-08-9	56	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	0.22 J	<0.350	<0.35
Chrysene	218-01-9	56	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	<0.37	<0.350	<0.35
Dibenzo(a,h)anthracene	53-70-3	0.56	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	<0.37	<0.350	<0.35
Fluoranthene	206-44-0	500	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	0.05 J	<0.37	<0.350	<0.35
Fluorene	86-73-7	500	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	<0.37	<0.350	<0.35
Hexachlorobenzene	1118-74-1	6	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	<0.37	<0.350	<0.35
Indeno(1,2,3-cd)pyrene	193-39-5	5.6	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	<0.37	<0.350	<0.35
m&p-Cresol (3&4-Methylphenol)	106-44-5	500 [2]	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	<0.37	<0.350	<0.35
Naphthalene	91-20-3	500	<0.36	<0.42	<0.38	3.2	13 D	0.055 J	1.4	<0.37	<0.350	<0.35
o-Cresol (2-Methylphenol)	95-48-7	500	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	<0.37	<0.350	<0.35
Pentachlorophenol	87-86-5	6.7	<0.73	<0.85	<0.77	<0.84	<0.75	<0.8	<0.81	<0.75	<0.71	0.71
Phenanthrene	85-01-8	500	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	0.066 J	<0.37	<0.350	<0.35
Phenol	108-95-2	500	<0.36	<0.42	<0.38	<0.41	<0.37	0.36 J	<0.4	<0.37	<0.350	<0.35
Pyrene	129-00-0	500	<0.36	<0.42	<0.38	<0.41	<0.37	<0.39	<0.4	<0.37	<0.350	<0.35

Notes:

[1] Soil Cleanup Objectives are obtained from 6 NYCRR Subpart 375-6.8(b), Restricted Commercial Use, for Protection of Public Health.

[2] Sample results combine m- and p-Cresol. The individual SCO for both m-cresol and p-cresol is shown.

[3] Duplicate collected from sampling location NW-4"-Clay-Pipe-Set-Tank.

Shaded value indicates the reported concentration is greater than the 6 NYCRR Subpart 375-6.8(a) Unrestricted Use Soil Cleanup Objective.

Laboratory Qualifiers:

< Indicates the parameter was not detected at or above the laboratory reporting limit.

J Indicates an estimated value because the parameter was detected below the reporting limit.

D Indicated the undiluted analysis exceeded the equipment calibration range. The concentration shown is obtained from a diluted analysis.

Table 7B  
Comparison of Soil Sample Results for Settling Tank Excavation and Associated Piping to 6 NYCRR Part 375 Restricted Commercial Use Soil Cleanup Objectives  
442 Waverly Avenue  
Volatile Organic Compounds  
Site #C360108

Sample ID		Soil Cleanup Objectives [1]	Set. Tank North-Wall	Set. Tank S-Wall	Set. Tank East-Wall	Set. Tank-N-Bottom	Set. Tank North-Bot.	Set Tank South-Bot.	Set. Tank Center-Bot.	NW-4"-Clay-Pipe-Set-Tank	Duplicate[2]	SE-Pipe-Set.-Tank
Location			North Sidewall	South Sidewall	East Sidewall	Preliminary Bottom	North Bottom	South Bottom	Center Bottom	Northwest Pipe	Northwest Pipe	Southeast Pipe
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Sample Date			10/08/10	10/08/10	10/08/10	10/04/10	10/08/10	10/08/10	10/08/10	10/12/10	10/12/10	10/07/10
Parameter	CAS#											
Volatile Organic Compounds: *												
1,1,1-Trichloroethane	71-55-6	500	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
1,1-Dichloroethane	75-34-3	240	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
1,1-Dichloroethene	75-35-4	500	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
1,2-Dichlorobenzene	95-50-1	500	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
1,2-Dichloroethane	107-06-2	30	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
cis -1,2-Dichloroethene	156-59-2	500	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
trans-1,2-Dichloroethene	156-60-5	500	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
1,3-Dichlorobenzene	541-73-1	280	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
1,4-Dichlorobenzene	106-46-7	130	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
1,4-Dioxane	123-91-1	130	0.055 BJ	<0.1	<0.091	<11	130 BJ	<5.3	2.5 BJ	<0.089	<0.08	<0.081
Acetone	67-64-1	500	0.0036 J	<0.0052	0.0034 J	<0.56	<12	<0.26	<0.25	0.003 J	0.003 J	<0.0041
Benzene	71-43-2	44	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
n-Butylbenzene	104-51-8	500	0.00091 J	<0.0052	0.00025 J	27 D	81	27 D	50 D	<0.0044	<0.004	<0.0041
Carbon tetrachloride	56-23-5	22	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
Chlorobenzene	108-90-7	500	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
Chloroform	67-66-3	350	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
Ethylbenzene	100-41-4	390	<0.0042	<0.0052	<0.0045	0.41 J	<12	<0.26	0.29	<0.0044	<0.004	<0.0041
Methyl ethyl ketone (2-Butanone)	78-93-3	500	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	1	<0.0044	<0.004	<0.0041
Methyl tert-butyl ether	1634-04-4	500	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
Methylene chloride	75-09-2	500	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
n -Propylbenzene	103-65-1	500	0.0016 J	<0.0052	0.0031 J	21	110	30 D	68 D	<0.0044	<0.004	<0.0041
sec-Butylbenzene	135-98-8	500	<0.0042	<0.0052	0.0015 J	26 D	99	25 D	57 D	<0.0044	<0.004	<0.0041
tert-Butylbenzene	98-06-6	500	<0.0042	<0.0052	<0.0045	3.3	16	2.9	6.1	<0.0044	<0.004	<0.0041
Tetrachloroethene	127-18-4	150	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	0.0018 J	<0.004	0.00095 J
Toluene	108-88-3	500	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
Trichloroethene	79-01-6	200	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
1,2,4-Trimethylbenzene	95-63-6	190	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
1,3,5-Trimethylbenzene	108-67-8	190	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
Vinyl chloride	75-01-4	13	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041
Xylene (mixed)	1330-20-7	500	<0.0042	<0.0052	<0.0045	<0.56	<12	<0.26	<0.25	<0.0044	<0.004	<0.0041

Notes:

- \* Hexachlorobenzene data is presented in Table 7A.
- [1] Soil Cleanup Objectives are obtained from 6 NYCRR Subpart 375-6.8(b), Restricted Commercial Use, for Protection of Public Health.
- [2] Duplicate collected from sampling location NW-4"-Clay-Pipe-Set-Tank.

Shaded value indicates the reported concentration is greater than the 6 NYCRR Subpart 375-6.8(b) Protection of Groundwater Soil Cleanup Objective.

Laboratory Qualifiers:

- < Indicates the parameter was not detected at or above the laboratory reporting limit.
- B The compound was also detected in the associated method blank.
- D Indicates the undiluted analysis exceeded the equipment calibration range. The concentration shown is obtained from a diluted analysis.
- J Indicates an estimated value because the parameter was detected below the reporting limit.

**Table 8A**  
**Comparison of Soil Sample Results for Steel Tank Excavation and Associated Piping to**  
**6 NYCRR Part 375 Restricted Commercial Use Soil Cleanup Objectives**  
**442 Waverly Avenue**  
**Semi-Volatile Organic Compounds**  
**Site #C360108**

Sample ID		Soil Cleanup Objectives [1]	S-BOT-STEEL TANK	N-BOT-STEEL TANK	S-2-BOT-STEEL-TANK	N-2-BOT-STEEL-TANK	S-DIS.-PIPE-STEEL-TANK
Location			South Bottom	North Bottom	South Bottom	North Bottom	South Pipe
Unit		ppm	ppm	ppm	ppm	ppm	ppm
Sample Date			10/06/10	10/06/10	10/07/10	10/07/10	10/07/10
Parameter	CAS#						
<b>Semivolatile Organic Compounds:</b>							
Acenaphthene	83-32-9	500	<0.39	<0.4	<0.41	<0.4	<2
Acenaphthylene	208-96-8	500	<0.39	<0.4	<0.41	<0.4	<2
Anthracene	120-12-7	500	<0.39	<0.4	<0.41	<0.4	<2
Benzo(a)anthracene	56-55-3	5.6	<0.39	<0.4	<0.41	<0.4	0.75 J
Benzo(a)pyrene	50-32-8	1	<0.39	<0.4	<0.41	<0.4	0.86 J
Benzo(b)fluoranthene	205-99-2	5.6	<0.39	<0.4	<0.41	<0.4	1.3 J
Benzo(g,h,i)perylene	191-24-2	500	<0.39	<0.4	<0.41	<0.4	0.48 J
Benzo(k)fluoranthene	207-08-9	56	<0.39	<0.4	<0.41	<0.4	0.47 J
Chrysene	218-01-9	56	<0.39	<0.4	<0.41	<0.4	0.71 J
Dibenzo(a,h)anthracene	53-70-3	0.56	<0.39	<0.4	<0.41	<0.4	<2
Fluoranthene	206-44-0	500	<0.39	<0.4	<0.41	<0.4	0.88 J
Fluorene	86-73-7	500	<0.39	<0.4	<0.41	<0.4	<2
Hexachlorobenzene	1118-74-1	6	<0.39	<0.4	<0.41	<0.4	<2
Indeno(1,2,3-cd)pyrene	193-39-5	5.6	<0.39	<0.4	<0.41	<0.4	0.42 J
m&p-Cresol (3&4-Methylphenol)	106-44-5	500 [2]	<0.39	<0.4	<0.41	<0.4	<2
Naphthalene	91-20-3	500	<0.39	0.13 J	0.92	0.7	<2
o-Cresol (2-Methylphenol)	95-48-7	500	<0.39	<0.4	<0.41	<0.4	<2
Pentachlorophenol	87-86-5	6.7	<0.8	<0.81	<0.83	<0.81	<4.1
Phenanthrene	85-01-8	500	<0.39	<0.4	<0.41	<0.4	<2
Phenol	108-95-2	500	<0.39	<0.4	<0.41	<0.4	<2
Pyrene	129-00-0	500	<0.39	<0.4	<0.41	<0.4	0.9 J

**Notes:**

[1] Soil Cleanup Objectives are obtained from 6 NYCRR Subpart 375-6.8(b), Restricted Commercial Use, for Protection of Public Health.

[2] Sample results combine m- and p-Cresol. The individual SCO for both m-cresol and p-cresol is shown.

 Shaded value indicates the reported concentration is greater than the 6 NYCRR Subpart 375-6.8(a) Unrestricted Use Soil Cleanup Objective.

**Laboratory Qualifiers:**

< Indicates the parameter was not detected at or above the laboratory reporting limit.

J Indicates an estimated value because the parameter was detected below the reporting limit.



Table 8B  
Comparison of Soil Sample Results for Steel Tank Excavation and Associated Piping to  
6 NYCRR Part 375 Restricted Commercial use Soil Cleanup Objectives  
442 Waverly Avenue  
Volatile Organic Compounds  
Site #C360108

Sample ID		Soil Cleanup Objectives [1]	S-BOT-STEEL TANK	N-BOT-STEEL TANK	S-2-BOT-STEEL-TANK	N-2-BOT-STEEL-TANK	S-DIS.-PIPE-STEEL-TANK
Location			South Bottom	North Bottom	South Bottom	North Bottom	South Pipe
Unit		ppm	ppm	ppm	ppm	ppm	ppm
Sample Date			10/06/10	10/06/10	10/07/10	10/07/10	10/07/10
Parameter	CAS#						
Volatile Organic Compounds: *							
1,1,1-Trichloroethane	71-55-6	500	<0.0041	<5.1	<6.1	<5.1	<0.0048
1,1-Dichloroethane	75-34-3	240	<0.0041	<5.1	<6.1	<5.1	<0.0048
1,1-Dichloroethene	75-35-4	500	<0.0041	<5.1	<6.1	<5.1	<0.0048
1,2-Dichlorobenzene	95-50-1	500	<0.0041	<5.1	<6.1	<5.1	<0.0048
1,2-Dichloroethane	107-06-2	30	<0.0041	<5.1	<6.1	<5.1	<0.0048
cis -1,2-Dichloroethene	156-59-2	500	<0.0041	<5.1	<6.1	<5.1	<0.0048
trans-1,2-Dichloroethene	156-60-5	500	<0.0041	<5.1	<6.1	<5.1	<0.0048
1,3-Dichlorobenzene	541-73-1	280	<0.0041	<5.1	<6.1	<5.1	<0.0048
1,4-Dichlorobenzene	106-46-7	130	<0.0041	<5.1	<6.1	<5.1	<0.0048
1,4-Dioxane	123-91-1	130	<0.083	<100	<120	<100	0.076 BJ
Acetone	67-64-1	500	0.0018 J	<5.1	<6.1	<5.1	0.0058
Benzene	71-43-2	44	<0.0041	<5.1	<6.1	<5.1	<0.0048
n-Butylbenzene	104-51-8	500	0.0019 J	35	25	29	0.0018 J
Carbon tetrachloride	56-23-5	22	<0.0041	<5.1	<6.1	<5.1	<0.0048
Chlorobenzene	108-90-7	500	<0.0041	<5.1	<6.1	<5.1	<0.0048
Chloroform	67-66-3	350	<0.0041	<5.1	<6.1	<5.1	<0.0048
Ethylbenzene	100-41-4	390	<0.0041	<5.1	<6.1	<5.1	<0.0048
Methyl ethyl ketone (2-Butanone)	78-93-3	500	<0.0041	<5.1	<6.1	<5.1	<0.0048
Methyl tert-butyl ether	1634-04-4	500	<0.0041	<5.1	<6.1	<5.1	<0.0048
Methylene chloride	75-09-2	500	<0.0041	<5.1	<6.1	<5.1	<0.0048
n -Propylbenzene	103-65-1	500	0.001 J	13	62	41	0.003 J
sec-Butylbenzene	135-98-8	500	0.0017 J	31	31	39	0.0018 J
tert-Butylbenzene	98-06-6	500	<0.0041	6.1	5.7 J	5.7	<0.0048
Tetrachloroethene	127-18-4	150	0.0051	<5.1	<6.1	<5.1	0.0013 J
Toluene	108-88-3	500	<0.0041	<5.1	<6.1	<5.1	<0.0048
Trichloroethene	79-01-6	200	<0.0041	<5.1	<6.1	<5.1	<0.0048
1,2,4-Trimethylbenzene	95-63-6	190	<0.0041	<5.1	<6.1	<5.1	<0.0048
1,3,5-Trimethylbenzene	108-67-8	190	<0.0041	<5.1	<6.1	<5.1	<0.0048
Vinyl chloride	75-01-4	13	<0.0041	<5.1	<6.1	<5.1	<0.0048
Xylene (mixed)	1330-20-7	500	<0.0041	<5.1	<6.1	<5.1	<0.0048

Notes:

\* Hexachlorobenzene data is presented in Table 8A.

[1] Soil Cleanup Objectives are obtained from 6 NYCRR Subpart 375-6.8(b), Restricted Commercial Use, for Protection of Public Health.

 Shaded value indicates the reported concentration is greater than the 6 NYCRR Subpart 375-6.8(b) Protection of Groundwater Soil Cleanup Objective.

Laboratory Qualifiers:

- < Indicates the parameter was not detected at or above the laboratory reporting limit.
- B The compound was also detected in the associated method blank.
- J Indicates an estimated value because the parameter was detected below the reporting limit.

Table 9A  
Comparison of Soil Sample Results for Internal Discharge Pit Excavation and Associated Piping to 6 NYCRR Part 375 Restricted Commercial Use Soil Cleanup Objectives  
442 Waverly Avenue  
Semi-Volatile Organic Compounds  
Site #C360108

Sample ID		Soil Cleanup Objectives [1]	Int-Dis-N-Wall	Int-Dis-S-Wall	Int-Dis-E-Wall	Int-Dis-W-Wall	Int-Dis-Bot	E-4"-Iron-Pip-Int-Dis	W-8"-PVC-Pipe-Int.-Dis.	SW-4"-Iron-Pipe-Int-Dis	SW-4"-Iron-Pipe-Int-Dis-Sludge
Location			North Sidewall	South Sidewall	East Sidewall	West Sidewall	Bottom	East Pipe	West Pipe	Southwest Pipe	Sludge found in Pipe
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Sample Date			10/12/10	10/12/10	10/12/10	10/12/10	10/12/10	10/12/10	10/12/10	10/12/10	10/12/10
Parameter	CAS#										
Semivolatile Organic Compounds:											
Acenaphthene	83-32-9	500	<0.340	<0.350	<0.360	<0.350	<0.360	<0.390	<0.370	<2	<5.4
Acenaphthylene	208-96-8	500	<0.340	<0.350	<0.360	<0.350	<0.360	<0.390	<0.370	<2	<5.4
Anthracene	120-12-7	500	<0.340	<0.350	<0.360	<0.350	<0.360	<0.390	<0.370	<2	<5.4
Benzo(a)anthracene	56-55-3	5.6	<0.340	<0.350	<0.360	<0.350	<0.360	0.044 J	<0.370	0.55 J	<5.4
Benzo(a)pyrene	50-32-8	1	<0.340	<0.350	<0.360	<0.350	<0.360	0.055 J	<0.370	0.63 J	<5.4
Benzo(b)fluoranthene	205-99-2	5.6	<0.340	<0.350	<0.360	<0.350	<0.360	0.096 J	<0.370	0.93 J	<5.4
Benzo(g,h,i)perylene	191-24-2	500	<0.340	<0.350	<0.360	<0.350	<0.360	<0.390	<0.370	0.41 J	<5.4
Benzo(k)fluoranthene	207-08-9	56	<0.340	<0.350	<0.360	<0.350	<0.360	<0.390	<0.370	0.48 J	<5.4
Chrysene	218-01-9	56	<0.340	<0.350	<0.360	<0.350	<0.360	0.063 J	<0.370	0.64 J	<5.4
Dibenzo(a,h)anthracene	53-70-3	0.56	<0.340	<0.350	<0.360	<0.350	<0.360	<0.390	<0.370	<2	<5.4
Fluoranthene	206-44-0	500	<0.340	<0.350	<0.360	<0.350	<0.360	0.068 J	<0.370	0.68 J	<5.4
Fluorene	86-73-7	500	<0.340	<0.350	<0.360	<0.350	<0.360	<0.390	<0.370	<2	<5.4
Hexachlorobenzene	1118-74-1	6	<0.340	<0.350	<0.360	<0.350	<0.360	<0.390	<0.370	<2	<5.4
Indeno(1,2,3-cd)pyrene	193-39-5	5.6	<0.340	<0.350	<0.360	<0.350	<0.360	<0.390	<0.370	0.38 J	<5.4
m&p-Cresol (3&4-Methylphenol)	106-44-5	500 [2]	<0.340	<0.350	<0.360	<0.350	<0.360	<0.390	<0.370	<2	<5.4
Naphthalene	91-20-3	500	<0.340	<0.350	<0.360	<0.350	<0.360	<0.390	<0.370	<2	2.5 J
o-Cresol (2-Methylphenol)	95-48-7	500	<0.340	<0.350	<0.360	<0.350	<0.360	<0.390	<0.370	<2	<5.4
Pentachlorophenol	87-86-5	6.7	<0.690	<0.700	<0.720	<0.700	<0.740	<0.780	<0.750	<4	<110
Phenanthrene	85-01-8	500	<0.340	<0.350	<0.360	<0.350	<0.360	<0.390	<0.370	<2	<5.4
Phenol	108-95-2	500	<0.340	<0.350	<0.360	<0.350	<0.360	<0.390	<0.370	<2	<5.4
Pyrene	129-00-0	500	<0.340	<0.350	<0.360	<0.350	<0.360	0.067 J	<0.370	0.7 J	<5.4

Notes:  
[1] Soil Cleanup Objectives are obtained from 6 NYCRR Subpart 375-6.8(b), Restricted Commercial Use, for Protection of Public Health.  
[2] Sample results combine m- and p-Cresol. The individual SCO for both m-cresol and p-cresol is shown.

Laboratory Qualifiers:  
< Indicates the parameter was not detected at or above the laboratory reporting limit.  
J Indicates an estimated value because the parameter was detected below the reporting limit.

Table 9B  
Comparison of Soil Sample Results for Internal Discharge Pit Excavation and Associated Piping to 6 NYCRR Part 375 Restricted Commercial use Soil Cleanup Objectives  
442 Waverly Avenue  
Volatile Organic Compounds  
Site #C360108

Sample ID		Soil Cleanup Objectives [1]	Int-Dis-N-Wall	Int-Dis-S-Wall	Int-Dis-E-Wall	Int-Dis-W-Wall	Int-Dis-Bot	E-4"-Iron-Pip-Int-Dis	W-8"-PVC-Pipe-Int.-Dis.	SW-4"-Iron-Pipe-Int-Dis
Location			North Sidewall	South Sidewall	East Sidewall	West Sidewall	Bottom	East Pipe	West Pipe	Southwest Pipe
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Sample Date			10/12/10	10/12/10	10/12/10	10/12/10	10/12/10	10/12/10	10/12/10	10/12/10
Parameter	CAS#									
<i>Volatile Organic Compounds: *</i>										
1,1,1-Trichloroethane	71-55-6	500	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
1,1-Dichloroethane	75-34-3	240	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
1,1-Dichloroethene	75-35-4	500	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
1,2-Dichlorobenzene	95-50-1	500	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
1,2-Dichloroethane	107-06-2	30	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
cis -1,2-Dichloroethene	156-59-2	500	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
trans-1,2-Dichloroethene	156-60-5	500	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
1,3-Dichlorobenzene	541-73-1	280	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
1,4-Dichlorobenzene	106-46-7	130	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
1,4-Dioxane	123-91-1	130	<0.076	<0.082	<0.079	<0.093	<0.076	<0.068	<0.077	<0.097
Acetone	67-64-1	500	<0.0038	<0.0041	<0.0039	0.0021 J	0.0017 J	<0.0034	0.0058	0.011
Benzene	71-43-2	44	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
n-Butylbenzene	104-51-8	500	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	0.0013 J	<0.0049
Carbon tetrachloride	56-23-5	22	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
Chlorobenzene	108-90-7	500	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
Chloroform	67-66-3	350	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
Ethylbenzene	100-41-4	390	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
Methyl ethyl ketone (2-Butanone)	78-93-3	500	<0.0038	<0.0041	<0.0039	0.0039 J	<0.0038	<0.0034	<0.0038	<0.0049
Methyl tert-butyl ether	1634-04-4	500	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
Methylene chloride	75-09-2	500	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
n -Propylbenzene	103-65-1	500	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	0.0011 J	<0.0049
sec-Butylbenzene	135-98-8	500	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	0.00094 J	<0.0049
tert-Butylbenzene	98-06-6	500	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
Tetrachloroethene	127-18-4	150	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	0.00095 J	<0.0038	<0.0049
Toluene	108-88-3	500	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	0.012
Trichloroethene	79-01-6	200	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
1,2,4-Trimethylbenzene	95-63-6	190	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
1,3,5-Trimethylbenzene	108-67-8	190	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
Vinyl chloride	75-01-4	13	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	<0.0038	<0.0049
Xylene (mixed)	1330-20-7	500	<0.0038	<0.0041	<0.0039	<0.0047	<0.0038	<0.0034	0.00078 J	0.0017 J

Notes:

- \* Hexachlorobenzene data is presented in Table 9A.
- [1] Soil Cleanup Objectives are obtained from 6 NYCRR Subpart 375-6.8(b), Restricted Commercial Use, for Protection of Public Health.

Laboratory Qualifiers:

- < Indicates the parameter was not detected at or above the laboratory reporting limit.
- J Indicates an estimated value because the parameter was detected below the reporting limit.



**Table 10A**  
**Comparison of Soil Sample Results for Sump Pump Pit Excavation and Associated Piping to**  
**6 NYCRR Part 375 Restricted Commercial Use Soil Cleanup Objectives**  
**442 Waverly Avenue**  
**Semi-Volatile Organic Compounds**  
**Site #C360108**

Sample ID		Soil Cleanup Objectives [1]	Sump-Pit-Bot	N-Sewer-Pipe-Sump-Pit	W-Sewer-Pipe-Sump-Pit	W-Sewer-Pipe-Sump-Pit
Location			Bottom	North Sump Pit	West Sump Pit	Sludge
Unit		ppm	ppm	ppm	ppm	Sludge found in Pipe
Sample Date			10/12/10	10/12/10	10/12/10	10/12/10
Parameter	CAS#					
<b>Semivolatile Organic Compounds:</b>						
Acenaphthene	83-32-9	500	<0.390	<1.9	<0.400	0.45 J
Acenaphthylene	208-96-8	500	<0.390	<1.9	<0.400	<3.6
Anthracene	120-12-7	500	<0.390	<1.9	<0.400	<3.6
Benzo(a)anthracene	56-55-3	5.6	0.21 J	0.37 J	<0.400	<3.6
Benzo(a)pyrene	50-32-8	1	0.18 J	0.41 J	<0.400	<3.6
Benzo(b)fluoranthene	205-99-2	5.6	0.32 J	0.76 J	<0.400	0.48 J
Benzo(g,h,i)perylene	191-24-2	500	0.11 J	0.26 J	<0.400	<3.6
Benzo(k)fluoranthene	207-08-9	56	0.13 J	0.44 J	<0.400	<3.6
Chrysene	218-01-9	56	0.24 J	0.44 J	<0.400	0.7 J
Dibenzo(a,h)anthracene	53-70-3	0.56	<0.390	<1.9	<0.400	<3.6
Fluoranthene	206-44-0	500	0.36 J	0.47 J	<0.400	0.76 J
Fluorene	86-73-7	500	<0.390	<1.9	<0.400	<3.6
Hexachlorobenzene	1118-74-1	6	<0.390	<1.9	<0.400	<3.6
Indeno(1,2,3-cd)pyrene	193-39-5	5.6	0.1 J	0.24 J	<0.400	<3.6
m&p-Cresol (3&4-Methylphenol)	106-44-5	500 [2]	<0.390	<1.9	<0.400	<3.6
Naphthalene	91-20-3	500	<0.390	<1.9	<0.400	<3.6
o-Cresol (2-Methylphenol)	95-48-7	500	<0.390	<1.9	<0.400	<3.6
Pentachlorophenol	87-86-5	6.7	<800	<3.8	<0.820	<7.3
Phenanthrene	85-01-8	500	0.11 J	<1.9	<0.400	0.93 J
Phenol	108-95-2	500	<0.390	<1.9	<0.400	<3.6
Pyrene	129-00-0	500	0.33 J	0.5 J	<0.400	1.3 J

**Notes:**

[1] Soil Cleanup Objectives are obtained from 6 NYCRR Subpart 375-6.8(b), Restricted Commercial Use, for Protection of Public Health.

[2] Sample results combine m- and p-Cresol. The individual SCO for both m-cresol and p-cresol is shown.

**Laboratory Qualifiers:**

< Indicates the parameter was not detected at or above the laboratory reporting limit.

J Indicates an estimated value because the parameter was detected below the reporting limit.

Table 10B  
Comparison of Soil Sample Results for Sump Pump Pit Excavation and Associated Piping to  
6 NYCRR Part 375 Restricted Commercial use Soil Cleanup Objectives  
442 Waverly Avenue  
Volatile Organic Compounds  
Site #C360108

Sample ID		Soil Cleanup Objectives [1]	Sump-Pit-Bot	N-Sewer-Pipe-Sump-Pit	W-Sewer-Pipe-Sump-Pit
Location			Bottom	North Sump Pit	West Sump Pit
Unit			ppm	ppm	ppm
Sample Date			10/12/10	10/12/10	10/12/10
Parameter	CAS#				
Volatile Organic Compounds: *					
1,1,1-Trichloroethane	71-55-6	500	<0.0038	<0.004	<0.0037
1,1-Dichloroethane	75-34-3	240	<0.0038	<0.004	<0.0037
1,1-Dichloroethene	75-35-4	500	<0.0038	0.0029 J	<0.0037
1,2-Dichlorobenzene	95-50-1	500	<0.0038	<0.004	<0.0037
1,2-Dichloroethane	107-06-2	30	<0.0038	<0.004	<0.0037
cis -1,2-Dichloroethene	156-59-2	500	<0.0038	0.0011 J	<0.0037
trans-1,2-Dichloroethene	156-60-5	500	<0.0038	<0.004	<0.0037
1,3-Dichlorobenzene	541-73-1	280	<0.0038	<0.004	<0.0037
1,4-Dichlorobenzene	106-46-7	130	<0.0038	<0.004	<0.0037
1,4-Dioxane	123-91-1	130	<0.075	<0.08	<0.074
Acetone	67-64-1	500	0.002 J	0.022	0.0019 J
Benzene	71-43-2	44	<0.0038	<0.004	<0.0037
n-Butylbenzene	104-51-8	500	0.0021 J	0.017	<0.0037
Carbon tetrachloride	56-23-5	22	<0.0038	<0.004	<0.0037
Chlorobenzene	108-90-7	500	<0.0038	<0.004	<0.0037
Chloroform	67-66-3	350	<0.0038	<0.004	<0.0037
Ethylbenzene	100-41-4	390	<0.0038	<0.004	<0.0037
Methyl ethyl ketone (2-Butanone)	78-93-3	500	<0.0038	<0.004	<0.0037
Methyl tert-butyl ether	1634-04-4	500	<0.0038	<0.004	<0.0037
Methylene chloride	75-09-2	500	<0.0038	<0.004	<0.0037
n -Propylbenzene	103-65-1	500	0.0018 J	0.011	<0.0037
sec-Butylbenzene	135-98-8	500	0.0024 J	0.026	<0.0037
tert-Butylbenzene	98-06-6	500	<0.0038	0.0063	<0.0037
Tetrachloroethene	127-18-4	150	0.0016 J	0.0021 J	<0.0037
Toluene	108-88-3	500	<0.0038	<0.004	<0.0037
Trichloroethene	79-01-6	200	<0.0038	<0.004	<0.0037
1,2,4-Trimethylbenzene	95-63-6	190	0.0017 J	0.022	<0.0037
1,3,5-Trimethylbenzene	108-67-8	190	<0.0038	0.02	<0.0037
Vinyl chloride	75-01-4	13	<0.0038	<0.004	<0.0037
Xylene (mixed)	1330-20-7	500	<0.0038	<0.004	<0.0037

Notes:  
\* Hexachlorobenzene data is presented in Table 10A.  
[1] Soil Cleanup Objectives are obtained from 6 NYCRR Subpart 375-6.8(b), Restricted Commercial Use, for Protection of Public Health.

Laboratory Qualifiers:  
< Indicates the parameter was not detected at or above the laboratory reporting limit.  
J Indicates an estimated value because the parameter was detected below the reporting limit.

**Table 11**  
**Comparison of Soil Vapor Analytical Results to VOCs Detected in Groundwater**

VOC Detected in Groundwater	Sub-Slab Vapor Samples		Indoor Air Sample	Outdoor Air Sample
	Basement SS-1A	Duplicate SS-1B	Basement IA-1	OA-1
Benzene	X	X	X	X
cis – 1,2- Dichloroethene	---	---	X	---
1,2 - Dichloroethane	X	X	---	---
Hexachlorobutadiene	---	---	---	---
tert-Butylbenzene	NA	NA	NA	NA
Methyl tert-Butyl Ether	---	---	---	---
Tetrachloroethylene (PCE)	---	X	---	---
Trans-1,2-Dichloroethene	---	---	---	---
Trichloroethene (TCE)	X	X	X	X
Vinyl Chloride	---	---	---	---

X indicates compound detected in sample location.

--- indicates compound not detected in sample location.

NA indicates compounds not analyzed for.

**Table 12**  
**Sub-Slab Vapor and Indoor Air Analytical Results**  
**Comparison to Air Guideline Values and NYSDOH Decision Matrices**

Parameter	Sub-Slab Vapor Samples		Indoor Air Sample Basement IA-1	Air Guideline Value <sup>(3)</sup>	Matrix 1 Decision	Matrix 2 Decision
	Basement SS-1A	Duplicate SS-1B				
Carbon Tetrachloride <sup>(1)</sup>	<0.96	<0.96	0.51	NA	IS/RE	NA
1,1 – dichloroethene <sup>(2)</sup>	<0.6	<0.6	6.5	NA	NA	IS/RE
cis-1,2-dichloroethene <sup>(2)</sup>	<0.6	<0.6	1.1	NA	NA	No Action
Tetrachloroethylene <sup>(2)</sup>	<1.0	1.2	<1.0	30	NA	No Action
Trichloroethene <sup>(1)</sup>	1.7	1.6	91	5	IS/RE	NA
1,1,1 – Trichloroethane <sup>(2)</sup>	<0.83	<0.83	<0.83	NA	NA	No Action
Methylene chloride	4.3	14	2.2	60	NA	NA

Notes:

All units are ug/m<sup>3</sup>

- (1) These parameters have previously been assigned by the NYSDOH to Decision Matrix 1 presented in the NYSDOH document “Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York,” (October 2006).
- (2) These parameters have previously been assigned by the NYSDOH to Decision Matrix 2 presented in the NYSDOH document “Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York,” (October 2006).
- (3) Air Guideline Values are derived by the NYSDOH and published in Table 3.1 of the document “Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York,” (October 2006).

< Analyte not detected at a concentration at or above laboratory quantitation limit.

NA Not Applicable

IS/RE Take reasonable and practical actions to identify source(s) and reduce exposures.





**MAP REFERENCE:**

PROPERTY LINE LOCATIONS FOR 441 AND 442 WAVERLY AVENUE ARE BASED ON THE FIGURE PROVIDED BY GEO ENVIRONMENTAL, INC. ENTITLED "FORMER ARGUESO FACILITY" DATED SEPTEMBER 16, 2005.

AERIAL PHOTOGRAPH PROVIDED BY NEW YORK STATE GIS, (2004).

**LEGEND:**

--- PROPERTY BOUNDARY

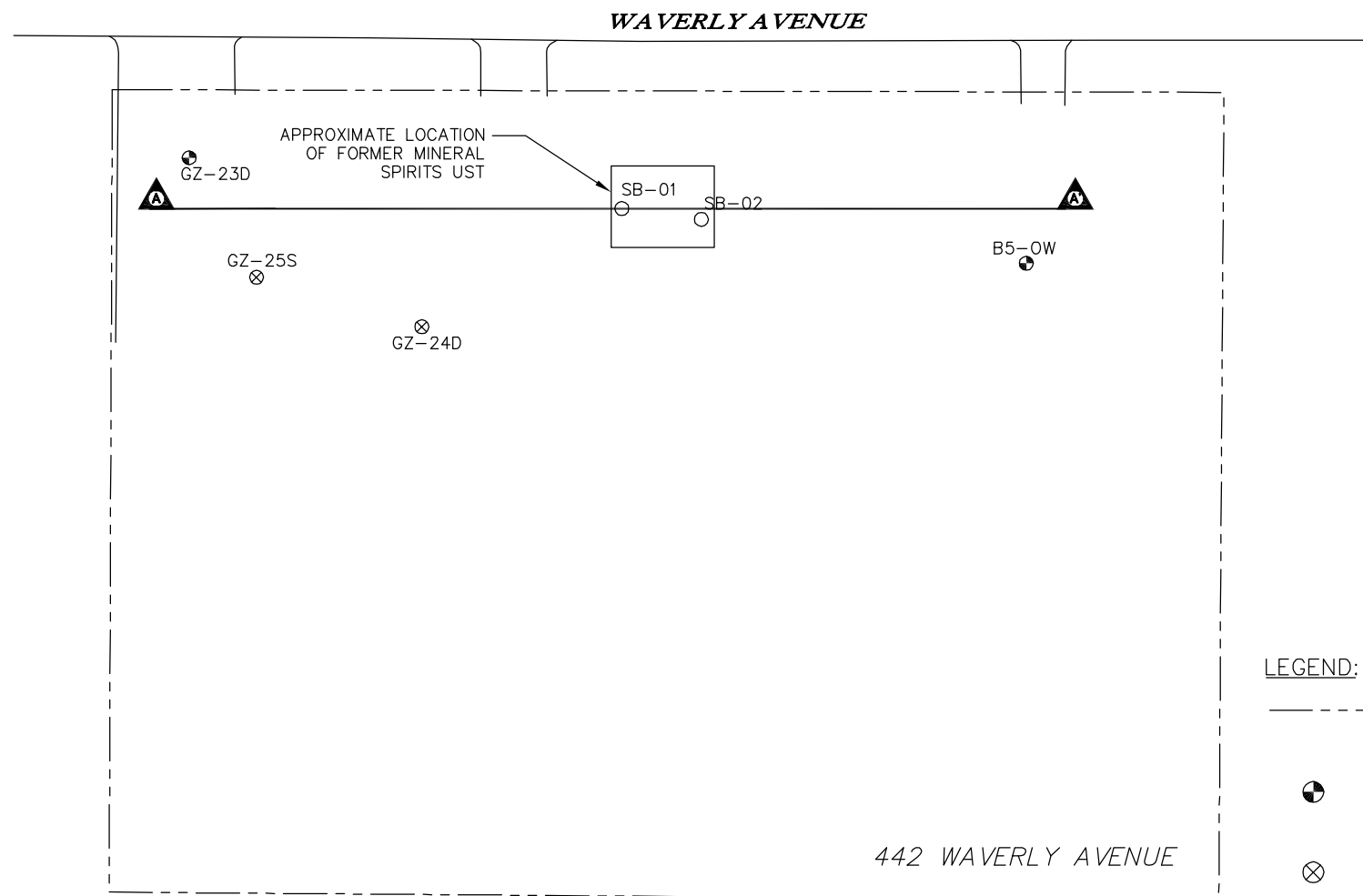
**FIGURE 1**

**STERLING**  
Sterling Environmental Engineering, P.C.  
24 Wade Road ♦ Latham, New York 12110

SITE LOCATION MAP  
441-442 WAVERLY AVENUE  
SITE #C360108  
NEW WAVERLY AVENUE ASSOCIATES, LLC  
V/T OF MAMARONECK WESTCHESTER CO., N.Y.

PROJ. No.: 28012	DATE: 12-14-10	SCALE: 1"=200'	DWG. NO. 28012019	FIGURE 1
------------------	----------------	----------------	-------------------	----------





**LEGEND:**

- APPROXIMATE PROPERTY BOUNDARY
- ⊕ MONITORING WELL SAMPLED IN 2009
- ⊗ DECOMMISSIONED MONITORING WELL
- SOIL BORING

**MAP REFERENCE:**

BASE MAP PROVIDED BY GZA ENVIRONMENTAL, INC.  
ENTITLED "SITE PLAN", DATED 9/16/2005.

**FIGURE 2**

**STERLING**  
Sterling Environmental Engineering, P.C.  
24 Wade Road ♦ Latham, New York 12110

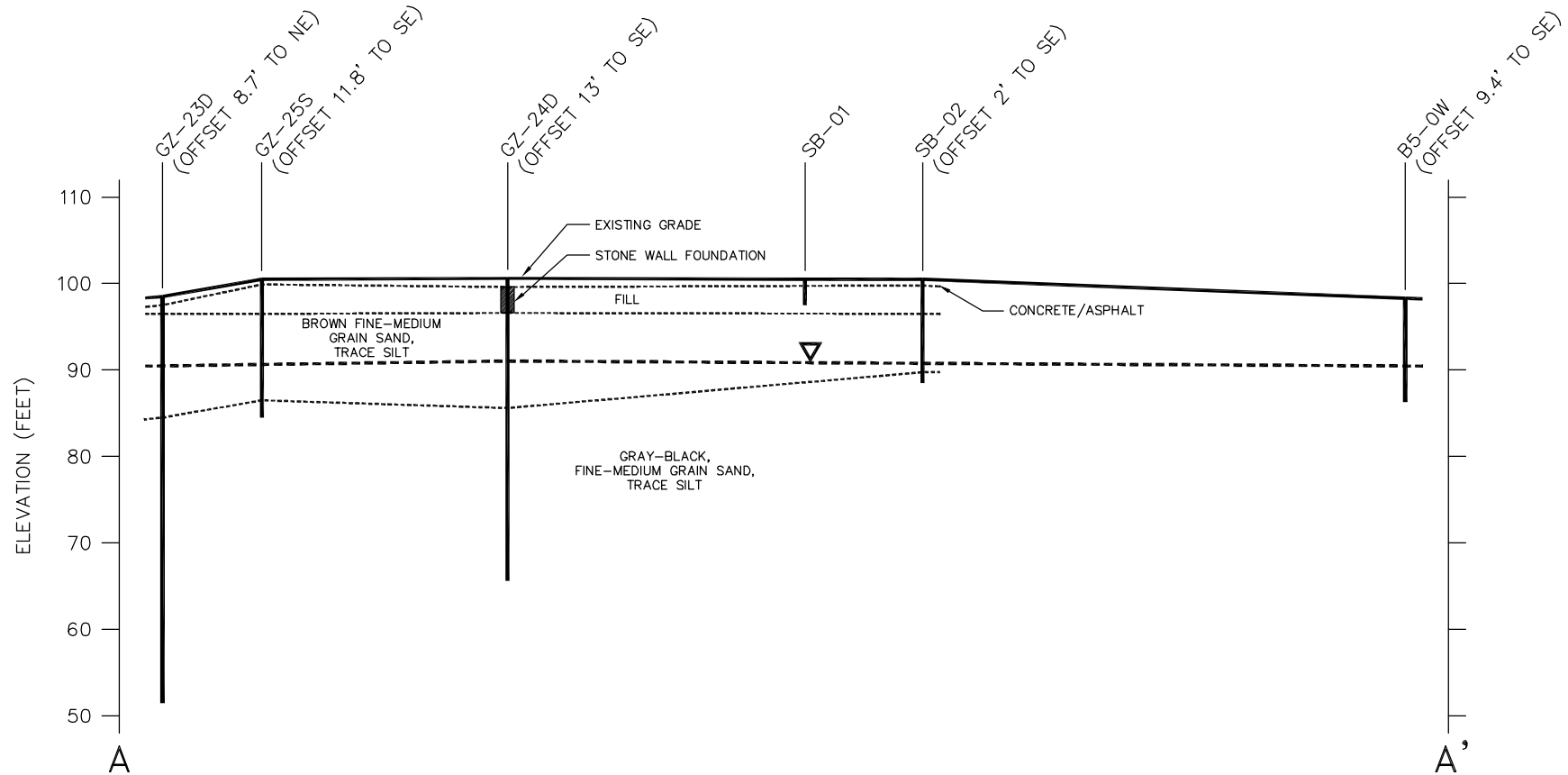
GEOLOGIC CROSS SECTION A-A' LOCATION  
442 WAVERLY AVENUE  
SITE# C360108  
NEW WAVERLY AVENUE ASSOCIATES, LLC

V/T OF MAMARONECK

WESTCHESTER CO., NY



# CROSS SECTION A-A'



---▽--- APPROXIMATE GROUNDWATER ELEVATION FOR OVERBURDEN AQUIFER (AUGUST 2009)  
 HORIZ. & VERT. SCALE: 1"=10'  
 NOTE: SEE FIGURE 2 FOR PLAN LOCATION

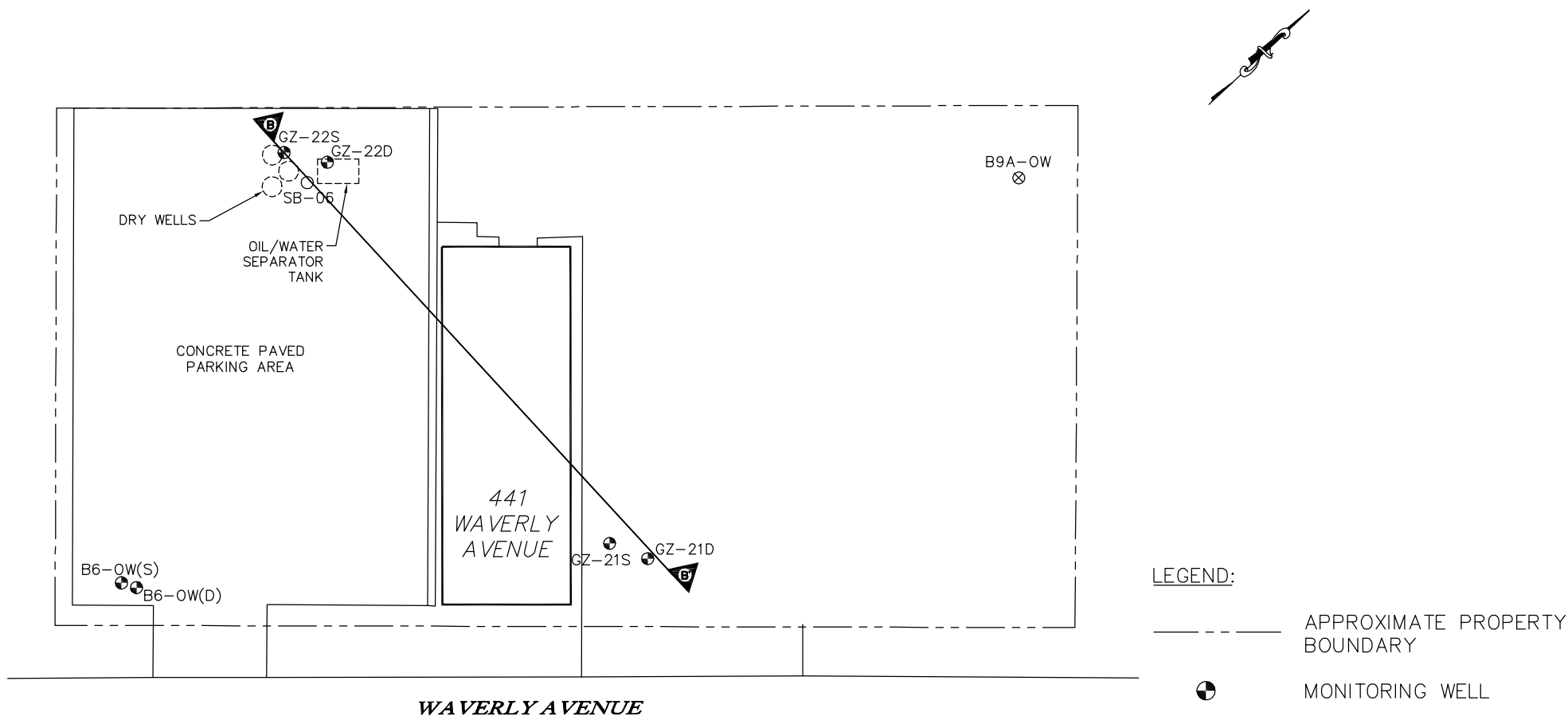
FIGURE 3

**STERLING**  
 Sterling Environmental Engineering, P.C.  
 24 Wade Road ♦ Latham, New York 12110

GEOLOGIC CROSS SECTION A-A'  
 442 WAVERLY AVENUE  
 SITE# C360108  
 NEW WAVERLY AVENUE ASSOCIATES, LLC

V/T OF MAMARONECK

WESTCHESTER CO., NY



MAP REFERENCE:

BASE MAP PROVIDED BY GZA ENVIRONMENTAL, INC.  
ENTITLED "SITE PLAN", DATED 9/16/2005.

**FIGURE 4**

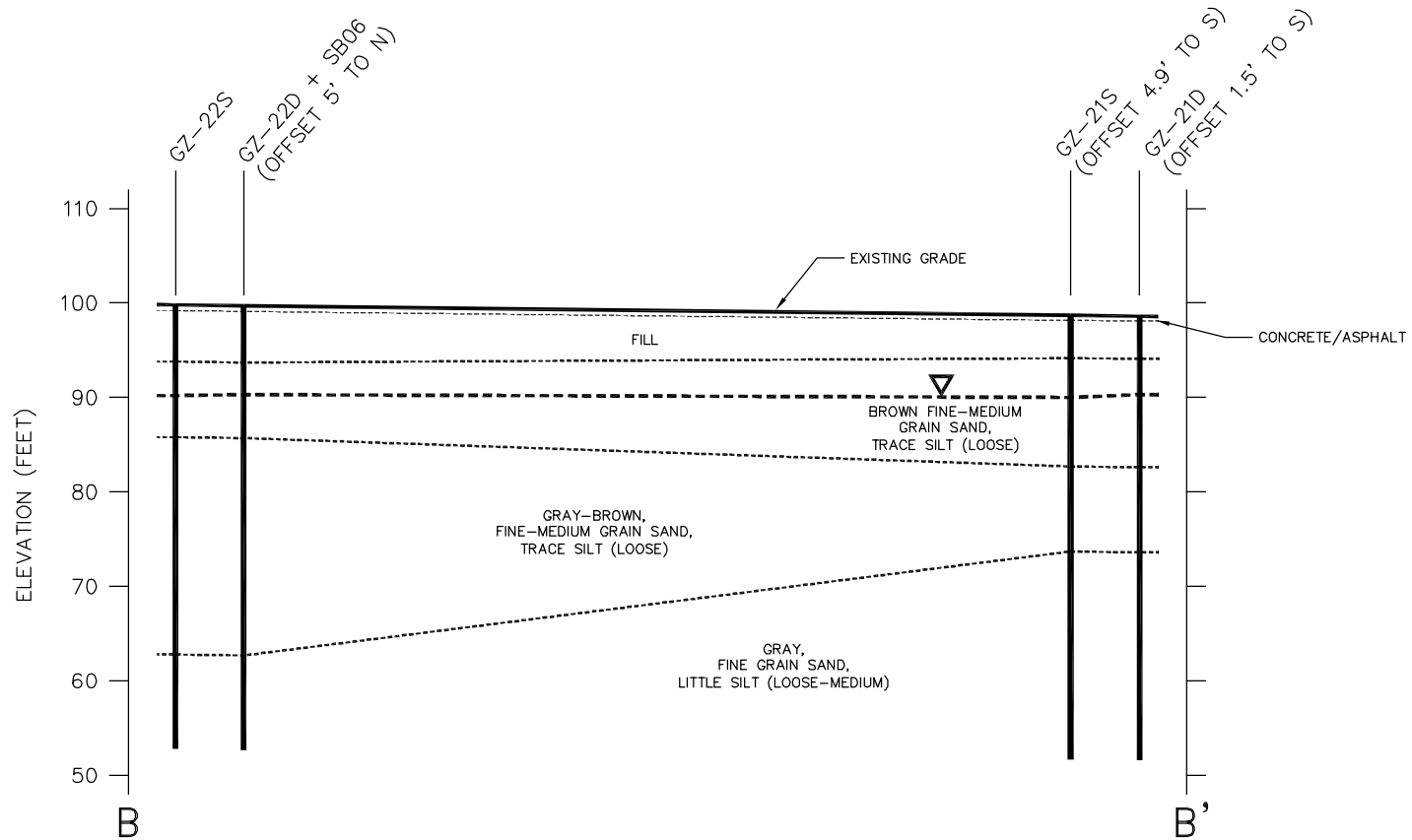
**STERLING**  
Sterling Environmental Engineering, P.C.  
24 Wade Road ♦ Latham, New York 12110

GEOLOGIC CROSS SECTION B-B' LOCATION  
441 WAVERLY AVENUE  
SITE# C360108  
NEW WAVERLY AVENUE ASSOCIATES, LLC

V/T OF MAMARONECK

WESTCHESTER CO., NY

# CROSS SECTION B-B'



---▽--- APPROXIMATE GROUNDWATER ELEVATION FOR OVERBURDEN AQUIFER (AUGUST 2009)  
 HORIZ. & VERT. SCALE: 1"=10'  
 NOTE: SEE FIGURE 4 FOR PLAN LOCATION

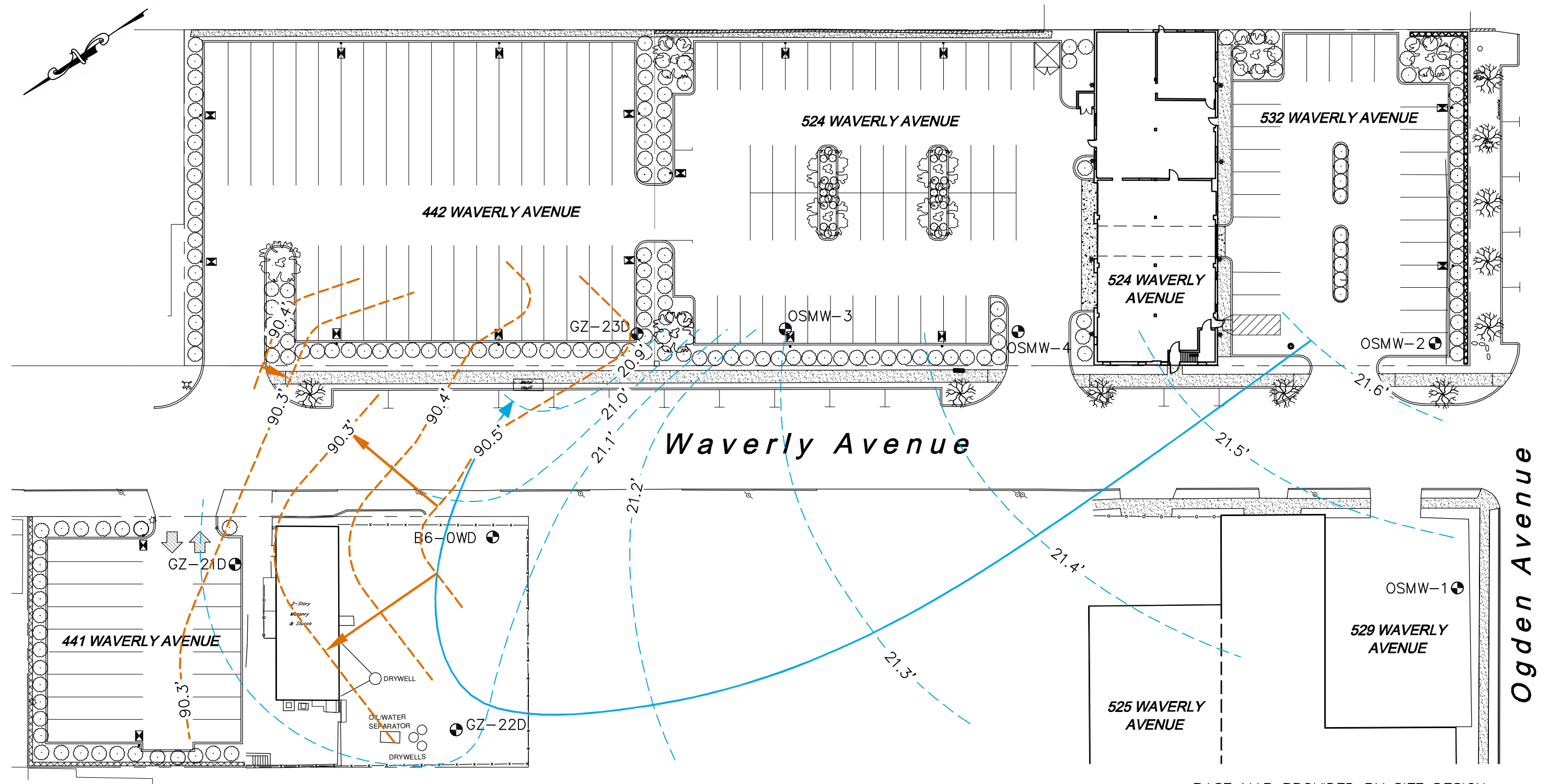
FIGURE 5

**STERLING**  
 Sterling Environmental Engineering, P.C.  
 24 Wade Road ♦ Latham, New York 12110

GEOLOGIC CROSS SECTION B-B'  
 441 WAVERLY AVENUE  
 SITE# C360108  
 NEW WAVERLY AVENUE ASSOCIATES, LLC

V/T OF MAMARONECK

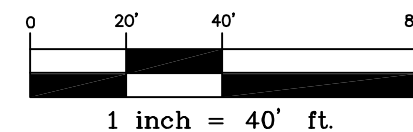
WESTCHESTER CO., NY



LEGEND:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• □ LIGHT POLE</li> <li>⊙ MW-1 MONITORING WELL<br/>GND. = GROUND ELEVATION<br/>M.P. = TOP OF WELL CASING<br/>W.E.L. = GROUNDWATER ELEVATION</li> <li>— 100' — 2012 GROUNDWATER ELEVATION</li> <li>← 2012 INFERRED GROUNDWATER FLOW DIRECTION</li> </ul> | <ul style="list-style-type: none"> <li>--- PROPERTY BOUNDARY</li> <li>— 100' — 2009 GROUNDWATER ELEVATION</li> <li>← 2009 INFERRED GROUNDWATER FLOW DIRECTION</li> </ul> |
|--|--|

NOTE:  
DIFFERENT ELEVATION DATUMS WERE USED  
FOR THE 2009 AND 2012 GROUNDWATER  
ELEVATIONS.

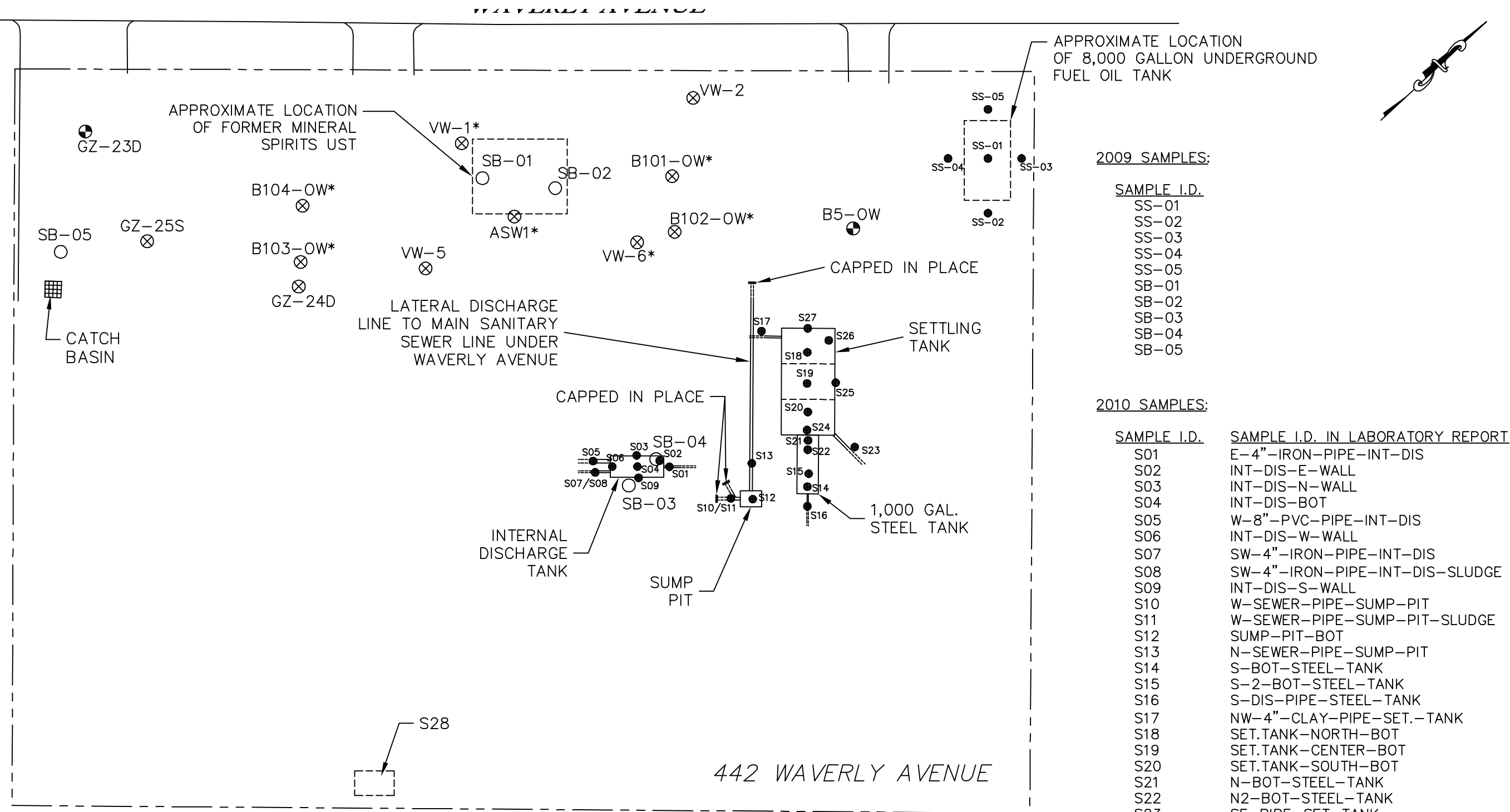


BASE MAP PROVIDED BY SITE DESIGN  
CONSULTANTS, DATED FEBRUARY 22, 2010.

**FIGURE 6**

**STERLING**  
Sterling Environmental Engineering, P.C.  
24 Wade Road • Latham, New York 12110

DECEMBER 2009 AND JANUARY 2012 GROUNDWATER  
ELEVATIONS FOR OVERBURDEN AQUIFER  
SITE# C360108  
**NEW WAVERLY AVENUE ASSOCIATES, LLC**  
V/T OF MAMARONECK WESTCHESTER CO., N.Y.



LEGEND:		
---	---	APPROXIMATE PROPERTY BOUNDARY
⊕	⊕	MONITORING WELL SAMPLED IN 2009
⊗	⊗	DECOMMISSIONED MONITORING WELL
○	○	SOIL BORING
●	●	SOIL SAMPLE LOCATION
*	*	NOT SAMPLED IN 2009

#### 2009 SAMPLES:

##### SAMPLE I.D.

SS-01  
SS-02  
SS-03  
SS-04  
SS-05  
SB-01  
SB-02  
SB-03  
SB-04  
SB-05

#### 2010 SAMPLES:

##### SAMPLE I.D.

##### SAMPLE I.D. IN LABORATORY REPORT

S01	E-4"-IRON-PIPE-INT-DIS
S02	INT-DIS-E-WALL
S03	INT-DIS-N-WALL
S04	INT-DIS-BOT
S05	W-8"-PVC-PIPE-INT-DIS
S06	INT-DIS-W-WALL
S07	SW-4"-IRON-PIPE-INT-DIS
S08	SW-4"-IRON-PIPE-INT-DIS-SLUDGE
S09	INT-DIS-S-WALL
S10	W-SEWER-PIPE-SUMP-PIT
S11	W-SEWER-PIPE-SUMP-PIT-SLUDGE
S12	SUMP-PIT-BOT
S13	N-SEWER-PIPE-SUMP-PIT
S14	S-BOT-STEEL-TANK
S15	S-2-BOT-STEEL-TANK
S16	S-DIS-PIPE-STEEL-TANK
S17	NW-4"-CLAY-PIPE-SET.-TANK
S18	SET.TANK-NORTH-BOT
S19	SET.TANK-CENTER-BOT
S20	SET.TANK-SOUTH-BOT
S21	N-BOT-STEEL-TANK
S22	N2-BOT-STEEL-TANK
S23	SE-PIPE-SET-TANK
S24	SET.TANK-S-WALL
S25	SET.TANK-EAST-WALL
S26	SET.TANK-N-BOTTOM
S27	SET.TANK-NORTH-WALL
S28	SW-TEST-PIT

**FIGURE 7**

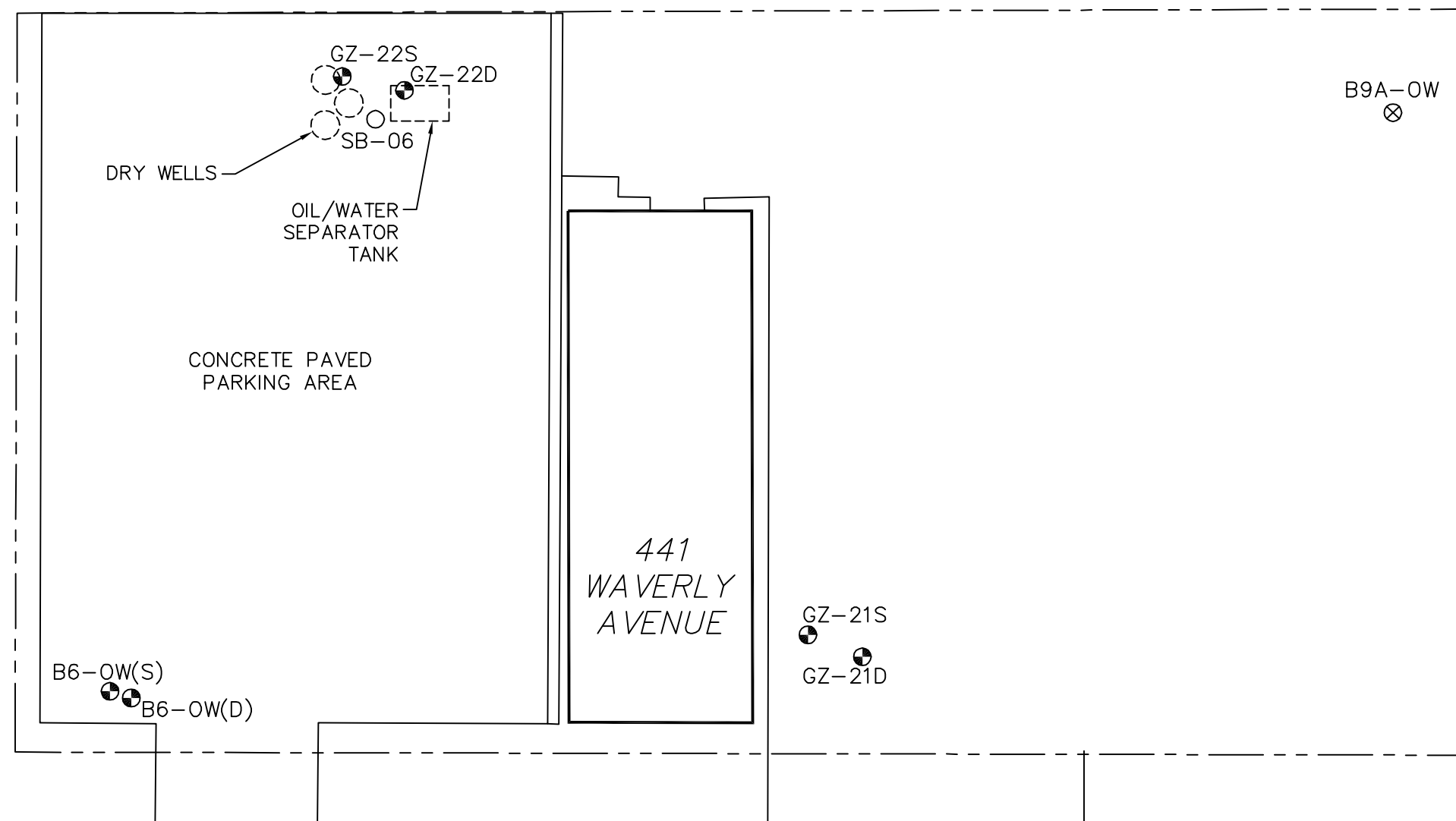
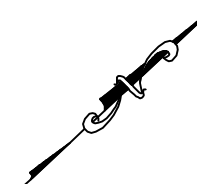
#### MAP REFERENCE:

BASE MAP PROVIDED BY GZA ENVIRONMENTAL, INC.  
ENTITLED "SITE PLAN", DATED 9/16/2005.

**STERLING**  
Sterling Environmental Engineering, P.C.  
24 Wade Road • Latham, New York 12110

2009 AND 2010 SOIL AND GROUNDWATER  
SAMPLE LOCATIONS - 442 WAVERLY AVENUE  
SITE# C360108  
**NEW WAVERLY AVENUE ASSOCIATES, LLC**  
V/T OF MAMARONECK WESTCHESTER CO., N.Y.





**WAVERLY AVENUE**

- LEGEND:**
- APPROXIMATE PROPERTY BOUNDARY
  - MONITORING WELL
  - ⊗ DECOMMISSIONED MONITORING WELL
  - SOIL BORING

**MAP REFERENCE:**

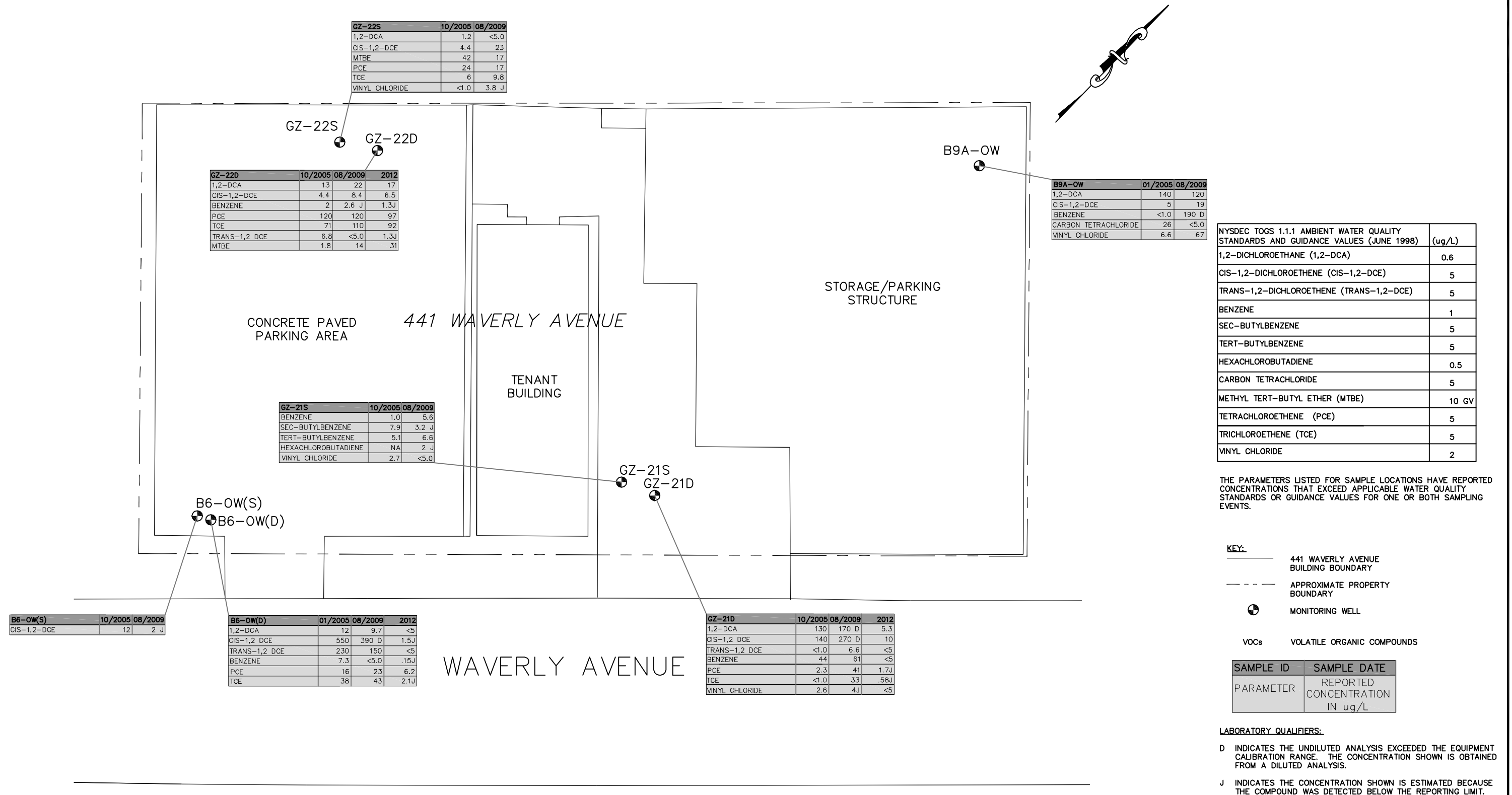
BASE MAP PROVIDED BY GZA ENVIRONMENTAL, INC.  
ENTITLED "SITE PLAN", DATED 9/16/2005.

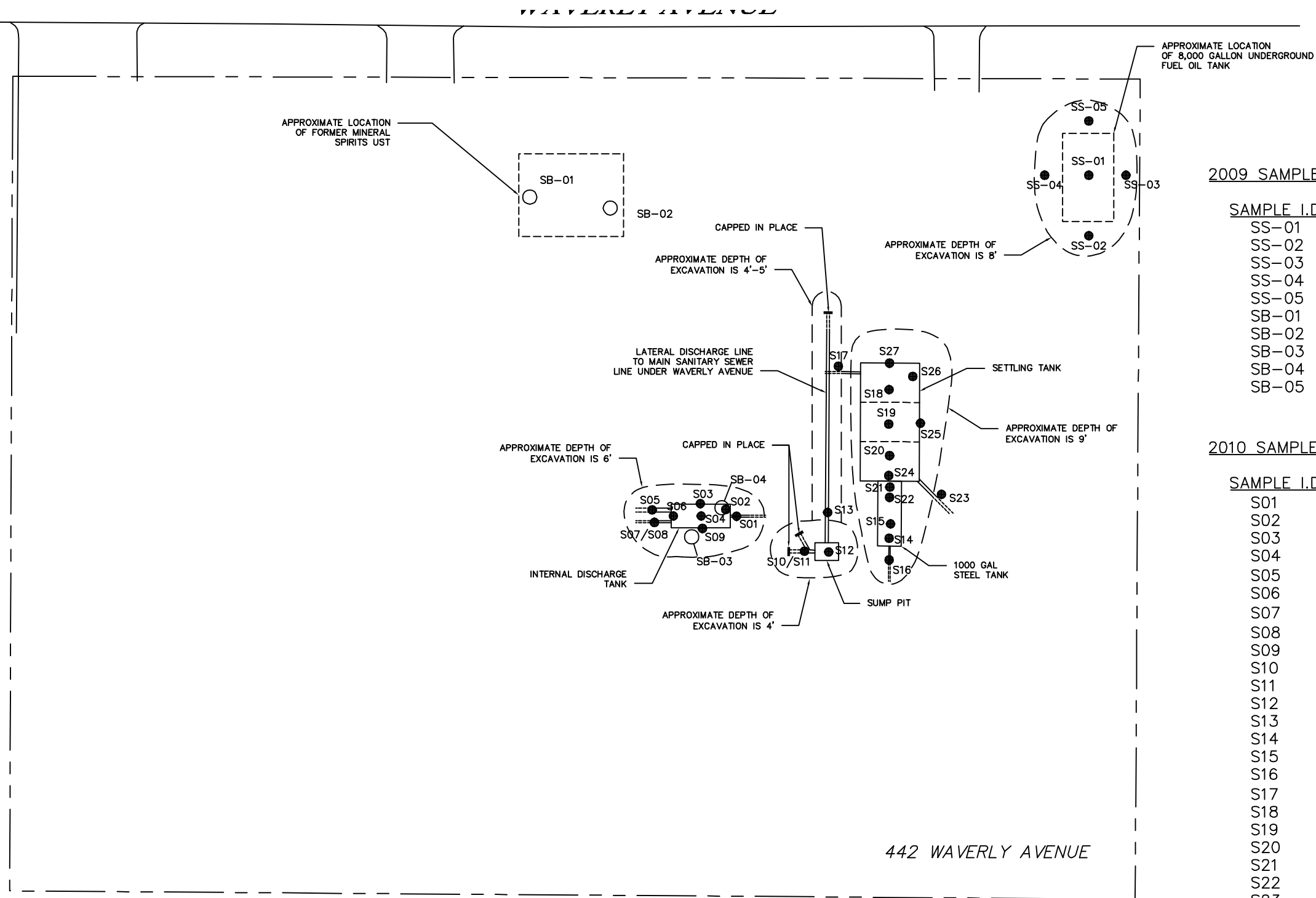
**FIGURE 8**

**STERLING**  
Sterling Environmental Engineering, P.C.  
24 Wade Road • Latham, New York 12110

2009 SOIL AND GROUNDWATER SAMPLE  
LOCATIONS - 441 WAVERLY AVENUE  
SITE# C360108  
**NEW WAVERLY AVENUE ASSOCIATES, LLC**  
V/T OF MAMARONECK WESTCHESTER CO., N.Y.



[illegible]



2009 SAMPLES:

SAMPLE I.D.

SS-01  
SS-02  
SS-03  
SS-04  
SS-05  
SB-01  
SB-02  
SB-03  
SB-04  
SB-05

2010 SAMPLES:

SAMPLE I.D.

SAMPLE I.D. IN LABORATORY REPORT

S01	E-4"-IRON-PIPE-INT-DIS
S02	INT-DIS-E-WALL
S03	INT-DIS-N-WALL
S04	INT-DIS-BOT
S05	W-8"-PVC-PIPE-INT-DIS
S06	INT-DIS-W-WALL
S07	SW-4"-IRON-PIPE-INT-DIS
S08	SW-4"-IRON-PIPE-INT-DIS-SLUDGE
S09	INT-DIS-S-WALL
S10	W-SEWER-PIPE-SUMP-PIT
S11	W-SEWER-PIPE-SUMP-PIT-SLUDGE
S12	SUMP-PIT-BOT
S13	N-SEWER-PIPE-SUMP-PIT
S14	S-BOT-STEEL-TANK
S15	S-2-BOT-STEEL-TANK
S16	S-DIS-PIPE-STEEL-TANK
S17	NW-4"-CLAY-PIPE-SET.-TANK
S18	SET.TANK-NORTH-BOT
S19	SET.TANK-CENTER-BOT
S20	SET.TANK-SOUTH-BOT
S21	N-BOT-STEEL-TANK
S22	N2-BOT-STEEL-TANK
S23	SE-PIPE-SET-TANK
S24	SET.TANK-S-WALL
S25	SET.TANK-EAST-WALL
S26	SET.TANK-N-BOTTOM
S27	SET.TANK-NORTH-WALL
S28	SW-TEST-PIT

LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- SOIL BORING
- SOIL SAMPLE LOCATION
- APPROXIMATE EXTENT OF SOIL EXCAVATION

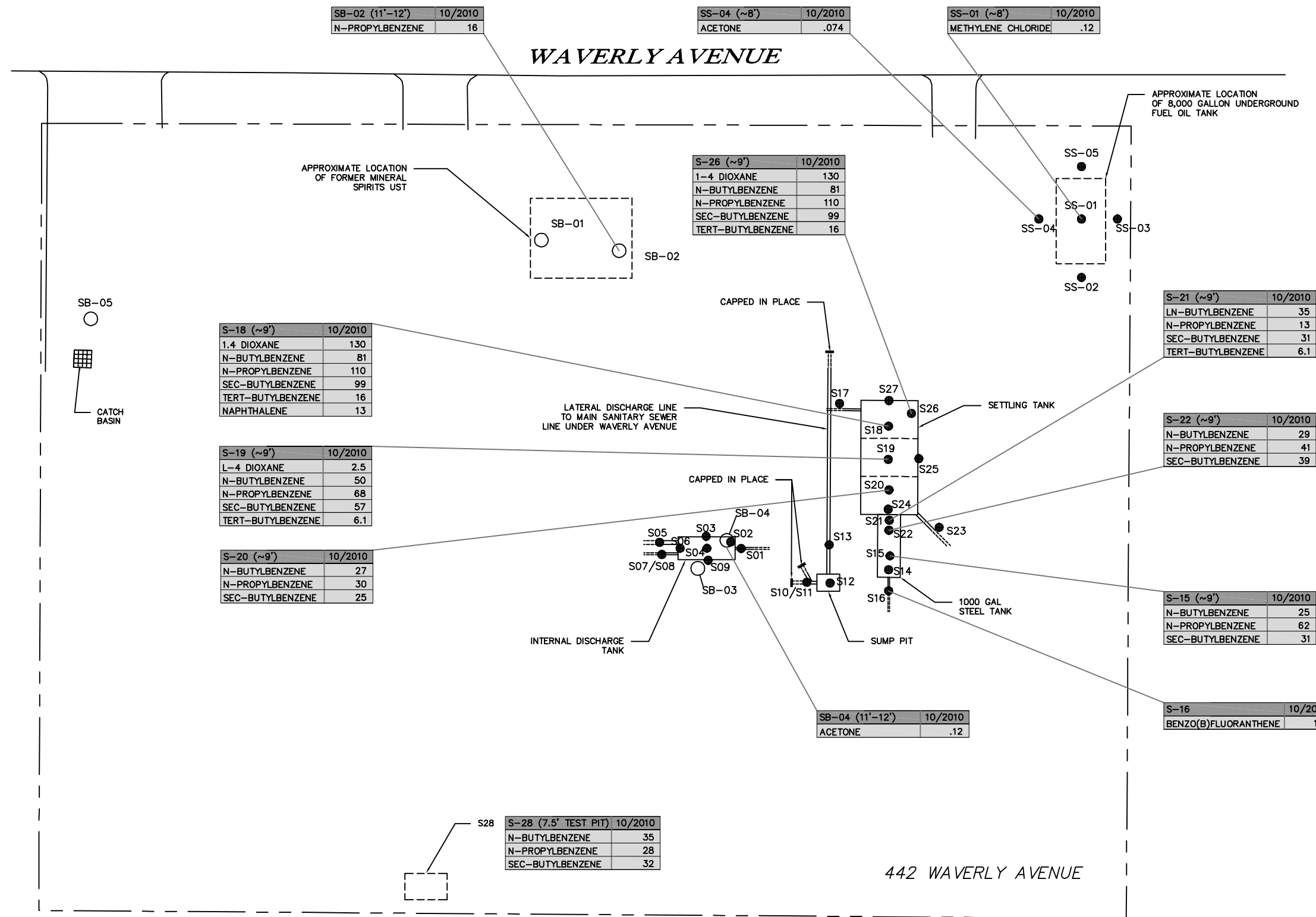
MAP REFERENCE:

BASE MAP PROVIDED BY GZA ENVIRONMENTAL, INC.  
ENTITLED "SITE PLAN", DATED 9/16/2005.

FIGURE 11

**STERLING**  
Sterling Environmental Engineering, P.C.  
24 Wade Road • Latham, New York 12110

TANK LOCATIONS & EXTENT OF REMEDIAL  
EXCAVATIONS - 442 WAVERLY AVENUE  
SITE# C360108  
**NEW WAVERLY AVENUE ASSOCIATES, LLC**  
V/T OF MAMARONECK WESTCHESTER CO., N.Y.



6 NYCRR PART 375-6.8 (a) UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCOs)	(PPM)
1-4 DIOXANE	.01
N-BUTYLBENZENE	12
N-PROPYLBENZENE	3.9
SEC-BUTYLBENZENE	11
TERT-BUTYLBENZENE	5.9
ACETONE	.005

THE PARAMETERS LISTED FOR SAMPLE LOCATIONS HAVE REPORTED CONCENTRATIONS THAT EXCEED THE APPLICABLE PART 375-6.8 UNRESTRICTED USE SOIL CLEANUP OBJECTIVES,

SAMPLE ID (DEPTH)	DATE SAMPLED
PARAMETER	REPORTED CONCENTRATION IN PPM (MG/KG)

LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- SOIL BORING
- SOIL SAMPLE LOCATION

SAMPLE I.D.	SAMPLE I.D. IN LABORATORY REPORT
SS-01	SS-01
SS-04	SS-04
SB-02	SB-02
S15	S-2-BOT-STEEL-TANK
S16	S-DIS-PIPE-STEEL-TANK
S18	SET.TANK-NORTH-BOT
S19	SET.TANK-CENTER-BOT
S20	SET.TANK-SOUTH-BOT
S21	N-BOT-STEEL-TANK
S22	N2-BOT-STEEL-TANK
S26	SET.TANK-N-BOTTOM
S28	SW-TEST-PIT

FIGURE 12

MAP REFERENCE:

BASE MAP PROVIDED BY GZA ENVIRONMENTAL, INC. ENTITLED "SITE PLAN", DATED 9/16/2005.

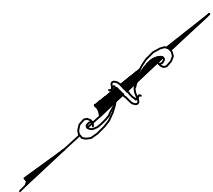
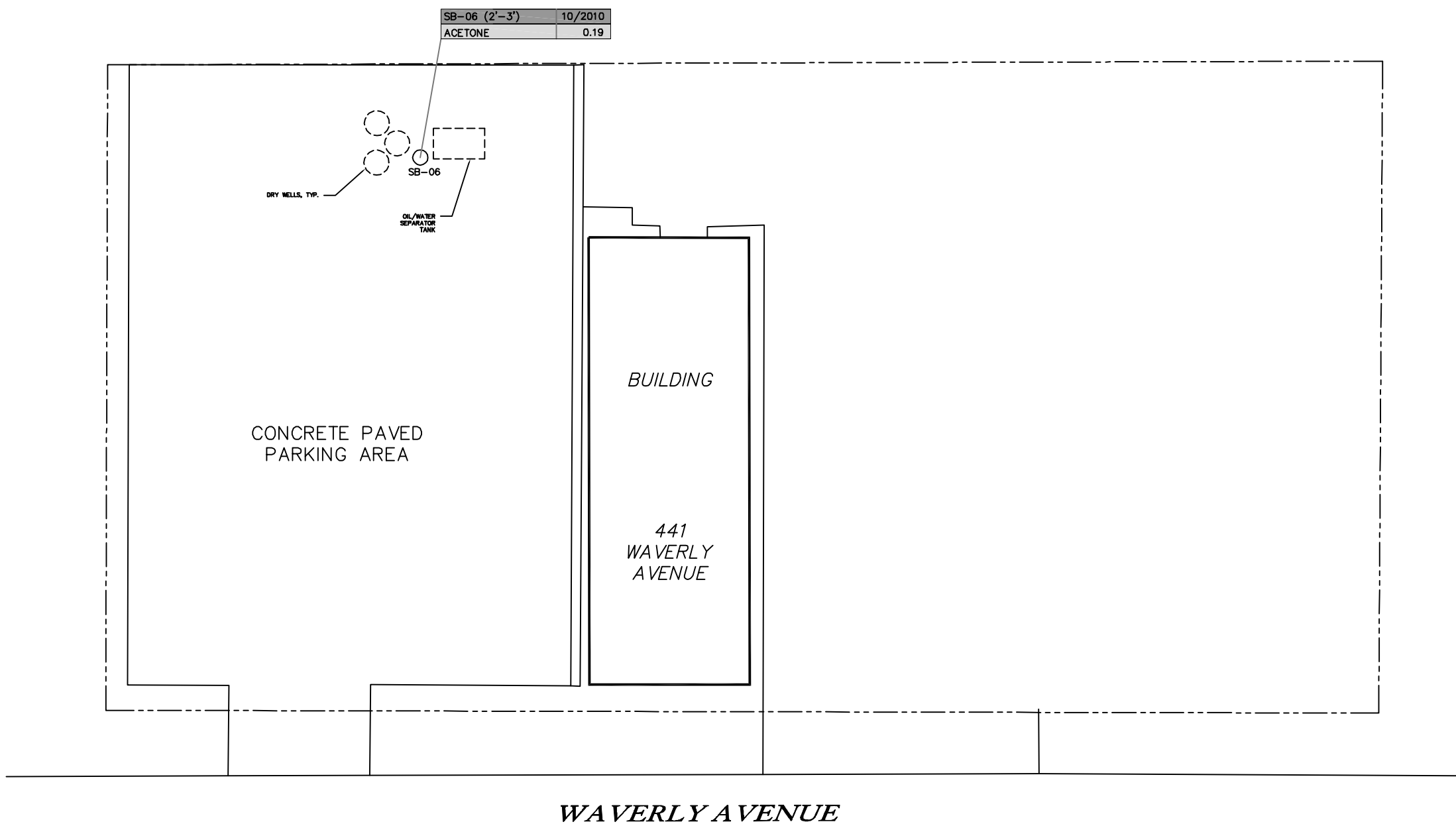
STERLING

Sterling Environmental Engineering, P.C.

24 Wade Road • Latham, New York 12110

LOCATION OF REMAINING SOIL CONTAMINATION ABOVE UNRESTRICTED LEVELS - 442 WAVERLY AVENUE  
SITE# C360108  
NEW WAVERLY AVENUE ASSOCIATES, LLC  
V/T OF MAMARONECK WESTCHESTER CO., N.Y.





6 NYCRR PART 375-6.8 (a)	(PPM)
UNRESTRICTED USE SOIL	
CLEANUP OBJECTIVES (SCOs)	
ACETONE	0.005

THE PARAMETER LISTED FOR SAMPLE LOCATION HAS A REPORTED CONCENTRATION THAT EXCEEDS THE APPLICABLE PART 375-6.8 UNRESTRICTED USE SOIL CLEANUP OBJECTIVE,

SAMPLE ID (DEPTH)	DATE SAMPLED
PARAMETER	REPORTED CONCENTRATION IN PPM (MG/KG)

LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- SOIL BORING

SAMPLE I.D.	SAMPLE I.D. IN LABORATORY REPORT
SB-06	SB-06

MAP REFERENCE:

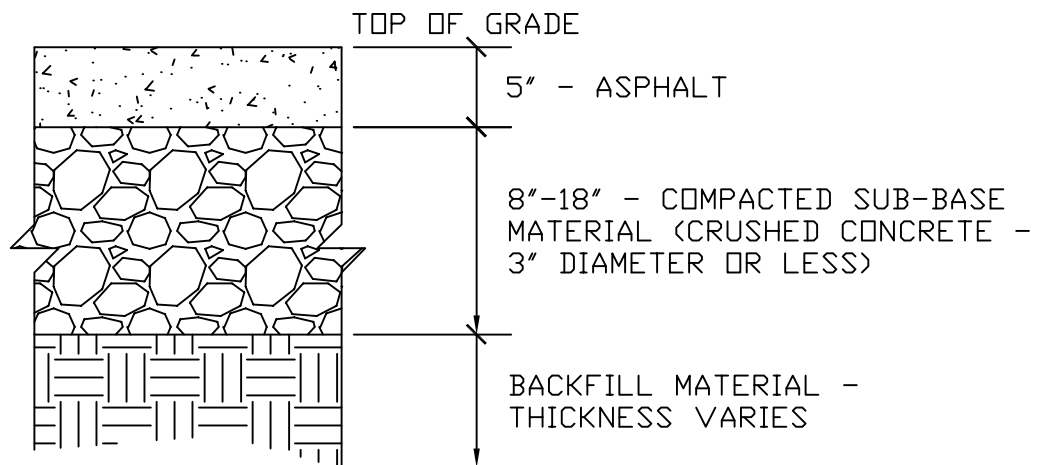
BASE MAP PROVIDED BY GZA ENVIRONMENTAL, INC. ENTITLED "SITE PLAN", DATED 9/16/2005.

FIGURE 13

**STERLING**  
Sterling Environmental Engineering, P.C.  
24 Wade Road • Latham, New York 12110

LOCATION OF REMAINING SOIL CONTAMINATION ABOVE UNRESTRICTED LEVELS - 441 WAVERLY AVENUE  
SITE# C360108  
NEW WAVERLY AVENUE ASSOCIATES, LLC  
V/T OF MAMARONECK WESTCHESTER CO., N.Y.

# ASPHALT COVER SYSTEM CROSS SECTION



**FIGURE 14**

**STERLING**  
 Sterling Environmental Engineering, P.C.  
 24 Wade Road ♦ Latham, New York 12110

ASPHALT COVER SYSTEM CROSS SECTION  
 441 - 442 WAVERLY AVENUE  
 SITE# C360108

**NEW WAVERLY AVENUE ASSOCIATES, LLC**

V/T OF MAMARONECK

WESTCHESTER CO., NY

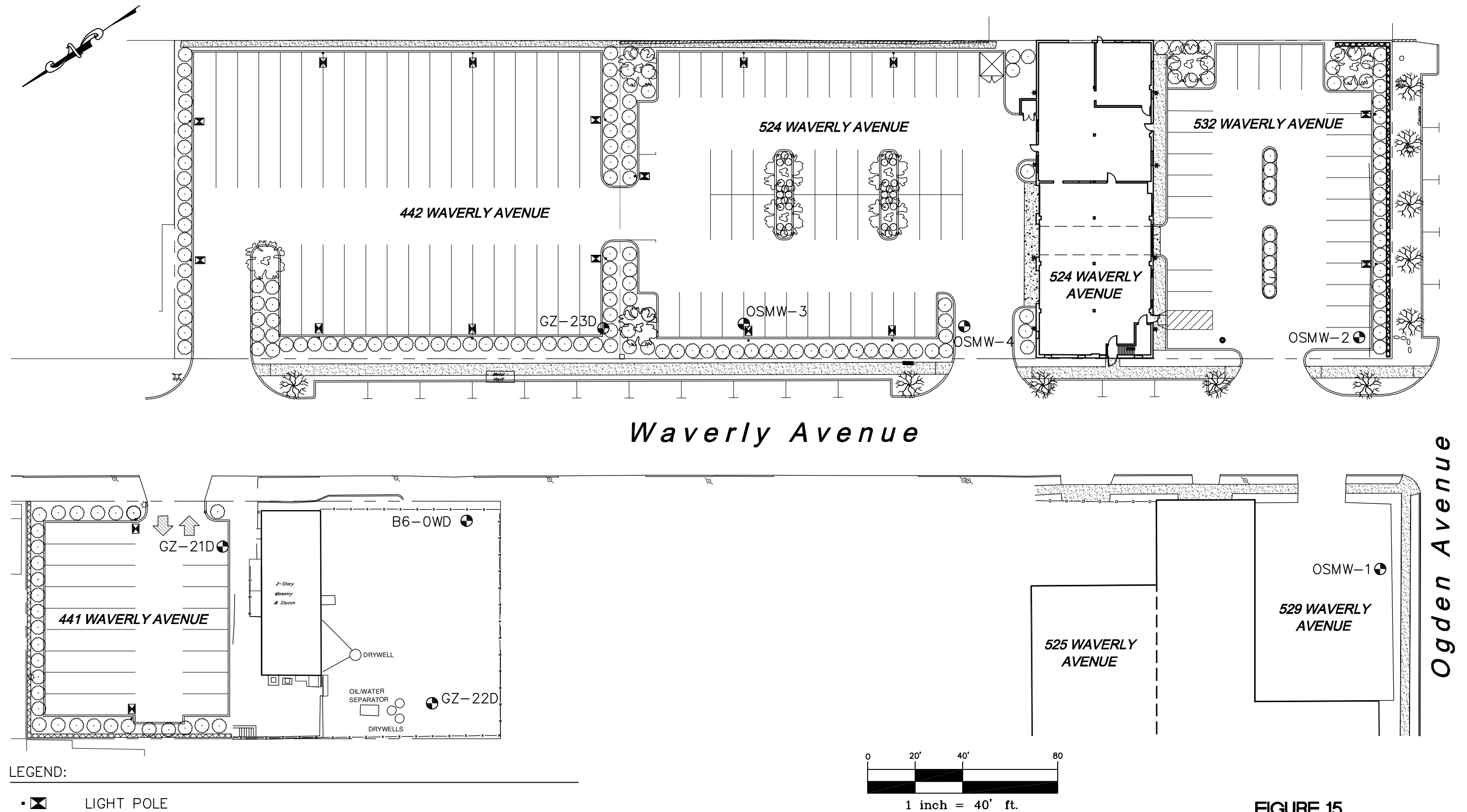


FIGURE 15

LEGEND:

- □ LIGHT POLE
- ⊙ MONITORING WELL
- ▨ CONCRETE SIDEWALK
- - - PROPERTY BOUNDARY
- x - x - FENCE

BASE MAP PROVIDED BY SITE DESIGN  
CONSULTANTS, DATED FEBRUARY 22, 2010.

**STERLING**  
Sterling Environmental Engineering, P.C.  
24 Wade Road • Latham, New York 12110

JANUARY 2012 GROUNDWATER MONITORING  
WELL LOCATIONS  
SITE# C360108  
NEW WAVERLY AVENUE ASSOCIATES, LLC  
V/T OF MAMARONECK WESTCHESTER CO., N.Y.

PROJ. No.: 28012 | DATE: 1/18/12 | SCALE: 1" = 40' | DWG. NO. 28012086 | FIGURE 15



**LEGEND:**

- ⊕ MONITORING WELL
- HRC INJECTION POINTS

( IN FEET )

1 inch = 60 ft.

MAP REFERENCE: AERIAL PHOTOGRAPH PROVIDED BY NEW YORK STATE GIS, (2009).

**FIGURE 16**

**STERLING**  
 Sterling Environmental Engineering, P.C.  
 24 Wade Road • Latham, New York 12110

HRC TREATMENT AREA  
 SITE #C360108  
**NEW WAVERLY AVENUE ASSOCIATES, LLC**  
 V/T OF MAMARONECK WESTCHESTER CO., N.Y.



RETURN SERVICE  
REQUESTED

U.S. Postal Service<sup>TM</sup>  
**CERTIFIED MAIL<sup>TM</sup> RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)  
For delivery information visit our website at [www.usps.com](http://www.usps.com)

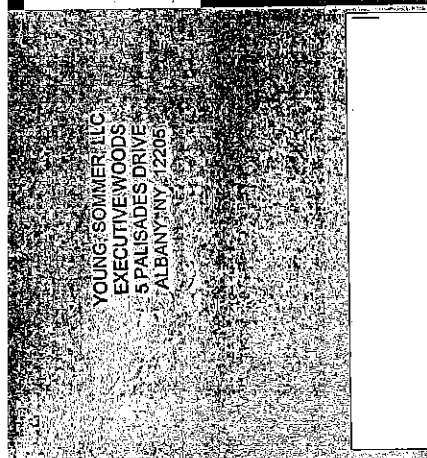
**OFFICIAL USE**

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Sent to  
New Waverly Avenue Assoc. LLC  
Street, Apt. No. 2  
or PO Box No. 566 Westchester Ave  
City, State, ZIP+4<sup>®</sup> Rye Brook, NY

PS Form 3800, August 2006

New Waverly Avenue Associates LLC  
566 Westchester Avenue  
Rye Brook, NY 10573  
JAN 13 2010



**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

New Waverly Avenue Assoc.  
LLC  
566 Westchester Avenue  
Rye Brook NY 10573

2. Article Number

(Transfer from service label)

7012 1010 0002 0115 8539

PS Form 3811, February 2004

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature *[Signature]* ☐ Agent  
☒ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☒ No

3. Service Type  
☒ Certified Mail ☐ Express Mail  
☐ Registered ☒ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

Domestic Return Receipt

102595-02-M-1540





RETURN SERVICE  
REQUESTED



7012 1010 0002 0115 8515  
7012 1010 0002 0115 8515

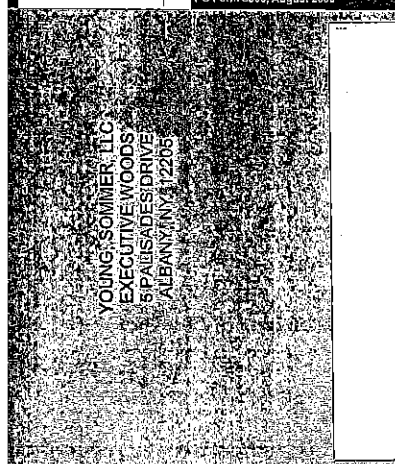
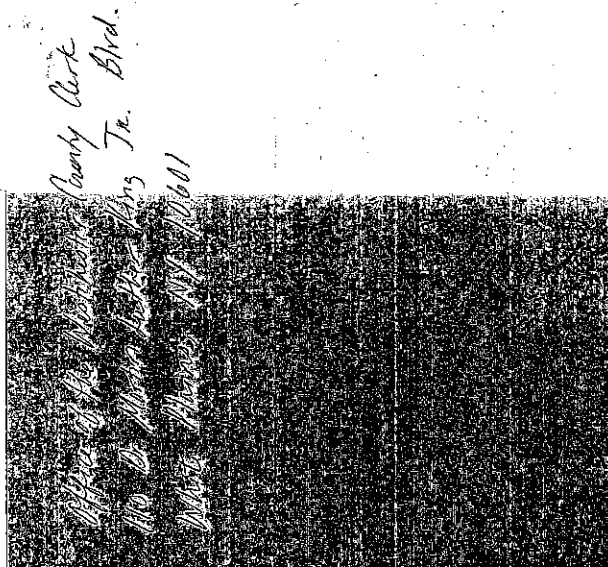
U.S. Postal Service™  
**CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)  
For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage \$	Postmark Here
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees \$	

Sent to  
*Office of the Westchester County Clerk*  
or PO Box No. *110 Dr. Martin Luther King Jr. Blvd.*  
City, State, ZIP+4 *White Plains, NY 10601*

PS Form 3800, August 2005



**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

*Office of the Westchester  
County Clerk  
110 Dr. Martin Luther King Jr.  
Blvd.  
White Plains, NY 10601*

2. Article Number  
(Transfer from service label)

7012 1010 0002 0115 8515

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

**X**

☐ Agent  
☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail  
☐ Registered ☒ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes



RETURN SERVICE  
REQUESTED



7012 1010 0002 0115 8522  
7012 1010 0002 0115 8522

**U.S. Postal Service™**  
**CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)  
For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage \$	Postmark Here
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees \$	

Sent to Village of Mamaroneck  
Street, Apt. No., 123 Mamaroneck Avenue  
or PO Box No.   
City, State, ZIP+4 Mamaroneck NY 10543

PS Form 3811, August 2004 See Reverse for Instructions

*Village of Mamaroneck  
123 Mamaroneck Avenue  
Mamaroneck, NY 10543*

YOUNG SOMMER LLC  
EXECUTIVE WOODS  
SPALSADES DRIVE  
ALBANY, NY 12205

PS Form 3811, February 2004  
Domestic Return Receipt  
102935-02-M-1540

2. Article Number  
(Transfer from service label)  
7012 1010 0002 0115 8522

1. Article Addressed to:  
Village of Mamaroneck  
123 Mamaroneck Avenue  
Mamaroneck, NY 10543

3. Service Type  
☒ Certified Mail  
☐ Registered Mail  
☐ Insured Mail  
☐ Restricted Delivery (Extra Fee)  
☐ Return Receipt for Merchandise

4. Is delivery address different from item 1? ☐ Yes ☒ No  
If YES, enter delivery address below:

A. Signature ☒ Agent ☐ Addressee

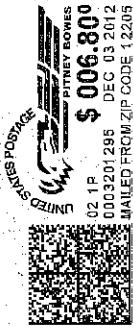
B. Received by (Printed Name) ☐ Date of Delivery

C. Date of Delivery

D. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
■ Print your name and address on the reverse so that we can return the card to you.  
■ Attach this card to the back of the mailpiece, or on the front if space permits.

**SENDER: COMPLETE THIS SECTION**

**COMPLETE THIS SECTION ON DELIVERY**



RETURN SERVICE  
REQUESTED

U.S. Postal Service<sup>TM</sup>  
**CERTIFIED MAIL<sup>TM</sup> RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)  
For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$	Postmark Here
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Sent To: Town of Mamaroneck  
Street, Apt. No.,  
or PO Box No. 740 West Babylon Post Road  
City, State, ZIP+4<sup>®</sup> Mamaroneck NY 10543

PS Form 3800, August 2006 See Reverse for Instructions

*Town of Mamaroneck  
740 West Babylon Post Rd.  
Mamaroneck NY 10543*

CERTIFIED MAIL<sup>TM</sup>



7012 1010 0002 0115 8508  
7012 1010 0002 0115 8508

YOUNG SOMMER LUG  
EXECUTIVE WOODS  
5 PALISADES DRIVE  
ALBANY, NY 12205

PS Form 3811, February 2004  
Domestic Return Receipt  
10255-02-00-1540

7012 1010 0002 0115 8508  
(Transfer from service label)

2. Article Number

1. Article Addressed to:  
Town of Mamaroneck  
740 West Babylon Post Road  
Mamaroneck, NY 10543

■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
■ Print your name and address on the reverse so that we can return the card to you.  
■ Attach this card to the back of the mailpiece, or on the front if space permits.

A. Signature ☒ Agent  
B. Received by (Printed Name) ☒ Addressee  
C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes ☐ No  
If YES, enter delivery address below:

3. Service Type  
☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ O.D.  
4. Restricted Delivery? (Extra Fee) ☐ Yes ☐ No

COMPLETE THIS SECTION ON DELIVERY

[English](#)[Customer Service](#)[USPS Mobile](#)[Register / Sign In](#)[Search USPS.com or Track Packages](#)**Quick Tools**[Track & Confirm](#)[Enter up to 10 Tracking # Find](#)[Find USPS Locations](#)[Buy Stamps](#)[Schedule a Pickup](#)[Calculate](#)[Find a ZIP Code™](#)[Hold Mail](#)[Change of Address](#)[GET EMAIL UPDATES](#)[PRINT DETAILS](#)[Ship a Package](#)[Send Mail](#)[Manage Your Mail](#)[Shop](#)[Business Solutions](#)

## Track & Confirm

YOUR LABEL NUMBER	SERVICE	STATUS OF YOUR ITEM	DATE & TIME	LOCATION	FEATURES
70121010000201158522 <a href="#">Restore Archived Details</a>		Delivered	December 5, 2012, 11:20 am	MAMARONECK, NY 10543	Certified Mail™
70121010000201158508 <a href="#">Restore Archived Details</a>		Delivered	December 5, 2012, 11:03 am	MAMARONECK, NY 10543	Certified Mail™

[GET EMAIL UPDATES](#)[PRINT DETAILS](#)

### Check on Another Item

What's your label (or receipt) number?

 **LEGAL**[Privacy Policy >](#)[Terms of Use >](#)[FOIA >](#)[No FEAR Act EEO Data >](#)**ON USPS.COM**[Government Services >](#)[Buy Stamps & Shop >](#)[Print a Label with Postage >](#)[Customer Service >](#)[Delivering Solutions to the Last Mile >](#)[Site Index >](#)**ON ABOUT.USPS.COM**[About USPS Home >](#)[Newsroom >](#)[USPS Service Alerts >](#)[Forms & Publications >](#)[Careers >](#)**OTHER USPS SITES**[Business Customer Gateway >](#)[Postal Inspectors >](#)[Inspector General >](#)[Postal Explorer >](#)

Copyright© 2013 USPS. All Rights Reserved.

# Young / Sommer LLC

YOUNG SOMMER WARD RITZENBERG BAKER & MOORE LLC

JEFFREY S. BAKER  
DAVID C. BRENNAN  
MICHAEL J. MOORE  
JAMES A. MUSCATO II  
J. MICHAEL NAUGHTON  
ROBERT A. PANASCI  
KENNETH S. RITZENBERG  
DEAN S. SOMMER  
DOUGLAS H. WARD  
KEVIN M. YOUNG

COUNSELORS AT LAW

EXECUTIVE WOODS, FIVE PALISADES DRIVE, ALBANY, NY 12205  
Phone: 518-438-9907 • Fax: 518-438-9914

Saratoga Office:  
PHONE: 518-580-0163 / 518-580-0943

[www.youngsommer.com](http://www.youngsommer.com)

JOSEPH F. CASTIGLIONE  
LAUREN L. HUNT  
ALLYSON M. PHILLIPS  
KRISTIN LAVIOLETTE PRATT

OF COUNSEL  
SUE H.R. ADLER  
MICHAEL E. CUSACK  
ELIZABETH M. MORSS  
STEPHEN C. PRUDENTE  
KRISTIN CARTER ROWE  
LAWRENCE R. SCHILLINGER

PARALEGALS  
FAITH A. MCEWAN  
ALLYSSA A. TILLSON  
AMY S. YOUNG

Writer's Telephone Extension: 251  
[rpanasci@youngsommer.com](mailto:rpanasci@youngsommer.com)

December 3, 2012

## VIA CERTIFIED MAIL

Town of Mamaroneck  
740 West Boston Post Road  
Mamaroneck, NY 10543

**Re: Environmental Easement**

Dear Sir or Madam:

Attached please find a copy of an Environmental Easement granted to the New York State Department of Environmental Conservation ("Department")

on: October 30, 2012,  
by: New Waverly Avenue Associates, LLC,  
for property at: 441, 501, 513, and 442 Waverly Avenue, Village of Mamaroneck, Town of Mamaroneck, Westchester County, New York, Tax Map No.: Section 8, Block 25, Lots 278, 273, 268.2, and 33, NYSDEC Site No: C360108.

This Environmental Easement restricts future use of the above-referenced property to commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) or industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv). The Environmental Easement incorporates the Site Management Plan (SMP) which sets forth the institutional and engineering controls required to be in place at the site. All site development activities must be performed in accordance with the SMP, and use of groundwater as a source of potable or process water is restricted without necessary water quality treatment as determined by New York State Department of Health or Westchester County Department of Health.

Article 71, Section 71-3607 of the New York State Environmental Conservation Law requires that:

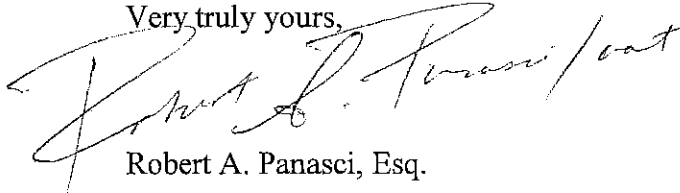


1. Whenever the Department is granted an Environmental Easement, it shall provide each affected local government with a copy of such easement and shall also provide a copy of any documents modifying or terminating such environmental easement.
2. Whenever an affected local government receives an application for a building permit or any other application affecting land use or development of land that is subject to an Environmental Easement and that may relate to or impact such easement, the affected local government shall notify the Department and refer such application to the Department. The Department shall evaluate whether the application is consistent with the Environmental Easement and shall notify the affected local government of its determination in a timely fashion, considering the time frame for the local government's review of the application. The affected local government shall not approve the application until it receives approval from the Department.

An electronic version of every environmental easement that has been accepted by this Department is available to the public at: <http://www.dec.ny.gov/chemical/3604S.html>.

If you have any questions or comments regarding this matter, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in black ink, appearing to read "Robert A. Panasci /aat". The signature is fluid and cursive, with the last name "Panasci" being the most prominent part.

Robert A. Panasci, Esq.

RAP/aat  
Enclosure

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
COUNTY OF WESTCHESTER, STATE OF NEW YORK

**CHAIN OF DEEDS ASSOCIATED WITH THE ENVIRONMENTAL EASEMENT:**

Deed, Control No. 462830374, recorded November 1, 2006

Restrictive Covenant recorded in Liber 10169 page 9, December 9, 1991

**WESTCHESTER COUNTY DEED REFERENCE:**

Environment Easement, Control No. 52324327

---

In the matter of a Remedial Program for  
**New Waverly Avenue Associates, LLC**  
Westchester County  
Under Article 27, Title 14 of the  
Environmental Conservation Law

DEC INDEX NO. W3-1134-09-03  
DEC SITE NO. C360108

---

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

ALLYSSA A. TILLSON, being duly sworn deposes and says that deponent is over the age of eighteen years and is not a party in this proceeding. On December 3, 2012, deponent served a Notice of Environmental Easement with a copy of Environmental Easement upon the following parties at the following addresses:


Town of Mamaroneck  
740 West Boston Post Road  
Mamaroneck, NY 10543

Office of the Westchester County Clerk  
110 Dr. Martin Luther King Jr. Blvd.  
White Plains, NY 10601

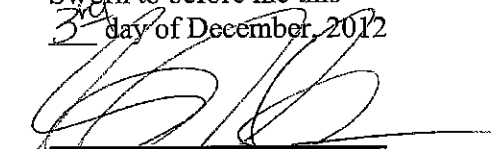
Village of Mamaroneck  
123 Mamaroneck Avenue  
Mamaroneck, NY 10543

New Waverly Avenue Associates LLC  
566 Westchester Avenue  
Rye Brook, New York 10573

Via certified mail, return receipt requested by depositing a true and correct copy of the same properly enclosed in a certified, post-paid wrapper in the Official Depository maintained and exclusively controlled by the United States Postal Service at Albany, New York.

  
Allyssa A. Tillson

Sworn to before me this  
3<sup>rd</sup> day of December, 2012

  
Notary Public

TRACY J. POOLE  
Notary Public, State of New York  
No. 01PO6036309  
Qualified in Albany County  
Commission Expires 1/24/2014

# Young / Sommer LLC

YOUNG SOMMER WARD RITZENBERG BAKER & MOORE LLC

COUNSELORS AT LAW

EXECUTIVE WOODS, FIVE PALISADES DRIVE, ALBANY, NY 12205

Phone: 518-438-9907 • Fax: 518-438-9914

Saratoga Office:

PHONE: 518-580-0163 / 518-580-0943

[www.youngsommer.com](http://www.youngsommer.com)

JEFFREY S. BAKER  
DAVID C. BRENNAN  
MICHAEL J. MOORE  
JAMES A. MUSCATO II  
J. MICHAEL NAUGHTON  
ROBERT A. PANASCI  
KENNETH S. RITZENBERG  
DEAN S. SOMMER  
DOUGLAS H. WARD  
KEVIN M. YOUNG

JOSEPH F. CASTIGLIONE  
LAUREN L. HUNT  
ALLYSON M. PHILLIPS  
KRISTIN LAVIOLETTE PRATT

## OF COUNSEL

SUE H.R. ADLER  
MICHAEL E. CUSACK  
ELIZABETH M. MORSS  
STEPHEN C. PRUDENTE  
KRISTIN CARTER ROWE  
LAWRENCE R. SCHILLINGER

## PARALEGALS

FAITH A. MCEWAN  
ALLYSSA A. TILLSON  
AMY S. YOUNG

Writer's Telephone Extension: 251  
[rpanasci@youngsommer.com](mailto:rpanasci@youngsommer.com)

December 3, 2012

### VIA CERTIFIED MAIL

New Waverly Avenue Associates LLC  
566 Westchester Avenue  
Rye Brook, New York 10573  
ATTN: TJ Milo

**Re: Environmental Easement**

Dear TJ:

Attached please find a copy of an Environmental Easement granted to the New York State Department of Environmental Conservation ("Department")

on: October 30, 2012,  
by: New Waverly Avenue Associates, LLC,  
for property at: 441, 501, 513, and 442 Waverly Avenue, Village of Mamaroneck, Town of Mamaroneck, Westchester County, New York, Tax Map No.: Section 8, Block 25, Lots 278, 273, 268.2, and 33, NYSDEC Site No: C360108.

This Environmental Easement restricts future use of the above-referenced property to commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) or industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv). The Environmental Easement incorporates the Site Management Plan (SMP) which sets forth the institutional and engineering controls required to be in place at the site. All site development activities must be performed in accordance with the SMP, and use of groundwater as a source of potable or process water is restricted without necessary water quality treatment as determined by New York State Department of Health or Westchester County Department of Health.

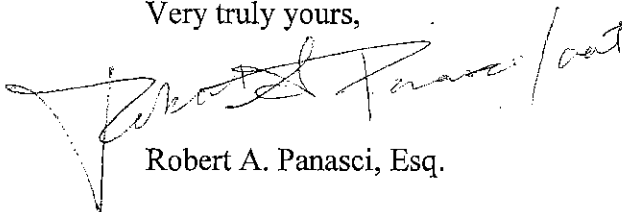
Article 71, Section 71-3607 of the New York State Environmental Conservation Law requires that:

1. Whenever the Department is granted an Environmental Easement, it shall provide each affected local government with a copy of such easement and shall also provide a copy of any documents modifying or terminating such environmental easement.
2. Whenever an affected local government receives an application for a building permit or any other application affecting land use or development of land that is subject to an Environmental Easement and that may relate to or impact such easement, the affected local government shall notify the Department and refer such application to the Department. The Department shall evaluate whether the application is consistent with the Environmental Easement and shall notify the affected local government of its determination in a timely fashion, considering the time frame for the local government's review of the application. The affected local government shall not approve the application until it receives approval from the Department.

An electronic version of every environmental easement that has been accepted by this Department is available to the public at: <http://www.dec.ny.gov/chemical/3604S.html>.

If you have any questions or comments regarding this matter, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Robert A. Panasci /aat", written over a horizontal line.

Robert A. Panasci, Esq.

RAP/aat  
Enclosure

The Office of the Westchester County Clerk: This page is part of the instrument; the County Clerk will rely on the information provided on this page for purposes of indexing this instrument. To the best of submitter's knowledge, the information contained on this Recording and Endorsement Cover Page is consistent with the information contained in the attached document.



\*523243327EAS003V\*

## Westchester County Recording & Endorsement Page

### Submitter Information

Name: Young Sommer LLC Phone: 518-438-9907  
Address 1: 5 Palisades Drive Fax: 518-438-9914  
Address 2: Email: atillson@youngsommer.com  
City/State/Zip: Albany NY 12205 Reference for Submitter: Environmental Easement Package

### Document Details

Control Number: **523243327** Document Type: **Easement (EAS)**  
Package ID: 2012111900150001001 Document Page Count: **9** Total Page Count: **11**

### Parties

☐ Additional Parties on Continuation page

#### 1st PARTY

1: NEW WAVERLY AVE ASSOC LLC  
2:

- Other

#### 2nd PARTY

1: NEW YORK STATE DEPT OF ENVIRONMENTAL CONSERV - Other  
2:

### Property

☒ Additional Properties on Continuation page

Street Address: 441 WAVERLY AVE Tax Designation: 8-25-278  
City/Town: MAMARONECK TOWN Village:

### Cross-References

☐ Additional Cross-Refs on Continuation page

1: 2: 3: 4:

### Supporting Documents

1: TP-584

### Recording Fees

Statutory Recording Fee: \$40.00  
Page Fee: \$50.00  
Cross-Reference Fee: \$0.00  
Mortgage Affidavit Filing Fee: \$0.00  
RP-5217 Filing Fee: \$0.00  
TP-584 Filing Fee: \$5.00  
Total Recording Fees Paid: **\$95.00**

### Transfer Taxes

Consideration: \$0.00  
Transfer Tax: \$0.00  
Mansion Tax: \$0.00  
Transfer Tax Number: 4200

### Mortgage Taxes

Document Date:  
Mortgage Amount:  
Basic: \$0.00  
Westchester: \$0.00  
Additional: \$0.00  
MTA: \$0.00  
Special: \$0.00  
Yonkers: \$0.00  
Total Mortgage Tax: **\$0.00**

Dwelling Type: Exempt: ☐  
Serial #:

RECORDED IN THE OFFICE OF THE WESTCHESTER COUNTY CLERK



Recorded: 11/27/2012 at 04:04 PM  
Control Number: **523243327**  
Witness my hand and official seal

Timothy C. Idoni  
Westchester County Clerk

### Record and Return To

☐ Pick-up at County Clerk's office

Robert Panasci, Esq.  
5 Palisades Drive  
Suite 300  
Albany, NY 12205  
Attn: Allyssa Tillson



The Office of the Westchester County Clerk: This page is part of the instrument; the County Clerk will rely on the information provided on this page for purposes of indexing this instrument. To the best of submitter's knowledge, the information contained on this Recording and Endorsement Cover Page is consistent with the information contained in the attached document.

\*523243327EAS003V\*

## Westchester County Recording & Endorsement Page

### Document Details

Control Number: **523243327**

Document Type: **Easement (EAS)**

Package ID: 2012111900150001001

Document Page Count: 9

Total Page Count: 11

### Properties Addendum

501 WAVERLY AVE 10543	MAMARONECK TOWN	8 25 273
513 WAVERLY AVE 10543	MAMARONECK TOWN	8 25 268.2
442 WAVERLY AVE 10543	MAMARONECK TOWN	8 25 33

---

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

**THIS INDENTURE** made this 30<sup>th</sup> day of October, 2012 between Owner(s) New Waverly Avenue Associates, LLC, a New York Limited Liability Company, having an office at 566 Westchester Avenue, Rye Brook, County of Westchester, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

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

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

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

**WHEREAS**, Grantor, is the owner of real property located at the address of 441, 501, 513, and 442 Waverly Avenue in the Town of Mamaroneck, County of Westchester and State of New York, known and designated on the tax map of the County Clerk of Westchester as tax map parcel numbers: Section 8 Block 25 Lots 278, 273, 268.2, and 33, being the same as that property conveyed to Grantor by deed dated August 31, 2006 and recorded in the Westchester County Clerk's Office in Instrument No. 462830374. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 1.0359 +/- acres, and is hereinafter more fully described in the Land Title Survey dated June 8, 2011, revised October 11, 2011 prepared by Ward Carpenter Engineers, Inc., which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

**WHEREAS**, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is

extinguished pursuant to ECL Article 71, Title 36.

**NOW THEREFORE**, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Number: Index:W3-1134-09-03, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

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

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

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

**Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)**

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

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

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

(5) 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.

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

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

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

(9) 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.

(10) Use of groundwater as a source of potable or process water is restricted without necessary water quality treatment as determined by the NYSDOH or Westchester County DOH.

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

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

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

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

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

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

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

G. Grantor covenants and agrees that it shall 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, in such form and manner as the Department may require, that:

- (1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).
- (2) the institutional controls and/or engineering controls employed at such site:
  - (i) are in-place;
  - (ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and
  - (iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;
- (3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;
- (4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;
- (5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;
- (6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and
- (7) the information presented is accurate and complete.

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

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

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

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

5. Enforcement.

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be

defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

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

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

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

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

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

Parties shall address correspondence to:      Site Number: C360108  
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.

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

New Waverly Avenue Associates, LLC:

By: JH M.L.

Print Name: TJ M.L.

Title: VP Date: 10/16/12

#### Grantor's Acknowledgment

STATE OF NEW YORK )  
 ) ss:  
COUNTY OF )


On the 16<sup>th</sup> day of October, in the year 2012, before me, the undersigned, personally appeared TJ M.L., 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.

Maryjane De Fiore  
Notary Public - State of New York

MARYJANE DE FIORE  
NOTARY PUBLIC, State of New York  
No. 01DE4604574  
Qualified in Westchester County  
Commission Expires 8/31/14

**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 )

COUNTY OF ALBANY ) SS:

On the 30<sup>th</sup> day of October, in the year 2012, before me, the undersigned, personally appeared Robert Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his 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, 2014

**SCHEDULE "A" PROPERTY DESCRIPTION****PARCEL A**

All that certain piece or parcel of land, situate, lying and being located in the Village and Town of Mamaroneck, County of Westchester, State of New York known and designated as portions of Lots 389 through 396 inclusive as shown on a certain map entitled "Waverly Subdivision of Grand Park, Mamaroneck, Westchester County, NY" made by Benjamin S. Olmstead, C.E. and filed in the Register's Office of Westchester County now the Westchester County Clerk's Office (Division of Land Records) on July 16, 1873 as Map No 594 and which portions of Lots are more particularly bounded and described as follows:

**BEGINNING** at a point formed by the intersection of the southeasterly side of Waverly Avenue with the division line between Lots 388 and 389 said point being distant 325.00 feet as measured along the southeasterly side of Waverly Avenue on a course of North 50 degrees 18 minutes 45 seconds East from the northeasterly side of Ogden Avenue as shown on the aforesaid filed Map No. 594;

**RUNNING THENCE** northeasterly along the southeasterly side of Waverly Avenue North 50 degrees 18 minutes 45 seconds East a distance of 187.50 feet to a point;

**RUNNING THENCE** through Lot 396 as shown on the aforesaid filed Map No. 594 South 39 degrees 41 minutes 15 seconds East a distance of 134.00 feet to a point;

**RUNNING THENCE** through Lots 396 through 389 inclusive, South 50 degrees 18 minutes 45 seconds West a distance of 187.50 feet to a point of the division line between Lots 388 and 389;

**RUNNING THENCE** along said division line North 39 degrees 41 minutes 15 seconds West a distance of 134.00 feet to the southeasterly side of Waverly Avenue, the point and place of **BEGINNING**.

**PARCEL B**

All that certain piece or parcel of land situate, lying and being located in the Village and Town of Mamaroneck, County of Westchester, State of New York known and designated as Lots 313 through 320 inclusive shown on a certain map entitled "Waverly Subdivision of Grand Park, Mamaroneck, Westchester County, N.Y. made by Benjamin S. Olmstead, C.E. and filed in the Register's Office of Westchester County now the Westchester County Clerk's Office (Division of Land Records) on July 16, 1873 as Map No. 594 and which lots are more particularly bounded and described as follows:

**BEGINNING** at a point formed by the division line between Lots 312 and 313 and the northwesterly side of Waverly Avenue, said point being distant 375.00 feet as measured along the northwesterly side of Waverly Avenue on a course of North 50 degrees 18 minutes

**45 seconds West from the northeasterly side of Ogden Avenue, as shown on a the aforesaid filed Map No. 594;**

**RUNNING THENCE from said point of beginning along the aforesaid division line between Lots 312 and 313, North 39 degrees 41 minutes 15 seconds West a distance of 100.00 feet to the southerly corner of Lot 236 as shown on the aforesaid filed Map No. 594;**

**RUNNING THENCE along said southeasterly side of Lots 236 through 243 inclusive and along the northwesterly side of Lots 313 through 320 inclusive, North 50 degrees 18 minutes 45 seconds East a distance of 200.00 feet to the northerly corner of Lot 320;**

**RUNNING THENCE along the northeasterly side of Lot 320 South 39 degrees 41 minutes 15 seconds East a distance of 100.00 feet to the northwesterly side of Waverly Avenue;**

**RUNNING THENCE along said northwesterly side of Waverly Avenue South 50 degrees 18 minutes 45 seconds West a distance of 200.00 feet to the division line between Lot 312 and 313, the point and place of BEGINNING.**

**APPENDIX C**

**DAILY FIELD REPORTS**

**DAILY FIELD REPORT****Project Name:** 441/442 Waverly Avenue**Project No.:** 28012**Client Name:** 306 Fayette Avenue Realty**Report No.:** 1**Location:** 441/442 Waverly Ave., Mamaroneck, NY**Date:** August 19, 2009**Inspector:** Jeremy Flaum / Jessica Kelly**Weather :** 90-100°F, Sunny**Work Description, Comments Discussion, Problems, Instructions:**

- 8:15 AM      Jeremy Flaum and Jessica Kelly arrive onsite for STERLING.
- 9:30 AM      Royal Environmental Services arrive onsite.
- STERLING locates all of the monitoring wells except VW-3. VW-7 appears to be under a truck. STERLING requests that the company that owns truck move it at earliest convenience.
  - STERLING uses GPS unit and/or tape measure to locate all groundwater wells presented on Figures 4 and 5 of the RI/IRM Work Plan, except VW-3 and VW-7.
  - STERLING records Depth to Water (DTW) and Depth to Bottom (DTB) measurements for all located monitoring wells. There is no water in monitoring well B105-OW, which appears to be impacted.
- 11:00 AM      Jessica Kelly (STERLING) accompanies Royal Environmental Services to the offsite fill source material location (A&E Garden Center, Bronx, New York). STERLING collects two (2) composite and two (2) grab samples for analysis by Part 375 parameters. There are no PID readings above background conditions at any of the composite sampling locations. Grab samples will be analyzed for VOCs.
- 15:45      STERLING collects samples from monitoring wells GZ-22S and GZ-22D. Samples collected using low-flow methodology and field parameters stabilized prior to collecting the sample. YSI and turbidity meter were calibrated prior to beginning field monitoring. The ORP sensor in YSI could not be calibrated because no calibration solution was provided. Ashtead Technologies is shipping calibration solution to hotel for delivery tomorrow morning.
- 16:00      Royal Environmental Services jackhammers concrete pad area over 8,000 gallon UST at 442 Waverly Avenue. Excavation work will begin tomorrow.
- 17:00      STERLING offsite.

**Visitors (Name, Affiliation):** \_\_\_\_\_**Signature:** \_\_\_\_\_





Sterling Environmental Engineering, P.C.

**DAILY FIELD REPORT****Project Name:** 441/442 Waverly Avenue**Project No.:** 28012**Client Name:** 306 Fayette Avenue Realty**Report No.:** 2**Location:** 441/442 Waverly Ave., Mamaroneck, NY**Date:** August 20, 2009**Inspector:** Jeremy Flaum / Jessica Kelly**Weather :** 85-90°F, Sunny**Work Description, Comments Discussion, Problems, Instructions:**

8:15AM Jeremy Flaum and Jessica Kelly onsite for STERLING. Scott Deyette from NYSDEC onsite to observe excavation of 8,000 gallon UST.

9:00AM Royal Environmental Services (Royal) onsite to excavate 8,000 gallon UST. Excavated soil is stockpiled on polyethylene sheeting and covered at 441 Waverly Avenue. Concrete is stockpiled adjacent to excavation and will be hauled offsite.

- STERLING conducts air monitoring during excavation as follows:

Upwind: Air Particulates

Work Zone: Air Particulates, Volatile Gases, and Explosive Gases

Downwind: Air Particulates and Volatile Gases

- Air monitoring instruments are calibrated prior to use. Air monitoring instruments log data and STERLING collects manual readings approximately once per hour.

- STERLING collects groundwater samples from the following monitoring wells:

B9A-OW, GZ-21S, GZ-21D, GZ-23D, GZ-24D, GZ-25S

- Groundwater samples are collected using low-flow methodology. Field parameters are stabilized prior to sample collection. YSI and turbidity meter were calibrated prior to commencement of monitoring.

12:00PM Mr. Keith Furrey of the Village of Mamaroneck Building Department arrives onsite. There was some miscommunication between Royal and the Village regarding the permit for the excavation. Royal calls their office to straighten out the issue. The Village representative allows work to continue and Royal will settle dispute with Village.

16:00PM Mitkem Analytical Laboratories arrives onsite at to collect groundwater samples.

- Royal needed to break the tank apart in order to excavate it. Scott Deyette from NYSDEC approved this method. The tank pieces are stockpiled separately on polyethylene sheeting underneath overhang adjacent to 442 Waverly Avenue.

17:00PM Royal stops work. Excavation is approximately 75% complete.

17:30PM      STERLING offsite.

Visitors (Name, Affiliation): Scott Deyette - NYSDEC, Keith Furrey - Village of Mamaroneck Building Department

Signature: \_\_\_\_\_

*Jessica Kelly*



## DAILY FIELD REPORT

<b>Project Name:</b> <u>441/442 Waverly Avenue</u>	<b>Project No.:</b> <u>28012</u>
<b>Client Name:</b> <u>306 Fayette Avenue Realty</u>	<b>Report No.:</b> <u>3</u>
<b>Location:</b> <u>441/442 Waverly Ave., Mamaroneck, NY</u>	<b>Date:</b> <u>August 21, 2009</u>
<b>Inspector:</b> <u>Jeremy Flaum / Jessica Kelly</u>	<b>Weather :</b> <u>85-95°F, Mix Sun/Clouds</u>

### Work Description, Comments Discussion, Problems, Instructions:

- 8:15AM Jeremy Flaum and Jessica Kelly onsite for STERLING.
- 9:00AM Royal Environmental Services onsite to finish excavation of 8,000 gallon UST and uncover settling tanks, oil/water separator tanks and dry wells.
- 9:30AM Bill Ports from NYSDEC onsite to observe excavation of 8,000 gallon UST and to mark out soil boring locations.
- STERLING conducts air monitoring as follows:
    - Upwind: Air Particulates
    - Work Zone: Air Particulates, Volatile Gases, and Explosive Gases
    - Downwind: Air Particulates and Volatile Gases
  - Air monitoring instruments were calibrated prior to use and are programmed to log data.
  - STERLING collected groundwater samples from the following monitoring wells:
    - B6-OW(S), B6-OW(D), VW-2, B5-OW, VW-5
  - B5-OW was not on the list of wells selected to be sampled in the RI/IRM Work Plan. However, a sample was collected from B5-OW in place of samples from wells VW-3 and VW-7, which could not be located.
  - Groundwater samples were collected using low-flow methodology. Field parameters stabilized prior to sample collection. YSI and turbidity meter were calibrated prior to commencement of monitoring.
  - The 441 Waverly Avenue tenants moved the company truck covering the assumed location of VW-7. After the truck was moved, STERLING still could not locate the well. Therefore, VW-7 was not sampled, surveyed, nor were DTW/DTB measurements collected for that location.
  - STERLING collected soil samples from the sidewalls and bottom of the excavation area of the former 8,000 gallon UST.
  - NYSDEC approves all sampling locations prior to collection.
  - After all soil samples are collected, the excavation pit is fenced off using orange construction fencing. Royal Environmental Services builds a berm inside the excavation pit to minimize rainwater from eroding the soil underneath the paved/concrete area.

- Royal Environmental Services uncovers settling tanks at 442 Waverly Avenue. Three (3) of the tanks contained approximately two (2) feet of liquid. The receiving tank was dry. The estimated total volume of liquid in the settling tanks is 3,600 gallons. STERLING collects one (1) composite liquid sample to be analyzed for the disposal parameters required by Clean Waters of NY.
- Royal Environmental Services uncovers oil/water separator tank at 441 Waverly Avenue. This tank was also filled with liquid of unknown quantity. Royal places a steel plate over the exposed tank and fences off the area with orange construction fencing. STERLING collects one (1) composite liquid sample from top, middle, and bottom of the tank, to be analyzed for disposal parameters required by Clean Waters of NY.
- STERLING and NYSDEC mark out soil boring locations inside building at 442 Waverly Avenue and on east side of building.

16:00 Mitkem Analytical Laboratories arrives onsite at to collect groundwater samples.

16:30 STERLING offsite.

Visitors (Name, Affiliation): Bill Ports, NYSDEC

Signature:

*Jessica Kelly*

**DAILY FIELD REPORT****Project Name:** 441/442 Waverly Avenue**Project No.:** 28012**Client Name:** 306 Fayette Avenue Realty**Report No.:** 4**Location:** 441/442 Waverly Ave., Mamaroneck, NY**Date:** September 1, 2009**Inspector:** Jeremy Flaum**Weather :** 75°F, Clear**Work Description, Comments Discussion, Problems, Instructions:**

- 08:30 AM Jeremy Flaum arrives onsite for Sterling Environmental Engineering, P.C. (STERLING)
- Royal Environmental onsite to excavate underground settling tanks (USTs) at 442 Waverly Avenue.
  - Royal Environmental pumps uncovered settling tanks.
- 09:15 AM Air monitoring equipment calibrated by STERLING; Upwind, Downwind, and Work Zone air monitoring locations set up.
- Royal Environmental sets up to begin excavation.
- 10:00 AM Begin excavation and air monitoring.
- Air monitoring conducted by STERLING:
    - Upwind – Air Particulate Monitor (APM)
    - Downwind – APM and PID
    - Work Zone – APM, PID, and 4-Gas Meter in breathing zone
- 12:00 PM Impacted soils observed beneath bottom slab of middle chamber of settling tanks. Visual and olfactory evidence of volatiles observed. Peak PID reading of 132 ppm during field screening of sediment.
- Jeremy Flaum speaks with Liz Davis (STERLING) regarding observation of impacted soils and limited available space for soil stockpiling on the property. Ms. Davis instructs to keep excavating tank sides however leave impacted soil in place. Ms. Davis calls Bill Ports at NYSDEC for guidance.
- 13:00 PM Royal Environmental cannot reach certain areas of settling tanks due to an obstruction by an overhead duct. Jeremy Flaum notifies Liz Davis and it is unclear whether the duct has been inspected for asbestos and therefore cannot be removed at this time. Royal Environmental will excavate the remaining sidewalls of the tank area and will suspend the excavation until further notice.
- 13:45 PM Royal Environmental cannot safely reach any more of the sidewalls of the settling tanks without risk of damaging the overhead duct. STERLING packs up air monitoring equipment and Royal Environmental lines the bottom of the excavation with polyethylene sheeting to prevent water from entering the excavation and mobilizing the contaminants in the soil beneath the settling tanks.
- 14:30 PM Royal Environmental cleaning up and packing up equipment.

15:00 PM      STERLING offsite.

Visitors (Name, Affiliation):

Signature:

*Jeremy Haun*





Sterling Environmental Engineering, P.C.

## DAILY FIELD REPORT

Project Name: 441/442 Waverly AvenueProject No.: 28012Client Name: 306 Fayette Avenue RealtyReport No.: 5Location: 441/442 Waverly Ave., Mamaroneck, NYDate: September 2, 2009Inspector: Jeremy FlaumWeather: 75°F, Clear

## Work Description, Comments Discussion, Problems, Instructions:

08:30 AM Jeremy Flaum arrives onsite for Sterling Environmental Engineering, P.C. (STERLING).

- Aquifer Drilling and Testing (ADT) onsite to advance soil borings using Geoprobe direct push method and decommission monitoring wells and injection points located inside building at 442 Waverly Avenue and parking garage at 441 Waverly Avenue.
- Bill Ports of NYSDEC onsite to select soil boring locations and observe soil sampling event.

09:00 AM ADT setting up trucks and equipment for soil boring advancement and monitoring well / injection point decommissioning. Mr. Flaum and Bill Ports mark out soil boring locations and monitoring well / injection point decommissioning locations.

09:45 AM ADT crew begins decommissioning.

10:00 AM Begin soil boring advancement (see Soil Boring Logs for soil characterization details for each boring location).

15:00 PM NYSDEC offsite.

16:30 PM Soil borings and monitoring well/injection point decommissioning complete. Five (5) soil borings advanced at 442 Waverly Avenue and one (1) soil boring (SB-06) at 441 Waverly Avenue advanced in the area near the oil/water separator tank and associated drywells.

- ADT cleaning up equipment. STERLING logs final soil boring and collects sample.

17:00 PM ADT offsite. STERLING collects composite sample from 8,000 gallon UST excavation soil stockpile to be analyzed for 6 NYCRR Part 375 Parameters.

17:30 PM STERLING offsite.

Visitors (Name, Affiliation): Bill Ports, NYSDEC Central OfficeSignature: Jeremy Flaum



Sterling Environmental Engineering, P.C.

## DAILY FIELD REPORT

Project Name: 441/442 Waverly AvenueProject No.: 28012Client Name: 306 Fayette Avenue RealtyReport No.: 6Location: 441/442 Waverly Ave., Mamaroneck, NYDate: September 29, 2009Inspector: Jeremy FlaumWeather: 65-70°F, Clear**Work Description, Comments Discussion, Problems, Instructions:**

08:00 AM Jeremy Flaum arrived onsite for Sterling Environmental Engineering, P.C. (STERLING)

- Calcagni Inc. (excavating contractor) onsite and breaking up asphalt in center of Waverly Avenue.
- Location of main sewer line and lateral line leading from settling tanks located at 442 Waverly Avenue previously marked out.

08:30 AM Air monitoring equipment calibrated by STERLING; Upwind, Downwind, and Work Zone air monitoring locations setup.

- Air monitoring performed by STERLING as follows:
  - Upwind – Air Particulate Monitor (APM)
  - Downwind – APM and PID
  - Work Zone – APM, PID, and 4-Gas Meter in breathing zone

09:00 AM Soil intrusive excavation work begins by Calcagni.

10:00 AM Dave Herman of NYSDEC onsite to inspect excavated soils and progress of excavation.

11:00 AM Dave Herman offsite.

1:30 PM Main sewer line located, however, lateral line cannot be located. Calcagni waits for camera contractor who marked out sewer line to arrive.

2:30 PM Calcagni begins backfilling excavation with sand around sewer pipe, will backfill with K-Crete (mix of concrete and sand) above pipe.

13:00 PM Camera contractor and plumber onsite to locate lateral line entry into main sewer line.

13:30 PM Entry point located. Calcagni will return to excavate new hole tomorrow. Calcagni backfilling excavation with K-Crete.

13:45 PM STERLING offsite.

Visitors (Name, Affiliation): Dave Heman, NYSDEC

Signature: \_\_\_\_\_





Sterling Environmental Engineering, P.C.

## DAILY FIELD REPORT

Project Name: 441/442 Waverly AvenueProject No.: 28012Client Name: New Waverly Avenue Associates, LLCReport No.: 8Location: 441/442 Waverly Ave., Mamaroneck, NYDate: October 4, 2010Inspector: Jessica Kelly (JK) & Charlotte Verhoef (CV)Weather: Overcast and Rainy

## Work Description, Comments Discussion, Problems, Instructions:

07:30 AM JK and CV arrive onsite.

JK and CV calibrate:

-(2) PIDs

-(3) Dust Trak APMs

-(1) 4-Gas

JK &amp; CV setup equipment (upwind northeast, downwind southwest).

08:00 AM JK &amp; CV meet with Marc from Royal and discuss day's plan.

09:00 AM Royal begins work on settling tank.

CV begins air monitoring (upwind northeast, downwind southwest).

09:30 AM Royal hits contaminated soil at bottom of northeast corner of settling tank. Royal stops removing settling tank bottom. Continues work on side walls.

11:20 AM JK obtains grab sample from bottom of northeast corner of settling tank.

11:45 AM Royal begins work on caved-in concrete (southeast corner of site). Royal locates two (2) drain pipes.

01:15 PM Mitkem currier picks up sample.

CV stops air monitoring and packs equipment.

01:30 PM JK and CV leave site

Level D PPE used

See Figure 2 in IRM/RI report for pipe locations.

Visitors (Name, Affiliation):  
  
  
Signature: 



Sterling Environmental Engineering, P.C.

## DAILY FIELD REPORT

<b>Project Name:</b> <u>441/442 Waverly Avenue</u>	<b>Project No.:</b> <u>28012</u>
<b>Client Name:</b> <u>New Waverly Avenue Associates, LLC</u>	<b>Report No.:</b> <u>9</u>
<b>Location:</b> <u>441/442 Waverly Ave., Mamaroneck, NY</u>	<b>Date:</b> <u>October 5, 2010</u>
<b>Inspector:</b> <u>Jessica Kelly (JK) &amp; Charlotte Verhoef (CV)</u>	<b>Weather:</b> <u>Overcast and Raining</u>

**Work Description, Comments Discussion, Problems, Instructions:**

07:30 AM JK and CV arrive onsite.  
 JK and CV calibrate:  
     -(2) PIDs  
     -(3) Dust Trak APMs  
     -(1) 4-Gas  
 JK & CV setup equipment (upwind northeast, downwind southwest).

08:20 AM Royal begins work on clay pipes at southeast corner of site towards northeast.  
 CV begins air monitoring.  
 Pipe ends halfway across site.

10:00 AM Royal begins excavating four (4) pipes from northeast sidewall of settling tank, towards boiler room.  
 No visible staining.

10:30 AM Royal begins removing bottom of settling tank working from south to north.

11:15 AM Royal discovers 4' black steel tank on south wall of settling tank. Excavator punctures steel tank. Liquid from tank drains into excavated settling tank. Royal places sorbent pads on liquid. JK samples liquid. Royal excavates soil affected by liquid. PID reading exceeds 10 ppm, therefore Level C PPE required. Groundwater infiltrates area stopping excavation.

01:30 PM Currier picks up sample.

02:00 PM Royal begins jack-hammering concrete around pipes on south end of settling tank.

03:20 PM Royal stops work.  
 JK and CV stops air monitoring and dismantle equipment.

03:40 PM JK and CV leave site.  
 Level C PPE used.

**Visitors (Name, Affiliation):****Signature:**



## DAILY FIELD REPORT

<b>Project Name:</b> <u>441/442 Waverly Avenue</u>	<b>Project No.:</b> <u>28012</u>
<b>Client Name:</b> <u>New Waverly Avenue Associates, LLC</u>	<b>Report No.:</b> <u>10</u>
<b>Location:</b> <u>441/442 Waverly Ave., Mamaroneck, NY</u>	<b>Date:</b> <u>October 6, 2010</u>
<b>Inspector:</b> <u>Jessica Kelly (JK) &amp; Charlotte Verhoef (CV)</u>	<b>Weather:</b> <u>Sunny</u>

### Work Description, Comments Discussion, Problems, Instructions:

07:30 AM JK and CV arrive onsite.  
 JK and CV calibrate:  
     -(2) PIDs  
     -(3) Dust Trak APMs  
     -(1) 4-Gas  
 JK & CV setup equipment (upwind southwest, downwind northeast).

08:20 AM Royal begins jack-hammering concrete around steel tank.  
 CV begins air monitoring.

09:00 AM Royal finishes excavating top of steel tank (top rusted through).

09:20 AM Royal sticks tank (~4 inches oil).

09:30 AM Wind change. Move PID upwind to downwind and switch Dust Trak APMs (upwind to downwind & downwind to upwind).

10:15 AM Bill Ports (NYSDEC) arrives onsite.  
     -Spoke regarding capping sewer in place and Bill Ports approves.  
     -Spoke regarding leaving drainage trenches in place and excavating only to groundwater. Bill Ports is considering.

Bill Ports Observes:

10:30 AM Royal pumps oil from steel tank.

10:45 AM Royal removes steel tank and places on plastic. Tank is rusted and damaged with many small holes.

11:15 AM JK and CV collect S-Bot-Steel Tank and N-Bot-Steel Tank from bottom of steel tank excavation (7' below grade).  
     Head Space:   S-Bot-Steel Tank:   101 ppm  
                   N-Bot-Steel Tank:   2,291 ppm

11:40 AM Royal digs test pit in southeast clay pipe trench to 12'. Coarse gray sand found. Head space = 1.8 ppm.

12:00 PM Royal digs test pit at southwest corner of site. Finds sewer and additional iron pipe. Coarse gray sand at 7.5'. Head space = 1,173 ppm.



01:15 PM Currier picks up samples.

01:45 PM Royal digs test pit at center of site. Finds one (1) black iron pipe. Coarse gray sand at 7.33'.  
Head space=2,562 ppm.  
Royal backfills test pits.

03:10 PM Royal stops work.

03:20 PM Air monitoring stops.

03:30 PM JK and CV leave site.  
Level D PPE used.

Visitors (Name, Affiliation): Bill Ports, NYSDEC

Signature:

Handwritten signatures of Jessica Kelly and another individual, likely a witness or supervisor, over a horizontal line.



Sterling Environmental Engineering, P.C.

## DAILY FIELD REPORT

<b>Project Name:</b> <u>441/442 Waverly Avenue</u>	<b>Project No.:</b> <u>28012</u>
<b>Client Name:</b> <u>New Waverly Avenue Associates, LLC</u>	<b>Report No.:</b> <u>11</u>
<b>Location:</b> <u>441/442 Waverly Ave., Mamaroneck, NY</u>	<b>Date:</b> <u>October 7, 2010</u>
<b>Inspector:</b> <u>Jessica Kelly (JK) &amp; Charlotte Verhoef (CV)</u>	<b>Weather:</b> <u>Sunny</u>

**Work Description, Comments Discussion, Problems, Instructions:**

07:30 AM JK and CV arrive onsite.  
 JK and CV calibrate:  
     -(2) PIDs  
     -(3) Dust Trak APMs  
     -(1) 4-Gas  
 JK & CV setup equipment (upwind southwest, downwind northeast)

08:20 AM Royal begins backfilling clay pipe trench and general site cleanup.  
 CV begins air monitoring.

10:30 AM JK and CV collect two (2) additional samples from bottom steel tank as instructed by Bill Ports (NYSDEC). Head space : N-2-Bot-Steel-Tank & S-2-Bot-Steel-Tank = 3,692 & 3,705 ppm, respectively.

10:45 AM Royal re-excavates southwest test pit and JK and CV collect sample from southwest test pit.  
 Head space : 3,642 ppm.

11:30 AM Royal dug northwest test pit at Bill Ports request 8 ft deep. Head space 2,817 ppm.

12:30 PM JK and CV locate five points with GPS.  
     -Southwest test pit.  
     -Center test pit  
     -Northwest test pit  
     -Northeast corner of discharge pit  
     -BW-05 well

01:00 PM Royal removes steel tank south discharge pipe (10 ft section 3 inch pipe). No visible staining.  
 1 sample-S-Dis.-Pipe-Steel-Tank. Head space=1.2 ppm.

01:30 PM Royal removes settling tank and southeast clay pipe (10 ft section 4 inch pipe). No visible staining.  
 1 sample-SE-Pipe-Set.-Tank. Head space=1.0 ppm.

02:00 PM Royal cleans site and moves stockpiles.

03:15 PM Royal stops work. CV stops air monitoring.

03:30 PM JK and CV leave site.  
 Level D PPE used.

Visitors (Name, Affiliation):

Signature:

*James Kelly* *University of*



## DAILY FIELD REPORT

<b>Project Name:</b> <u>441/442 Waverly Avenue</u>	<b>Project No.:</b> <u>28012</u>
<b>Client Name:</b> <u>New Waverly Avenue Associates, LLC</u>	<b>Report No.:</b> <u>12</u>
<b>Location:</b> <u>441/442 Waverly Ave., Mamaroneck, NY</u>	<b>Date:</b> <u>October 8, 2010</u>
<b>Inspector:</b> <u>Jessica Kelly (JK) &amp; Charlotte Verhoef (CV)</u>	<b>Weather:</b> <u>Clear, Sunny</u>

### Work Description, Comments Discussion, Problems, Instructions:

06:45 AM JK and CV arrive onsite.  
 JK and CV calibrate:  
     -(2) PIDs  
     -(3) Dust Trak APMs  
     -(1) 4-Gas  
 JK & CV setup equipment (upwind northeast, downwind southwest)

07:30 AM Start air monitoring.

07:45 AM Royal begins excavating settling tank bottom to groundwater table.

08:15 AM Garito removes concrete for crusher.

08:30 AM Royal starts excavating settling tank bottom.

10:00 AM JK and CV sample:

	<u>Head space</u>
-Set-Tank-N-Wall:	30 ppm
-Set-Tank-E-Wall:	0.7 ppm
-Set-Tank-S-Wall:	0.3 ppm
-Set-Tank-N-Bot:	2,026 ppm
-Set-Tank-S-Bot:	2,875 ppm
Set-Tank-Center:	3,301 ppm

10:15 AM Royal starts using Enviro Clean to control VOCs and odor. Workers in breathing space use Level C PPE.

10:45 AM JK speaks with Marty Spatz, owner of Railroad Ave. properties regarding odor issues. Tenants had complained earlier in the day, no current issues. JK tells Marty Spatz to notify her immediately if problems occur again.

11:15 AM JK speaks with Bill Ciraco (Mamaroneck Fire Marshall). Telephone number (914) 777-7731.

12:20 PM Currier picks up samples.

01:15 PM Royal places plastic demarcation at bottom (9 ft) of settling tank excavation and begins backfill.

02:00 PM Royal sprays stockpiled soil with Enviro Clean and covers pile.

02:40 PM CV and JK stops air monitoring and packs equipment.

03:00 PM JK and CV leave site.  
Level C PPE used.

Visitors (Name, Affiliation):

Signature:

*[Handwritten signature]* *[Handwritten signature]*



## DAILY FIELD REPORT

Project Name: 441/442 Waverly AvenueProject No.: 28012Client Name: New Waverly Avenue Associates, LLCReport No.: 13Location: 441/442 Waverly Ave., Mamaroneck, NYDate: October 11, 2010Inspector: Jessica Kelly (JK) & Charlotte Verhoef (CV)Weather: Blue Sky, Sunny

## Work Description, Comments Discussion, Problems, Instructions:

07:00 AM JK and CV arrive onsite.

JK and CV calibrate:

-(2) PIDs

-(3) Dust Trak APMs

-(1) 4-Gas

JK &amp; CV setup equipment (upwind southwest corner, downwind northeast corner).

07:45 AM Air monitoring starts.

09:15 AM Royal begins to pump liquid from internal discharge pit.

09:45 AM Royal begins to remove walls and bottom of internal discharge pit.

12:15 PM Royal removes pipes (10 ft) from internal discharge pit.

West wall inlet pipe entered floor (concrete) drainage system.

12:45 PM Royal finds solid material in pipes and stockpiles separately. Head space=1.2 ppm

01:15 PM Royal moves stockpiles in preparation for pipe removal.

03:30 PM Royal leaves site.

03:45 PM JK and CV stop air monitoring and pack up equipment and leave site.

Level D PPE used.

Visitors (Name, Affiliation):

Signature:

Two handwritten signatures are present. The first signature, "Jessica Kelly", is written in a cursive style. The second signature, "Charlotte Verhoef", is also in a cursive style and appears to be written over the first signature.



## DAILY FIELD REPORT

<b>Project Name:</b> <u>441/442 Waverly Avenue</u>	<b>Project No.:</b> <u>28012</u>
<b>Client Name:</b> <u>New Waverly Avenue Associates, LLC</u>	<b>Report No.:</b> <u>14</u>
<b>Location:</b> <u>441/442 Waverly Ave., Mamaroneck, NY</u>	<b>Date:</b> <u>October 12, 2010</u>
<b>Inspector:</b> <u>Jessica Kelly (JK) &amp; Charlotte Verhoef (CV)</u>	<b>Weather:</b> <u>Clear, Sunny</u>

**Work Description, Comments Discussion, Problems, Instructions:**

07:30 AM JK, CV and Mike Crandal (Royal) arrive at A&E Gardens in Bronx and sample two (2) stockpiles.  
(Backfill fine and backfill course)-Head space readings: Backfill fine 0.2 ppm, Backfill course 2.2 ppm.

08:15 AM JK and CV arrive onsite.  
JK and CV calibrate:  
     -(2) PIDs  
     -(3) Dust Trak APMs  
     -(1) 4-Gas  
 JK & CV setup equipment (upwind northeast, downwind southwest).

08:45 AM Air monitoring starts.

09:15 AM Royal begins work, removing pipes from internal discharge pit.

09:30 AM JK and CV locate and spray paint wells.

09:45 AM JK and CV sample (soil) SW 4" Iron Pipe-Int-Dis: Head space 0.7 ppm.

10:15 AM Royal removes sump pump and sewage line which connects to a sump pit (3'x4'x3').

10:45 AM JK and CV sample: Head space (ppm)  
     -Int-Dis-N-Wall: 2.7  
     -Int-Dis-E-Wall: 0.6  
     -Int-Dis-S-Wall: 0.6  
     -Int-Dis-W-Wall: 11.5  
     -Int-Dis-Bot: 0.6

11:30 AM JK and CV sample: Head space (ppm)  
     -E-4"-Iron Pipe-Int-Dis: 0.6  
     -N-Sewer-Pipe-Sump-Pit: 91.4  
     -Sump-Pit-Bottom: 3.8  
     -SW4" Iron Pipe-Int-Dis-Sludge: 1.2

01:30 PM JK and CV collect samples: Head space (ppm)  
     -W-Sewer-Pipe-Sump-Pit: 0.5  
     -W-8"PVC Pipe-Int-Dis: 0.4

01:45 PM Royal backfill sump pit to reach and remove settling tank pipe line.

01:50 PM JK and CV collect samples: Head Space (ppm)

-W-Sewer-Pipe-Sump-Pit-Sludge:	1.2
-NW-Clay-Pipe-Set-Tank:	0.6
-NW-4" Clay-Pipe-Set-Tank-Duplicate:	0.6
-Stock Pile A Part 375:	128
(Combination of pile 1 and 2 assumed to be contaminated.)	
-Stock Pile A Disposal:	128
02:40 PM -Stock Pile B Part 375:	4.8
(Combination of Pile 3 and 4 assumed to be contaminated.)	
-Stock Pile B Disposal:	4.8
02:45 PM	Royal caps three sections of sewer pipe.
03:30 PM	Air monitoring stops.
03:45 PM	Royal, JK and CV leave site.

Visitors (Name, Affiliation):

---

---

---

Signature:

*Posi Kelly* *Mark Kelly*

**DAILY FIELD REPORT****Project Name:** 441/442 Waverly Avenue**Project No.:** 28012**Client Name:** New Waverly Avenue Associates, LLC**Report No.:** 15**Location:** Botanical Gardens, Bronx, NY**Date:** November 4, 2010**Inspector:** Charlotte Verhoef (CV)**Weather:** 45° F, Rainy/Overcast**Work Description, Comments Discussion, Problems, Instructions:**

01:15 P.M. CV arrives onsite.  
-Meet with Jim Garito.

01:45 P.M. CV samples Stockpiles 1 and 2.

-BOT-GAR-1 – PID Reading: 0.0 ppm [5 separate readings on pile].

-BOT-GAR-2 – PID Reading: 0.0 ppm [5 separate readings on pile].

Samples will be analyzed for full Part 375 parameters, for potential use as backfill material at 441/442 Waverly Avenue.

02:45 P. M. CV leaves site.

04:00 P.M. CV drops samples off at FedEx [Exit 17 off of the I-87 Thruway].  
-Samples sent to Mikem by overnight delivery.

No PPE used.

**Visitors (Name, Affiliation):****Signature:**

A handwritten signature in dark ink, appearing to read "Charlotte Verhoef", is written over a horizontal line.

**DAILY FIELD REPORT**

<b>Project Name:</b> <u>441/442 Waverly Avenue</u>	<b>Project No.:</b> <u>28012</u>
<b>Client Name:</b> <u>New Waverly Avenue Associates, LLC</u>	<b>Report No.:</b> <u>16</u>
<b>Location:</b> <u>441/442 Waverly Ave., Mamaroneck, NY</u>	<b>Date:</b> <u>November 8, 2010</u>
<b>Inspector:</b> <u>Jessica Kelly (JK)</u>	<b>Weather:</b> <u>Overcast with rain &amp; snow</u>

**Work Description, Comments Discussion, Problems, Instructions:**

07:00 AM JK arrives onsite.  
JK meets with Jim Garito (Garito Contracting) to discuss today's work plan.  
-Garito plans to jackhammer area of concrete to be removed for retaining wall and begin removing concrete.  
JK calibrates:  
-(1) PID  
-(1) 4-Gas Meter  
-(2) APMs  
JK sets up equipment:  
-Southwest corner of site upwind  
-Southeast corner of site downwind

07:30 AM Work begins/JK begins monitoring.

07:30 AM – 01:00 PM Garito jackhammers concrete.

01:00 PM – 02:30 PM Garito removes pieces of concrete slab.

02:30 PM Garito stops work/JK stops monitoring.

03:00 PM JK packs equipment and leaves site.

**Visitors (Name, Affiliation):** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Signature:** 



Sterling Environmental Engineering, P.C.

## DAILY FIELD REPORT

Project Name: 441/442 Waverly AvenueProject No.: 28012Client Name: New Waverly Avenue Associates, LLCReport No.: 17Location: 441/442 Waverly Ave., Mamaroneck, NYDate: November 9, 2010Inspector: Jessica Kelly (JK)Weather: Sunny

## Work Description, Comments Discussion, Problems, Instructions:

06:45 AM JK arrives onsite.

JK calibrates:

-(1) PID

-(1) 4-Gas Meter

-(2) APMs

JK sets up equipment:

-Southwest corner of site upwind

-Southeast corner of site downwind

07:30 AM Work begins/JK begins monitoring

Garito Contracting excavates southeast section of site for retaining wall installation.

02:00 PM Work stops/JK stops monitoring.

JK meets with Jim Garito to discuss progress and plans.

02:45 PM JK leaves site.

Visitors (Name, Affiliation):  
  
  
Signature: Jessica Kelly



Sterling Environmental Engineering, P.C.

## DAILY FIELD REPORT

<b>Project Name:</b> <u>441/442 Waverly Avenue</u>	<b>Project No.:</b> <u>28012</u>
<b>Client Name:</b> <u>New Waverly Avenue Associates, LLC</u>	<b>Report No.:</b> <u>18</u>
<b>Location:</b> <u>441/442 Waverly Ave., Mamaroneck, NY</u>	<b>Date:</b> <u>November 10, 2010</u>
<b>Inspector:</b> <u>Jessica Kelly (JK)</u>	<b>Weather:</b> <u>Windy</u>

**Work Description, Comments Discussion, Problems, Instructions:**

06:45 AM JK arrives onsite.  
JK calibrates:  
    -(1) PID  
    -(1) 4-Gas Meter  
    -(2) APMs  
JK sets up equipment:  
    -Southeast corner of site upwind  
    -Southwest corner of site downwind

07:30 AM Work begins/JK begins monitoring.  
Garito Contracting moves stockpiles onsite and continues trench.

02:30 PM Work stops/JK stops monitoring.

03:00 PM JK picks up equipment and leaves site.

**Visitors (Name, Affiliation):** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Signature:** 





Sterling Environmental Engineering, P.C.

## DAILY FIELD REPORT

Project Name: 441/442 Waverly AvenueProject No.: 28012Client Name: New Waverly Avenue Associates, LLCReport No.: 19Location: 441/442 Waverly Ave., Mamaroneck, NYDate: November 11, 2010Inspector: Jessica Kelly (JK)Weather: Sunny

## Work Description, Comments Discussion, Problems, Instructions:

06:45 AM JK arrives onsite.

JK calibrates:

-(1) PID

-(1) 4-Gas Meter

-(2) APMs

JK sets up equipment:

-Southeast corner of site upwind

-Southwest corner of site downwind

07:30 AM Work begins/JK begins monitoring.

Garito Contracting excavates trench for wall on south side of site (sand observed on western half, clay/slag on eastern half).

11:30 AM JK samples Stockpile C.

Headspace 0.2 ppm

01:30 PM Garito completes removal of loading dock.

JK stops monitoring.

02:00 PM JK leaves site.

Visitors (Name, Affiliation):  
  
  
Signature: 



## DAILY FIELD REPORT

Project Name: 441/442 Waverly AvenueProject No.: 28012Client Name: New Waverly Avenue AssociatesReport No.: 20Location: 441/442 Waverly Ave., Mamaroneck, NYDate: December 8, 2010Inspector: Charlotte Verhoef (CV)Weather: Not Recorded

## Work Description, Comments Discussion, Problems, Instructions:

06:45 AM CV arrives onsite.  
 CV calibrates one (1) Dust Trak APM  
 CV sets up equipment at downwind side of work area  
 (downwind: south, upwind: north)

07:00 AM Work begins/CV begins monitoring.

Garito Construction crew onsite to backfill excavations at 442 Waverly Avenue using soil Stockpiles B and C and concrete fill.

11:00 AM Jim Garito onsite.

-Discuss progress and work plan

01:15 PM CV stops air monitoring and packs up equipment.

01:30 PM CV leaves site.

Level D PPE used

N  
Waverly Ave  
 W \_\_\_\_\_ E  
Railroad  
 S

Visitors (Name, Affiliation): \_\_\_\_\_

Signature: Charlotte Verhoef

**Sterling Environmental Engineering, P.C.**

**Weather:** Windy and Cold

05:30 PM JK ships samples at Newburgh FedEx for overnight delivery to Mitkem Labortories.

Visitors (Name, Affiliation):

Signature:

Jessica Kelly



## DAILY FIELD REPORT

<b>Project Name:</b> <u>441/442 Waverly Avenue</u>	<b>Project No.:</b> <u>28012</u>
<b>Client Name:</b> <u>New Waverly Avenue Associates</u>	<b>Date:</b> <u>February 10, 2011</u>
<b>Location:</b> <u>441/442 Waverly Ave., Mamaroneck, NY</u>	<b>Weather:</b> <u>20 °F, cloudy</u>
<b>Inspector:</b> <u>Charlotte Verhoef (CV), Sterling Environmental Engineering, P.C.</u>	

**Work Description, Comments Discussion, Problems, Instructions:** Conduct air monitoring during stockpile removal.

6:30 AM CV arrives onsite.  
CV calibrates one (1) Dust Trak Air Particulate Monitor (APM) and one (1) PID MiniRAE 3000  
CV sets up equipment at downwind side (southern side) of work area.

7:00 AM Work begins/CV begins air monitoring.  
Garito Construction crew onsite to remove Stockpile A from 442 Waverly Avenue into trucks to transport to Soil Safe, New Jersey disposal facility.

10:30 AM CV stops air monitoring at Stockpile A.

11:00 AM CV begins air monitoring.  
Garito Construction removes stockpile from 532 Waverly Avenue into trucks to transport to Soil Safe, New Jersey disposal facility.

1:00 PM CV packs up equipment.

1:30 PM CV leaves site.

Level D PPE used.

**Visitors (Name, Affiliation):** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Signature:**

Charlotte Verhoef







Sterling Environmental Engineering, P.C.

## DAILY FIELD REPORT

<b>Project Name:</b> <u>441/442 Waverly Avenue</u>	<b>Project No.:</b> <u>28012</u>
<b>Client Name:</b> <u>New Waverly Avenue Associates</u>	<b>Date:</b> <u>March 28, 2013</u>
<b>Location:</b> <u>441 Waverly Ave., Mamaroneck, NY</u>	<b>Weather:</b> <u>20°F, Cloudy</u>
<b>Inspector:</b> <u>Charlotte Verhoef (CV), Sterling Environmental Engineering, P.C.</u>	

**Work Description, Comments Discussion, Problems, Instructions:**

Vapor and air monitoring, building inventory and indoor air quality questionnaire.

10:00 AM CV arrives onsite, Stephanie LaRose (SL) with Conrad Geosience (division of PVE Sheffler) onsite.

10:15 AM CV interviews Douglas Grant (owner of the cable installation company that currently occupies building).

10:30 AM SL drills through concrete sub slab in the basement for a temporary sampling port to be installed. Conducts a tracer gas leak test using helium. No helium is detected.

11:10 AM CV begins product inventory. CV and SL set up sampling canisters with one regulator: SS-1A and SS-1B (Duplicate). Background PID is 0.1 ppm in basement.

11:15 AM SL sets up indoor air sample IA-1 in basement at breathing height.

11:29 AM SL sets up outdoor air sample OA-1 upwind from the building. Wind speed 2.4 mph.

11:45 AM CV continues building inventory and address all indoor air quality questionnaire topics.

12:00 PM SL leaves site.

12:15 PM CV inspects venting ducts and conducts outdoor inspection of subject property and surrounding activities.

1:30 PM CV leaves site.

**Visitors (Name, Affiliation):** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Signature:** \_\_\_\_\_

*Charlotte Verhoef*



**DAILY FIELD REPORT**

<b>Project Name:</b> <u>441/442 Waverly Avenue</u>	<b>Project No.:</b> <u>28012</u>
<b>Client Name:</b> <u>New Waverly Avenue Associates</u>	<b>Date:</b> <u>June 10, 2013</u>
<b>Location:</b> <u>441 Waverly Avenue, Mamaroneck, NY</u>	<b>Weather:</b> <u>65°F, Cloudy</u>
<b>Inspector:</b> <u>Charlotte Verhoef (CV), Sterling Environmental Engineering, P.C.</u>	

**Work Description, Comments Discussion, Problems, Instructions:**

Observe HRC injections on 441 Waverly Avenue.

8:35 AM CV arrives onsite.

8:45 AM Luke Reiss and Wilver Hernandez with ZEBRA onsite.

9:00 AM ZEBRA Environmental Corp. (ZEBRA) mobilize and setup equipment – GeoProbe GP 20.  
CV measures depth to bottom in monitoring well GZ-22D = 46 feet. Mark out soil boring injection locations surrounding monitoring well GZ-22D. Unable to start injection of HRC due to lack of equipment to heat up HRC to >95°F.

11:45 AM ZEBRA leaves site.

12:15 PM Rich Carr, 441 Waverly Avenue tenant, onsite to provide access to building.

1:30 PM CV leaves site.

**Visitors (Name, Affiliation):** \_\_\_\_\_

**Signature:** \_\_\_\_\_

A handwritten signature in blue ink, which appears to read "Charlotte Verhoef", is written over a horizontal line.





## DAILY FIELD REPORT

<b>Project Name:</b> <u>441/442 Waverly Avenue</u>	<b>Project No.:</b> <u>28012</u>
<b>Client Name:</b> <u>New Waverly Avenue Associates</u>	<b>Date:</b> <u>June 11, 2013</u>
<b>Location:</b> <u>441 Waverly Avenue, Mamaroneck, NY</u>	<b>Weather:</b> <u>67°F, Partly Cloudy</u>
<b>Inspector:</b> <u>Charlotte Verhoef (CV), Sterling Environmental Engineering, P.C.</u>	

### Work Description, Comments Discussion, Problems, Instructions:

Observe HRC Injections on 441 Waverly Avenue.

7:35 AM	CV arrives onsite.
7:45 AM	Luke Reiss and Antonio Hernandez with ZEBRA Environmental Corp. (ZEBRA) onsite. CV calibrates PID.
7:50 AM	ZEBRA mobilizes and sets up equipment – GeoProbe GP 20 and hot water bath to heat up HRC with a propane tank. Start drilling at 1 <sup>st</sup> location around GZ – 22D down to 47 feet.
9:00 AM	ZEBRA starts pumping HRC into 1 <sup>st</sup> location around GZ – 22D down to 47 feet and 38 feet using a double diaphragm pump. Pump clogs due to viscosity of HRC product.
9:20 AM	Zebra unclogs pump and tubing using hot water. CV contacts J. DiCerbo (JD) with STERLING. JD contacts Regenesys concerning dilution of product with hot water.
11:10 AM	ZEBRA starts drilling at 2 <sup>nd</sup> location around GZ – 22D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of hot water and mixed with a portable drill with mixing wand.
11:35 AM	ZEBRA finishes at 2 <sup>nd</sup> location.
11:40 AM	ZEBRA starts drilling at 3 <sup>rd</sup> location around GZ – 22D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of hot water.
12:00 PM	ZEBRA finishes at 3 <sup>rd</sup> location.
12:05 PM	ZEBRA starts drilling at 4 <sup>th</sup> location around GZ – 22D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of hot water.
12:25 PM	ZEBRA finishes at 4 <sup>th</sup> location.
12:30 PM	ZEBRA starts drilling at 5 <sup>th</sup> location around GZ – 22D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of hot water.
12:50 PM	ZEBRA finishes at 5 <sup>th</sup> location.
1:10 PM	ZEBRA starts drilling at 6 <sup>th</sup> location around GZ – 22D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of hot water.

1:35 PM ZEBRA finishes at 6<sup>th</sup> location.

1:40 PM ZEBRA starts drilling at 7<sup>th</sup> location around GZ – 22D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of hot water.

2:00 PM ZEBRA finishes at 7<sup>th</sup> location.

2:05 PM ZEBRA starts drilling at 8<sup>th</sup> location around GZ – 22D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of hot water.

2:45 PM ZEBRA finishes at 8<sup>th</sup> location.

3:25 PM ZEBRA secures equipment and leaves site. CV leaves site.

Background PID readings 0.2 ppm.

PPE: Level D

Visitors (Name, Affiliation): \_\_\_\_\_

Signature: Charlotte Verhaeg



## DAILY FIELD REPORT

<b>Project Name:</b> <u>441/442 Waverly Avenue</u>	<b>Project No.:</b> <u>28012</u>
<b>Client Name:</b> <u>New Waverly Avenue Associates</u>	<b>Date:</b> <u>June 12, 2013</u>
<b>Location:</b> <u>441 Waverly Avenue, Mamaroneck, NY</u>	<b>Weather:</b> <u>68°F, Clear</u>
<b>Inspector:</b> <u>Charlotte Verhoef (CV), Sterling Environmental Engineering, P.C.</u>	

### Work Description, Comments Discussion, Problems, Instructions:

Observe HRC Injections on 441 Waverly Avenue.

7:35 AM	CV arrives onsite.
7:45 AM	Luke Reiss and Antonio Hernandez with Zebra Environmental Corp. (ZEBRA) onsite. CV calibrates PID.
8:00 AM	ZEBRA mobilizes and sets up equipment – GeoProbe GP 20. Starts drilling at 9 <sup>th</sup> location around GZ – 22D down to 47 feet.
8:30 AM	ZEBRA starts drilling at 9 <sup>th</sup> location around GZ – 22D down to 47 feet and 38 feet using a double diaphragm pump. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of water and mixed with a portable drill with mixing wand.
8:50 AM	ZEBRA finishes at 9 <sup>th</sup> location.
9:00 AM	ZEBRA starts drilling at 10 <sup>th</sup> location around GZ – 22D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons.
9:20 AM	ZEBRA finishes at 10 <sup>th</sup> location.
9:25 AM	ZEBRA starts drilling at 11 <sup>th</sup> location around GZ – 22D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of water.
9:35 AM	ZEBRA finishes at 11 <sup>th</sup> location.
9:50 AM	ZEBRA starts drilling at 12 <sup>th</sup> location around GZ – 22D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of water.
10:05 AM	ZEBRA finishes at 12 <sup>th</sup> location.
10:10 AM	ZEBRA starts drilling at 13 <sup>th</sup> location around GZ – 22D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of water.
10:25 AM	ZEBRA finishes at 13 <sup>th</sup> location.
10:30 AM	ZEBRA starts drilling at 14 <sup>th</sup> location around GZ – 22D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of water.
10:45 AM	ZEBRA finishes at 14 <sup>th</sup> location.
10:50 AM	ZEBRA starts drilling at 15 <sup>th</sup> location around GZ – 22D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of water.



11:05 AM ZEBRA finishes at 15<sup>th</sup> location.

11:10 AM ZEBRA starts drilling at 16<sup>th</sup> location around GZ – 22D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of water.

11:25 AM ZEBRA finishes at 16<sup>th</sup> location.

11:45 AM ZEBRA fills up soil boring locations with sand and bentonite.

12:45 PM ZEBRA plugs locations with Sakrete fast – setting concrete mix.

1:25 PM David Herman with the New York State Department of Environmental Conservation onsite – Discuss soil boring HRC injections. Review locations.

1:35 PM ZEBRA moves equipment to 442 Waverly Avenue.

2:00 PM CV measures out boring locations around Monitoring Well GZ – 23D.

2:25 PM David Herman leaves site.

3:00 PM ZEBRA leaves site.

3:25 PM CV leaves site.

Background PID readings 0.2 ppm.

PPE: Level D

Visitors (Name, Affiliation: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Signature: Charlotte Verbeke



## DAILY FIELD REPORT

<b>Project Name:</b> <u>441/442 Waverly Avenue</u>	<b>Project No.:</b> <u>28012</u>
<b>Client Name:</b> <u>New Waverly Avenue Associates</u>	<b>Date:</b> <u>June 13, 2013</u>
<b>Location:</b> <u>441 Waverly Ave., Mamaroneck, NY</u>	<b>Weather:</b> <u>67°F, Clear</u>
<b>Inspector:</b> <u>Charlotte Verhoef (CV), Sterling Environmental Engineering, P.C.</u>	

### Work Description, Comments Discussion, Problems, Instructions:

Observe HRC Injections on 442 Waverly Avenue.

7:35 AM	CV arrives onsite. Luke Reiss and Antonio Hernandez with ZEBRA Environmental Corp. (ZEBRA) onsite. CV calibrates PID.
8:05 AM	ZEBRA mobilizes and sets up equipment – GeoProbe GP 20. Starts drilling at 17 <sup>th</sup> location around GZ – 23D down to 47 feet.
8:10 AM	ZEBRA starts pumping at 17 <sup>th</sup> location around GZ – 23D down to 47 feet and 38 feet using a double diaphragm pump. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of water and mixed with a portable drill with mixing wand.
8:20 AM	ZEBRA finishes at 17 <sup>th</sup> location. Due to groundwater and clay layer HRC is not absorbing into the designated soils or at the targeted depths. However, all HRC product is injected into the soil boring.
8:25 AM	ZEBRA starts drilling at 18 <sup>th</sup> location around GZ – 23D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons.
8:50 AM	ZEBRA finishes at 18 <sup>th</sup> location. Due to groundwater and clay layer HRC is not absorbing into the designated soils or at the targeted depths. However, all HRC product is injected into the soil boring.
9:00 AM	ZEBRA starts drilling at 19 <sup>th</sup> location around GZ – 23D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of water. However, all HRC product is injected into the soil boring.
9:15 AM	ZEBRA finishes at 19 <sup>th</sup> location. Due to groundwater and clay layer HRC is not absorbing into the designated soils or at the targeted depths. However, all HRC product is injected into the soil boring.
9:20 AM	ZEBRA starts drilling at 20 <sup>th</sup> location around GZ – 23D down to 47 feet and 38 feet. 30 lbs of HRC product is diluted with 1.5 to 2 gallons of water.
9:35 AM	ZEBRA finishes at 20 <sup>th</sup> location. Due to groundwater and clay layer HRC is not absorbing into the designated soils or at the targeted depths. However, all HRC product is injected into the soil boring.
9:45 AM	ZEBRA fills up soil boring locations with sand and bentonite. ZEBRA plugs locations with asphalt.
10:30 AM	ZEBRA leaves site.
10:45 AM	CV leaves site.

Background PID readings 0.2 ppm.

PPE: Level D

Visitors (Name, Affiliation): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signature: Charlotte Van Hoof

**APPENDIX D**

**SOIL DISPOSAL MANIFESTS**

SOIL SAFE, INC.

Log Number

001

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name New Waverly Avenue Assoc., LLC Generator Site/Location NYSDEC Brownfield Site # C360108  
Address 556 Westchester Avenue Address 442 Waverly Avenue  
Rye Brook, NY 10573 Mamaroneck, NY 10543  
Phone No. \_\_\_\_\_ Phone No. \_\_\_\_\_

Approval  
Number

L4-7727

Description of Material

Non-Regulated Petroleum  
Contaminated Soil  
Non DOT/RCRA Regulated

10 254  
GROSS 44.78 GROSS  
TARE 13.47 T  
RECALLED TARE  
NET 31.31 T  
LOG 22 NET  
02/10/2011  
09:57AM TONNAGE

I hereby certify that the above named material does not contain or any applicable state law, is not a hazardous waste as defined by law, has been properly described, classified and packaged, and according to applicable regulations.

CFR Part 260.10  
applicable state  
or transportation

STEPHEN GERRITZ  
Generator Authorized Agent Name

Signature

TRANSPORTEE

Transporter Name Greenwood  
Address Hackettstown, NJ

Driver Name (Print) Jorge Medina

Vehicle License No. / State / EPA No. 205 AM122A

Truck Number 205 S.S. 254

I hereby certify that the above named material was picked up at the generator site listed above.

I hereby certify that the above named material was delivered without incident to the destination listed below.

Jorge Medina  
Driver Signature

2-10-11  
Shipment Date

Jorge Medina  
Driver Signature

2-10-11  
Delivery Date

DESTINATION

Site Name Soil Safe, Inc. - Bridgeport Phone No. 1-856-467-8030

Address 378 Route 130 Logan Township, NJ 08085

No left turn on Rt. 130 North into the facility.

Business hours are: Monday through Friday 7 AM to 5 PM. 5 PM to 10 PM By Appointment only. Saturday by appointment only.

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent

Signature

Receipt Date

White - Facility

Green - Facility

Yellow - Generator

Pink - Broker

Goldenrod - Contractor

Blue - Trucking Co.

# SOIL SAFE, INC.

Log Number

002

## NON-HAZARDOUS MATERIAL MANIFEST

### GENERATOR

Generator Name New Waverly Avenue Assoc., LLC Generator Site/Location NYSDEC Brownfield Site # C360108  
 Address 556 Westchester Avenue Address 442 Waverly Avenue  
Rye Brook, NY 10573 Mamaroneck, NY 10543  
 Phone No. \_\_\_\_\_ Phone No. \_\_\_\_\_

Approval  
Number

L4-7727

#### Description of Material

Non-Regulated Petroleum  
Contaminated Soil

Non DOT/RCRA Regulated

ID 599	
GROSS TARE	44.50 T
RECALLED NET	12.88 TTARE
	31.62 T NET
LOG 27	
02/10/2011	TONNAGE
10:16AM	

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

STEVEN GARIN  
Generator Authorized Agent Name

[Signature]  
Signature

2/10/11  
Shipment Date

### TRANSPORTER

Transporter Name Greenwood II Driver Name (Print) Johnny Kido  
 Address 123 Howard Rd Vehicle License No. / State / EPA No. Am121A  
Edgewood NJ Truck Number 204 SS 599

I hereby certify that the above named material was picked up at the generator site listed above.

I hereby certify that the above named material was delivered without incident to the destination listed below.

[Signature]  
Driver Signature

Shipment Date

Driver Signature

Delivery Date

### DESTINATION

Site Name Soil Safe, Inc. - Bridgeport Phone No. 1-856-467-8030

Address 378 Route 130 Logan Township, NJ 08085

No left turn on Rt. 130 North into the facility.

Business hours are: Monday through Friday 7 AM to 5 PM. 5 PM to 10 PM By Appointment only. Saturday by appointment only.

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent

[Signature]  
Signature

2/10/11  
Receipt Date

White - Facility

Green - Facility

Yellow - Generator

Pink - Broker

Goldenrod - Contractor

Blue - Trucking Co.

# SOIL SAFE, INC.

Log Number

003

## NON-HAZARDOUS MATERIAL MANIFEST

### GENERATOR

Generator Name New Waverly Avenue Assoc., LLC Generator Site/Location NYSDEC Brownfield Site # C360108  
 Address 556 Westchester Avenue Address 442 Waverly Avenue  
Rye Brook, NY 10573 Mamaroneck, NY 10543  
 Phone No. \_\_\_\_\_ Phone No. \_\_\_\_\_

Approval  
Number

L4-7727

#### Description of Material

Non-Regulated Petroleum  
Contaminated Soil

Non DOT/RCRA Regulated

ID 100	
GROSS TARE	40.94
RECALLED NET	13.44
	27.50
LOG 28	
02/10/2011	
10:35AM	
	TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Stephen Garito  
Generator Authorized Agent Name

[Signature]  
Signature

2/10/11  
Shipment Date

### TRANSPORTER

Transporter Name Greenwood Driver Name (Print) John C. Bermeo  
 Address Landing NJ Vehicle License No. / State / EPA No. 4M636D  
 Truck Number 208 S.S 200

I hereby certify that the above named material was picked up at the generator site listed above.

I hereby certify that the above named material was delivered without incident to the destination listed below.

[Signature]  
Driver Signature

2-10-11  
Shipment Date

[Signature]  
Driver Signature

2-10-11  
Delivery Date

### DESTINATION

Site Name Soil Safe, Inc. - Bridgeport Phone No. 1-856-467-8030

Address 378 Route 130 Logan Township, NJ 08085

No left turn on Rt. 130 North into the facility.

Business hours are: Monday through Friday 7 AM to 5 PM. 5 PM to 10 PM By Appointment only. Saturday by appointment only.

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent

[Signature]  
Signature

2/10/11  
Receipt Date

White - Facility

Green - Facility

Yellow - Generator

Pink - Broker

Goldenrod - Contractor

Blue - Trucking Co.



SOIL SAFE, INC.

Log Number

004

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name New Waverly Avenue Assoc., LLC Generator Site/Location NYSDEC Brownfield Site # C360108  
Address 556 Westchester Avenue Address 442 Waverly Avenue  
Rye Brook, NY 10573 Mamaroneck, NY 10543  
Phone No. \_\_\_\_\_ Phone No. \_\_\_\_\_

Approval Number  <b>L4-7727</b>	Description of Material	ID 1089	
	Non-Regulated Petroleum	GROSS	43.35 GROSS
	Contaminated Soil	TARE	12.68 T
	Non DOT/RCRA Regulated	RECALLED	30.70 T
		NET	NET
		LOG 31	
		02/10/2011	
		11:01AM	TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Stephen Gorman Generator Authorized Agent Name [Signature] Signature 2/10/11 Shipment Date

TRANSPORTER

Transporter Name Rainbow Trans. Driver Name (Print) Carlos Horni  
Address 1470 Rt 46 Vehicle License No. / State / EPA No. AM462X  
Lodgewood NJ Truck Number 93 (1089)

I hereby certify that the above named material was picked up at the generator site listed above.

I hereby certify that the above named material was delivered without incident to the destination listed below.

[Signature] Driver Signature 02/10/11 Shipment Date [Signature] Driver Signature 02/10/11 Delivery Date

DESTINATION

Site Name Soil Safe, Inc. - Bridgeport Phone No. 1-856-467-8030

Address 378 Route 130 Logan Township, NJ 08085

No left turn on Rt. 130 North into the facility.

Business hours are: Monday through Friday 7 AM to 5 PM. 5 PM to 10 PM By Appointment only. Saturday by appointment only.

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent

[Signature] Signature

2/10/11 Receipt Date

White - Facility

Green - Facility

Yellow - Generator

Pink - Broker

Goldenrod - Contractor

Blue - Trucking Co.

# SOIL SAFE, INC.

Log Number

005

## NON-HAZARDOUS MATERIAL MANIFEST

### GENERATOR

Generator Name New Weaverly Avenue Assoc., LLC Generator Site/Location NYSDEC Brownfield Site # C360108  
 Address 556 Westchester Avenue Address 442 Waverly Avenue  
Rye Brook, NY 10573 Mamaroneck, NY 10543  
 Phone No. \_\_\_\_\_ Phone No. \_\_\_\_\_

Approval Number  <b>LA-7727</b>	Description of Material	ID 152
	Non-Regulated Petroleum	GROSS 43.31 GROSS
	Contaminated Soil	TARE 13.70 TARE
	Non DOT/RCRA Regulated	RECALLED 29.61 TARE
		NET 29.61 TARE
		LOG 32 02/10/2011 11:05AM TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Anthony Gennaro Signature 2/10/11 Shipment Date  
 Generator Authorized Agent Name

### TRANSPORTER

Transporter Name Greenwood 2. Driver Name (Print) Edison Valencia  
 Address Ledgewood NJ. Vehicle License No. / State / EPA No. 200 AN637D  
 Truck Number 209

I hereby certify that the above named material was picked up at the generator site listed above.

I hereby certify that the above named material was delivered without incident to the destination listed below.

[Signature] 2/10/11 Driver Signature Shipment Date  
[Signature] 2/10/11 Driver Signature Delivery Date

### DESTINATION

Site Name Soil Safe, Inc. - Bridgeport Phone No. 1-856-467-8030

Address 378 Route 130 Logan Township, NJ 08085

No left turn on Rt. 130 North into the facility.

Business hours are: Monday through Friday 7 AM to 5 PM. 5 PM to 10 PM By Appointment only. Saturday by appointment only.

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent

Signature

Receipt Date

White - Facility

Green - Facility

Yellow - Generator

Pink - Broker

Goldenrod - Contractor

Blue - Trucking Co.

SOIL SAFE, INC.

Log Number

006

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name New Waverly Avenue Assoc. LLC Generator Site/Location NYSDEC Brownfield Site # C360108  
Address 556 Westchester Avenue Address 442 Waverly Avenue  
Rye Brook, NY 10573 Mamaroneck, NY 10543  
Phone No. \_\_\_\_\_ Phone No. \_\_\_\_\_

Approval Number  <b>L4-7727</b>	Description of Material	ID 142	GROSS
	Non-Regulated Petroleum	GROSS	44.79 T
	Contaminated Soil	TARE	13.13 TARE
	Non DOT/RCRA Regulated	RECALLED	
		NET	31.66 T NET
		LOG 35	TONNAGE
		02/10/2011	
		11:28AM	

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

[Signature]  
Generator Authorized Agent Name

[Signature]  
Signature

2/10/11  
Shipment Date

TRANSPORTER

Transporter Name Greenwood  
Address Ledge wood

Driver Name (Print) Saul Gonzalez  
Vehicle License No. / State / EPA No. AM1204  
Truck Number 203 (142)

I hereby certify that the above named material was picked up at the generator site listed above.

I hereby certify that the above named material was delivered without incident to the destination listed below.

[Signature] 2-10-11  
Driver Signature Shipment Date

[Signature] 2-10-11  
Driver Signature Delivery Date

DESTINATION

Site Name Soil Safe, Inc. - Bridgeport Phone No. 1-856-467-8030

Address 378 Route 130 Logan Township, NJ 08085

No left turn on Rt. 130 North into the facility.

Business hours are: Monday through Friday 7 AM to 5 PM. 5 PM to 10 PM By Appointment only. Saturday by appointment only.

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

J. Garcia 2-10-11  
Name of Authorized Agent Signature Receipt Date

White - Facility

Green - Facility

Yellow - Generator

Pink - Broker

Goldenrod - Contractor

Blue - Trucking Co.

SOIL SAFE, INC.

Log Number

007

## NON-HAZARDOUS MATERIAL MANIFEST

## GENERATOR

Generator Name New Waverly Avenue Assoc., LLC Generator Site/Location NYSDEC Brownfield Site # C360108  
 Address 556 Westchester Avenue Address 442 Waverly Avenue  
Rye Brook, NY 10573 Mamaroneck, NY 10543  
 Phone No. \_\_\_\_\_ Phone No. \_\_\_\_\_

Approval  
Number

LA-7727

## Description of Material

Non-Regulated Petroleum  
Contaminated Soil  
Non DOT/RCRA Regulated

10 154  
 GROSS 41.71 GROSS  
 TARE 13.55 TARE  
 RECALLED  
 NET 28.16 T  
 LOG 36  
 02/10/2011  
 11:30AM  
 NET  
 TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Stephen Garcia  
 Generator Authorized Agent Name

Signature

2/10/11  
 Shipment Date

## TRANSPORTER

Transporter Name GREENWOOD Transp Driver Name (Print) Edior G  
 Address 123 Howard Blvd Vehicle License No. / State / EPA No. AH 638D  
LEDGEWOOD NJ 07852 Truck Number # 210 154

I hereby certify that the above named material was picked up at the generator site listed above.

I hereby certify that the above named material was delivered without incident to the destination listed below.

Edior G  
 Driver Signature

02-10-11  
 Shipment Date

Edior G  
 Driver Signature

02-10-11  
 Delivery Date

## DESTINATION

Site Name Soil Safe, Inc. - Bridgeport Phone No. 1-856-467-8030

Address 378 Route 130 Logan Township, NJ 08085

No left turn on Rt. 130 North into the facility.

Business hours are: Monday through Friday 7 AM to 5 PM. 5 PM to 10 PM By Appointment only. Saturday by appointment only.

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

J. Garcia 2-10-11  
 Name of Authorized Agent Signature Receipt Date

White - Facility

Green - Facility

Yellow - Generator

Pink - Broker

Goldend - Contractor

Blue - Trucking Co.

## SOIL SAFE, INC.

Log Number

008

## NON-HAZARDOUS MATERIAL MANIFEST

## GENERATOR

Generator Name New Waverly Avenue Assoc., LLC Generator Site/Location NYSDEC Brownfield Site # C360108  
 Address 556 Westchester Avenue Address 442 Waverly Avenue  
Rye Brook, NY 10573 Mamaroneck, NY 10543  
 Phone No. \_\_\_\_\_ Phone No. \_\_\_\_\_

Approval  
Number

LA-7727

## Description of Material

Non-Regulated Petroleum  
Contaminated Soil

Non DOT/RCRA Regulated

TO 108  
GROSS  
TARE  
RECALLED  
NET

45.32 GROSS

13.03 T

32.29 T TARE

NET

LOG 38

02/10/2011

12:10PM

TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name

Signature

Shipment Date

## TRANSPORTER

Transporter Name

Driver Name (Print)

Address

Vehicle License No. / State / EPA No.

Truck Number

I hereby certify that the above named material was  
picked up at the generator site listed above.

I hereby certify that the above named material was  
delivered without incident to the destination listed below.

Driver Signature

Shipment Date

Driver Signature

Delivery Date

## DESTINATION

Site Name

Soil Safe, Inc. - Bridgeport

Phone No.

1-856-467-8030

Address

378 Route 130 Logan Township, NJ 08085

No left turn on Rt. 130 North into the facility.

Business hours are: Monday through Friday 7 AM to 5 PM. 5 PM to 10 PM By Appointment only. Saturday by appointment only.

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent

Signature

Receipt Date

White - Facility

Green - Facility

Yellow - Generator

Pink - Broker

Goldentrod - Contractor

Blue - Trucking Co.

## **APPENDIX E**

### **NYACK QUARRY – VIRGIN SOURCE DOCUMENTATION**

**TILCON NEW YORK, INC.**  
**162 Old Mill Road**  
**W. Nyack, NY 10994**  
**845-358-4500**

Jan 3, 2009

RE: ASTM #57 (NYS 1's & 2's), West Nyack

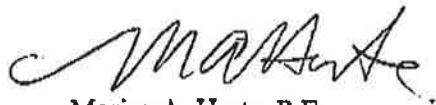
To Whom It May Concern:

Please find listed below a typical gradation for the ASTM #57 (NYS 1's & 2's), ¾" Stone from our West Nyack, NY quarry (NYSDOT Source #8-8R). This material is from a virgin source and is free of deleterious material.

<u>Sieve Size</u>	<u>% Passing</u>
1"	100
¾"	89
½"	39
3/8"	17
#4	3
#8	1

If you have any questions, please do not hesitate to contact me at 516-680-5726.

Sincerely,



Marisa A. Hart, P.E.  
Metropolitan Operations Manager  
Quality Assurance



**APPENDIX F**  
**EXCAVATION WORK PLAN**

## **APPENDIX F**

### **EXCAVATION WORK PLAN (EWP)**

#### **1.0 NOTIFICATION**

At least fifteen (15) days prior to the start of any activity in an area that is anticipated to encounter remaining contamination or has the potential to exceed the Track 1 Unrestricted Soil Cleanup Objectives, the site owner or their representative will notify the New York State Department of Environmental Conservation (NYSDEC). Currently, this notification will be made to:

Mr. Edward Moore, P.E. or successor  
NYSDEC Region 3 Hazardous Waste Remediation Engineer  
21 South Putt Corners Road  
New Paltz, New York 12561-1696  
(845) 256-3137

Mr. William T. Ports, P.E. or successor  
NYSDEC – Division of Environmental Remediation  
625 Broadway  
Albany, New York 12233-7014  
(518) 402-9662

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of the excavation, plans for site re-grading, intrusive elements or utilities to be installed below the asphalt cover and estimated volumes of contaminated soil to be excavated.
- A summary of environmental conditions anticipated 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 Excavation Work Plan (EWP). Simple excavations may only require compliance with a portion of the EWP. For example, excavation of a small volume of soil from above the water table that is directly loaded for offsite disposal would not require the stockpiling or fluids management provisions. Prior to any soil excavation proposed for the site, the owner or owner's representative can review applicable sections of the EWP with the NYSDEC as part of the notification process.
- 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 G of the Site Management Plan (SMP).
- Identification of permitted disposal facilities for potential waste streams.

- Identification of offsite sources for any anticipated backfill, along with all required chemical testing results.

Prior to any excavation, DigSafely.New York (1-800-962-7962) must be contacted for a utility location request for the proposed excavation area.

## **2.0 SOIL SCREENING METHODS**

Visual, olfactory and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the ground intrusive work is conducted and will include all excavations and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the Certificate of Completion (COC).

Soils will be segregated based on previous environmental data and screening results into material that requires offsite disposal and material that requires testing to determine if it can be returned to the subsurface.

Soil observed to be stained, discolored, tinted, dyed, unnaturally mottled, or that has a sheen or produces elevated photoionization detector (PID) readings (i.e., sustained 10 parts per million (ppm) or greater above background levels) will be considered potentially contaminated and stockpiled separately from soil not considered potentially contaminated. All potentially contaminated stockpiled soil will be sampled for parameters required by the disposal facility if the soil will be disposed offsite, or for the parameters listed in Table 3 of the SMP, if the soil is being considered for re-use on the site property.

## **3.0 STOCKPILE METHODS**

As specified in the NYSDEC General Permit for Stormwater Discharges from Construction Activity (GP-0-08-001), a berm or silt fencing will be installed on the downgradient side of a soil stockpile.

Stockpiles will be kept covered at all times with appropriately anchored tarps and will be routinely inspected; damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum of 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.

## **4.0 MATERIALS EXCAVATION AND LOADOUT**

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and loadout of all excavated material. The owner of the property and its contractors are solely responsible for the safe execution of all invasive and other work performed under this EWP.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work 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 New York State Department of Transportation (NYSDOT) requirements (and all other applicable transportation requirements).

A truck wash will be operated onsite, if required. The qualified environmental professional will be responsible for ensuring that all outbound trucks that come in contact with contaminated soil will be washed at the truck wash before leaving the site until the activities performed under this section are complete. All truck wash water will be contained and drummed for disposal at a permitted facility.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport are clean of soil and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent street will be performed as needed to maintain a clean condition with respect to site-derived materials; this activity may require a local permit.

## **5.0 MATERIALS TRANSPORT OFFSITE**

All transport of regulated 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. All trucks will be washed prior to leaving the site. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Truck transport routes and directions for site material being hauled to and from the site are provided on Figure 1. All trucks loaded with site materials will exit the vicinity of the site using only these approved transport routes. These routes are the most appropriate routes and take into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of City mapped truck routes; (c) prohibiting offsite queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; (f) overall safety in transport; and (g) community input (if necessary).

Trucks will be prohibited from stopping and idling in the project site neighborhood. Queuing of trucks will occur onsite in order to minimize offsite disturbances.

## **6.0 MATERIALS MANAGEMENT OFFSITE**

All soil/fill/solid waste excavated and removed from the site with conditions noted in Section 2 will be assumed contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6 NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this site is proposed for unregulated offsite disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated offsite management of materials from this site will not occur without formal NYSDEC approval.

Offsite 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 removed from the site will be handled, at minimum, as a Municipal Solid Waste (MSW) per 6 NYCRR Part 360-1.2. Material that does not meet 6 NYCRR Part 375-6.8(a) (Track 1 Unrestricted Use Soil Cleanup Objectives (SCOs)) is prohibited from being taken to a New York State recycling facility (6 NYCRR Part 360-16 Registration Facility).

## **7.0 MATERIALS REUSE ONSITE**

If excavated soil does not present characteristics indicating it is potentially contaminated soil (see Section 2) and is planned for reuse on the site, where reuse is defined as material that originates at the site and does not leave the site, a composite soil sample must be collected for every 500 cubic yards (cy) of excavated soil. Chemical criteria for onsite reuse of material have been approved by the NYSDEC and are listed in Table 3 of the SMP.

According to NYSDEC DER-10, composite soil sample will be collected from five (5) locations within each stockpile (up to 500 cubic yards). A duplicate sample will also be collected for every twenty (20) composite soils collected. PID measurements will be recorded for each of the five (5) individual soil sample locations. One (1) grab sample will be collected from the stockpile sample location with the highest PID measurement. If none of the five (5) individual sample locations exhibit PID readings, one (1) location will be selected at random. Grab soil sample(s) will be analyzed only for the Volatile Organic Compounds (VOCs) and composite soil samples will be analyzed for all parameters listed in Table 3 of the SMP, except for VOCs.

Soil samples will be composited by placing equal portions of fill/soil from each of the five (5) composite sample locations from one (1) soil stockpile into a clean, stainless steel or Pyrex glass mixing bowl. The soil/fill will be thoroughly homogenized using a stainless steel scoop or trowel and transferred to containers provided by the laboratory. Sample containers will then be labeled and a Chain-of-Custody form will be prepared.

Chemical criteria for onsite reuse of material have been approved by the NYSDEC and are listed in Table 3 of the SMP. The qualified environmental professional will ensure that procedures defined for materials reuse in this EWP are followed and that unacceptable material does not remain onsite. Contaminated onsite material, including historic fill and contaminated soil, that is acceptable for reuse onsite will be placed below the demarcation layer or impervious surface, and will not be reused as a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse onsite 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.

## **8.0 FLUIDS MANAGEMENT**

All fluids to be removed from the site, including fluids generated from truck washing, excavation dewatering, monitoring well purging and development, will be handled, transported, discharged and/or disposed in accordance with applicable local, State, and Federal regulations. Fluids generated from site

excavation (other than excavation dewatering and dust control water spray) will not be recharged back to the land surface or subsurface of the site.

## **9.0 COVER SYSTEM DEFINITIONS AND RESTORATION**

Approved cover systems for the site property include a vegetated soil layer, asphalt and concrete. The cover systems are intended to provide protection from exposure of potentially impacted soil/fill materials. Each of the approved cover systems must meet the criteria specified below:

### **Soil**

Soil used as a cover system must meet the following criteria:

- Reported concentrations for the chemical analyses of soil samples from site sources or off-property sources meets 6 NYCRR Part 375-6.8(b) – Restricted Commercial Use SCOs.
- The soil cover system must be two (2) feet thick and vegetated, unless a lesser thickness is approved by the NYSDEC.
- The topsoil used for the final cover shall conform to Specification 713-01 of the NYSDOT's most recent version of the standard specifications. The topsoil will be fertile, friable, natural loam surface soil, capable of sustaining plant growth, and free of clods or hard earth, plants or roots, sticks or other extraneous material harmful to plant growth.
- Grassed areas will be seeded with a sustainable perennial mixture with appropriate erosion control measures taken until the perennial grasses are established.

### **Asphalt**

Where asphalt pavement is proposed the asphalt pavement will represent an approved cover system that will have a minimum cross-sectional thickness of five (5) inches of material (asphalt and clean sub-base material). The actual cross-section of the asphalt cover (i.e., thickness of the asphalt and sub-base material) will be determined based on the intended use in each paved area.

### **Concrete**

Where concrete pavement is proposed for slab-on-grade structures, utilities, footings, foundations, or signs, or if concrete is used instead of asphalt it will represent an approved cover system that will have a minimum cross-sectional thickness of five (5) inches of material (concrete and clean sub-base material).

After the completion of soil removal and any other invasive activities, the cover system will be restored in a manner that complies with this EWP. A demarcation layer, consisting of orange snow fencing material or an equivalent material, will be replaced at the bottom of the excavation to provide a visual reference to the top of the zone that requires adherence to special conditions for disturbance of remaining contaminated soils. If the type of cover system changes as a result of excavation operations (i.e., soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy. A figure showing the location and cross-section of the modified surface will be included in subsequent monthly update reports submitted to the NYSDEC and in any updates to the Site Management Plan (SMP).



## 10.0 BACKFILL FROM OFFSITE SOURCES

Subgrade material from offsite locations used to backfill excavations or to increase site grades or elevation shall meet the following criteria:

- Off-property borrow soils will be documented as having originated from locations having no evidence of disposal or release of hazardous, toxic or radioactive substances, wastes or petroleum products.
- Off-property soils cannot be defined as a solid waste in accordance with 6 NYCRR Part 360-1.2(a), unless a beneficial use determination has been issued by the NYSDEC.
- If an off-property soil source is designated as “virgin” soil, it shall be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development or agricultural use.
- Virgin soils should be subject to collection of one (1) representative composite sample and one (1) grab sample per source and analytical results must meet the SCOs provided in Table 3 of the SMP.
- Non-virgin soils will be tested by collecting one (1) composite sample and one (1) grab sample per 500 cubic yards (cy) of material from each source area. If more than 1,000 cy of soil are borrowed from a given off-property non-virgin soil source, and both samples of the first 1,000 cy meet the SCOs in Table 3 of the SMP, the sample collection frequency will be reduced to one (1) composite sample and one (1) grab sample for every 2,500 cy of additional soils from the same source, up to 5,000 cy. For borrow sources greater than 5,000 cy, sampling frequency may be reduced to one (1) composite sample and one (1) grab sample per 5,000 cy, provided all earlier samples meet the SCOs.
- Composite soil samples will be analyzed for parameters listed in Table 3 of the SMP, except for VOCs, and grab soil samples will be analyzed only for the VOCs listed in Table 3 of the SMP. Offsite soil will be acceptable for use at the site provided that all parameters meet the SCOs provided in Table 3 of the SMP.

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 and/or DER-10 prior to receipt at the site.

Material from industrial sites, spill sites, or other environmental remediation site 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 6 NYCRR 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 Table 3 of the SMP. Soils that meet ‘exempt’ fill requirements under 6 NYCRR Part 360, however 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.

## **11.0 STORM WATER POLLUTION PREVENTION**

For all excavations, silt fence barriers and hay bale checks will be installed and inspected in accordance with the Construction Activity General Permit GP-0-08-001. Erosion and sediment control measures will be inspected weekly to ensure that they are operating correctly. Discharge locations or points will be inspected to determine if erosion control measures are effective in preventing significant impacts to receiving waters.

Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. All necessary repairs will 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.

Silt fencing or hay bales will be installed around the downgradient side of the construction area.

## **12.0 CONTINGENCY PLAN**

If buried drums or underground storage tanks (USTs) or previously unidentified contaminant sources are encountered during soil excavation activities, the excavation activity at that location will cease and the Westchester County Department of Health (WCDOH) Spill Reporting Hotline (914) 813-5000 and NYSDEC will be immediately notified. All drums and/or USTs encountered will be evaluated and a removal plan will be prepared for NYSDEC and WCDOH approval. Appropriately trained personnel will excavate all of the drums and/or USTs while following all applicable Federal, State, and local regulations. Removed drums and USTs will be properly characterized and disposed to a permitted facility. The soil/fill surrounding the buried drums or USTs will be considered potentially contaminated and will be stockpiled and characterized.

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 full 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 telephone to the 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 Periodic Review Reports submitted to the NYSDEC.



### 13.0 COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Plan (CAMP) is provided herein and in Appendix G of the SMP must be implemented for soil excavation operations posing a significant risk of contamination release. The CAMP provides a measure of protection for the downwind community (i.e., building occupants and the general public) from potential airborne contaminant releases as a direct result of ground-intrusive work activities.

The CAMP provides for real-time monitoring of Volatile Organic Compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when ground-intrusive activities are implemented at the site property. The CAMP was developed from the New York State Department of Health (NYSDOH) Generic CAMP that is provided in the DER-10 Technical Guidance for Site Investigation and Remediation. In addition, the work space proximal to ground intrusive activities will be monitored for explosive gas. The CAMP also addresses ground intrusive activities within twenty (20) feet of a potentially exposed population or occupied structure and for indoor air monitoring activities. Contractors should employ Best Management Practices (BMPs) and common sense measures to minimize VOCs, dust, and odors around work areas. Monitoring locations will include one (1) upwind and one (1) downwind and will depend on the current wind direction.

The table below provides action levels and corresponding required actions for VOCs and particulate monitoring that include increased monitoring, corrective actions to abate emissions, and/or work shutdown.

Air Monitoring Action Levels at Downwind Perimeter of Exclusion Zone		
Parameter/ Instrument	Action Level	Action
VOCs/PID	The 15-minute average of continuous readings for Total VOCs at downwind perimeter of Exclusion Zone exceeds 5 ppm above the determined background level.	Work activities are temporarily halted and VOCs monitoring continues. If downwind Exclusion Zone VOC readings decrease to < 5 ppm above background level, work can resume with continuous monitoring.
VOCs/PID	The 15-minute average of continuous readings is greater than 5 ppm but less than 25 ppm over the background level at the downwind perimeter of the Exclusion Zone.	Work activities must be halted, the source of vapors must be identified and corrective actions taken to abate emissions. Following these steps, work may continue if air monitoring readings indicate the Total VOCs level is 5 ppm or less over background for the 15-minute average at 200 feet downwind of the Exclusion Zone, or at half the distance to the nearest potential receptor or building, whichever is less (but in no case less than 20 feet).
VOCs/PID	Continuous reading of 25 ppm or greater over the background level at the downwind perimeter of the Exclusion Zone.	<u>Stop Work.</u> Reevaluate work conditions and procedures. Contact NYSDEC for authorization to proceed prior to resuming work.

<b>Air Monitoring Action Levels at Downwind Perimeter of Exclusion Zone</b>		
<b>Parameter/ Instrument</b>	<b>Action Level</b>	<b>Action</b>
Particulates/ Monitor Unit and Direct Observation	PM-10 particulate level is 100 micrograms per cubic meter (ug/m <sup>3</sup> ) or greater than the background level for the 15-minute period at the downwind edge of the Exclusion Zone or visible dust is leaving the Exclusion Zone.	Suppress particulates by spraying the dusty area with water, work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 ug/m <sup>3</sup> above the upwind level and provided that no visible dust is migrating from the Exclusion Zone.
Particulates/ Monitor Unit and Direct Observation	After implementation of dust suppression techniques, downwind PM-10 particulate levels at the downwind edge of the exclusion zone are greater than 150 ug/m <sup>3</sup> above the upwind level.	Work must be stopped and the NYSDEC and NYSDOH Project Managers must be notified. Re-evaluate dust suppression techniques. Workers are required to use full face or half-face respirators with NIOSH approved P100 cartridges or combination cartridges. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 ug/m <sup>3</sup> of the upwind level and in preventing visible dust migration.

A figure showing the location of air sampling stations based on generally prevailing wind conditions is shown in Figure 2. 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 the NYSDEC and NYSDOH Project Managers.

#### **14.0 ODOR CONTROL PLAN**

The Odor Control Plan addresses the control of emissions of nuisance odors for off-site and on-site, if there are tenants on the property. Specific odor control methods that may be used are discussed below. If significant nuisance odors are identified at the site boundary, work will be halted and the source of odors will be identified and corrected. Work will not resume until corrective action has been implemented. The NYSDEC and NYSDOH will be notified of all odor events and of any other received complaints. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All practicable measures will be employed to prevent on-site and off-site odor nuisances. At a minimum, the odor control 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 may include: (d) direct load-out of soils to trucks for offsite 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 may be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

## **15.0 DUST CONTROL PLAN**

Particulate monitoring will be performed in accordance with the CAMP (see Section 13) when ground-intrusive activities are conducted, including excavation, grading, and soil handling activities that pose a risk of contaminant release.

A dust suppression plan may include the following techniques that may be required at the site to address dust management. The techniques include: wetting equipment and excavation faces, spraying water on buckets during excavating and dumping, hauling materials in properly covered or watertight containers, restricting vehicle speed to ten (10) miles per hour (mph), covering excavated areas and material after excavating activities cease, establishing vegetative cover immediately after placement of cover soil, and reducing the excavation size and/or number of excavations. The use of atomizing sprays is recommended so that excessively wet areas will not be created, however fugitive dust will be suppressed.



DIRECTIONS TO 441/442 WAVERLY AVENUE:

NORTH-BOUND ON I-95:

TAKE I-95 NORTH-BOUND TO EXIT 18A.  
TURN RIGHT OFF EXIT RAMP ONTO FENIMORE ROAD, PROCEED 0.17 MILE.  
TURN RIGHT ONTO WAVERLY AVE, PROCEED 550 FEET.

SOUTH-BOUND ON I-95:

TAKE I-95 SOUTH-BOUND TO EXIT 18A.  
TURN RIGHT OFF EXIT RAMP ONTO MAMARONECK AVE, PROCEED 1.1 MILES.  
TURN RIGHT ONTO WEST BOSTON POST ROAD (ROUTE 1), PROCEED 0.48 MILE.  
TURN RIGHT ONTO FENIMORE ROAD, PROCEED 0.28 MILE.  
TURN LEFT ONTO WAVERLY AVE, PROCEED 550 FEET.

- ▲ ROUTE TO SITE  
▼ ROUTE FROM SITE TO I-95



FIGURE 1

**SERLING**

Sterling Environmental Engineering, P.C.  
24 Wade Road • Latham, New York 12110

PROPOSED TRUCK ROUTES

SITE #C360108

441 & 442 WAVERLY AVENUE

**NEW WAVERLY AVENUE ASSOCIATES, LLC**

V/T OF MAMARONECK

WESTCHESTER CO., N.Y.

PROJ. No.:

28012

DATE:

7-30-09

SCALE:

1"=600'

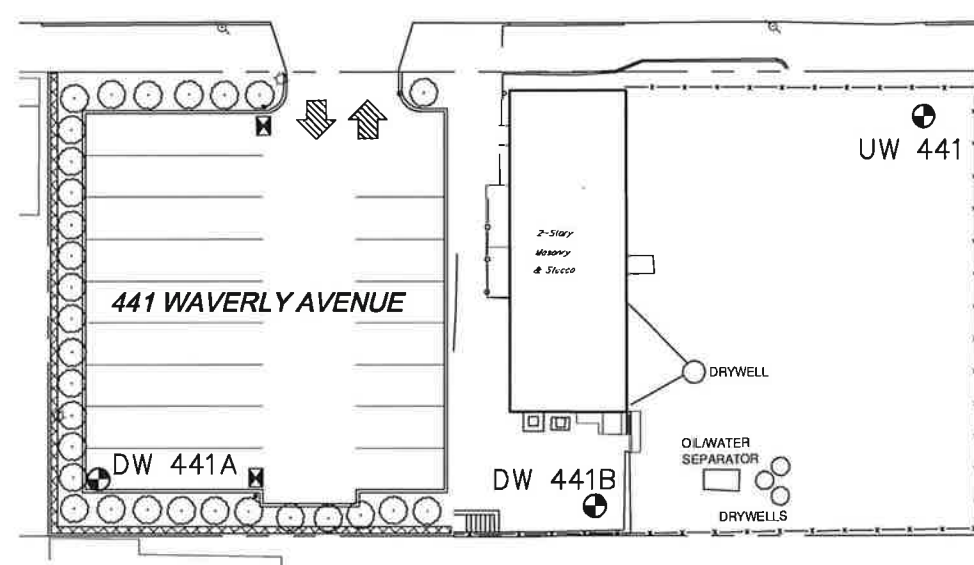
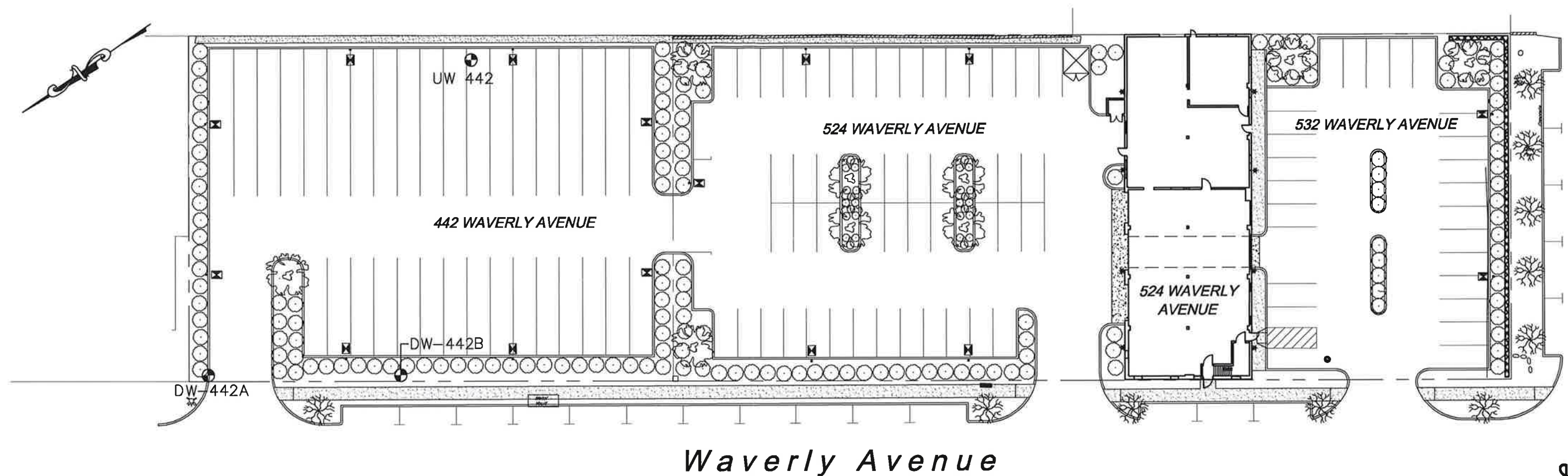
DWG. NO.

28012010

FIGURE

1





**LEGEND:**

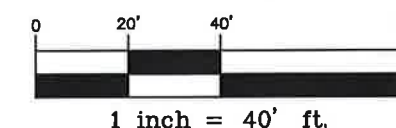
- □ LIGHT POLE
- DW- PROPOSED DOWNWIND AIR MONITORING LOCATIONS
- UW- PROPOSED UPWIND AIR MONITORING LOCATIONS
- ▨ CONCRETE SIDEWALK
- PROPERTY BOUNDARY
- x-x-x- FENCE

**NOTE:**

AIR SAMPLING LOCATIONS ARE SUBJECT TO CHANGE DEPENDING ON ACTUAL WIND DIRECTION ON THE DAY OF THE EVENT.

BASE MAP PROVIDED BY SITE DESIGN CONSULTANTS, DATED FEBRUARY 22, 2010.

**FIGURE 2**



**STERLING**  
Sterling Environmental Engineering, P.C.  
24 Wade Road • Latham, New York 12110

PROPOSED AIR MONITORING LOCATIONS  
SITE# C360108  
**NEW WAVERLY AVENUE ASSOCIATES, LLC**  
V/T OF MAMARONECK WESTCHESTER CO., N.Y.

PROJ. No.: 28012 | DATE: 11/5/2013 | SCALE: 1" = 40' | DWG. NO. 28012090 | FIGURE 2

**APPENDIX G**  
**HASP & CAMP**

## **APPENDIX G**

### **HEALTH AND SAFETY PLAN (HASP)**

#### **1.0 GENERAL INFORMATION**

The Health and Safety Plan (HASP) identifies specific measures to be taken to ensure that hazardous substances or conditions do not adversely impact the health and safety of personnel and the general community (public) for site operations. The HASP is intended to identify potential hazards and appropriate precautions as defined by OSHA 29 CFR 1910.120 (Hazardous Waste Operations and Emergency Response).

All personnel working on this site must read this HASP, acknowledge understanding of this plan, and abide by its requirements.

In general, personnel are responsible for complying with all regulations and policies applicable to the work they are performing. The Project Manager is authorized to stop work if any construction personnel/subcontractor fails to adhere to the required health and safety procedures.

In addition to this HASP, each contractor must provide a HASP that addresses minimum training requirements for activities specific to a project and identified potential hazards that are not discussed herein.

#### **2.0 DESIGNATION OF RESPONSIBILITIES**

Implementing this HASP is the responsibility of the onsite Project Manager. The Project Manager will be designated prior to any site activities and can be the contractor hired for a particular project, or an independent consultant hired by the Owner.

The Project Manager is responsible for:

- Ensuring the availability, use, and proper maintenance of specified personal protective equipment, decontamination, and other health or safety equipment.
- Maintaining a high level of safety awareness among personnel and subcontractors and communicating pertinent matters to them promptly.
- Ensuring all site activities are performed in a manner consistent with this HASP.
- Monitoring for dangerous conditions during site activities.
- Ensuring proper decontamination of personnel and equipment.
- Coordinating with emergency response personnel and medical support facilities.
- Initiating immediate corrective actions in the event of an emergency or unsafe condition.

- Notifying the NYSDEC and project owner of any emergency, unsafe condition, problem encountered, or exception to the requirements of this HASP.
- Recommending improved health and safety measures to the NYSDEC.

The Project Manager must be present for all intrusive investigative activities on the site property. However, the presence of the Project Manager shall in no way relieve any person or company of its obligations to comply with the requirements of the HASP and all applicable Federal, State and local laws and regulations.

All personnel involved in a site project must be familiar with and conform to the safety protocols prescribed in this HASP, and communicate any relevant experience or observations to the Project Manager to help improve overall safety.

### **3.0 SITE PROPERTY SPECIFIC HEALTH AND SAFETY CONCERNS**

#### **Airborne Exposure Limits**

Table 1 lists the published airborne exposure limits for those substances that are known or suspected to be present at the site.

Unknown or unexpected hazardous materials may be encountered during ground intrusive activities. No work will be conducted if field measurements or observations indicate there is potentially uncontrolled exposure to undefined hazards, or if exposures exceed protection provided by requirements in this HASP.

#### **Explosive Gas**

Explosive gas, including hydrogen sulfide (H<sub>2</sub>S), may be present in the subsurface pore spaces and therefore any major ground intrusive activity must be monitored with a gas unit that measures the Lower Explosive Limit (LEL) in percent and H<sub>2</sub>S in parts per million (ppm). Action levels for explosive gas and H<sub>2</sub>S are provided in Table 2.

#### **Personal Protective Equipment (PPE)**

Specific types of PPE for levels C and D are also listed on Table 2.

No work is anticipated requiring Levels A or B PPE and very limited work in Level C. If air monitoring results require PPE upgrades from Level D, then only medically qualified, trained personnel experienced in the use and limitations of air purifying or supplied air respirators will be used. Air purifying respirators with High-Efficiency Particulate Air (HEPA) filters, capable of removing particles of 0.3 micron or larger from air at 99.97% or greater efficiency, should be used when exposure to dust is a potential risk.

Unless the Project Manager directs otherwise, respirators used for organic vapors or particulates should have cartridges changed after eight (8) hours of use, or at the end of each shift, or when any indication of breakthrough or excessive resistance to breathing is detected. OSHA regulations require a Respiratory Protection Program for companies that require employees to enter areas where respirators are required and such Respiratory Protection Programs must address the requirements for replacement of cartridges.



## **Suspected Safety Hazards**

Suspected safety hazards include those inherent with the operation of heavy equipment such as drilling rigs or excavators, and proximity to excavations. Inspections to ensure appropriate safety measures are in place and the use of lockout and tagout procedures during maintenance of this equipment will control these inherent hazards. Personal protective equipment (PPE) including hard hats, safety shoes and eye protection will be worn to augment other safety precautions.

Drilling rigs and excavators must not operate closer than thirty (30) feet to any overhead lines, measured directly between any part of the equipment and the lines themselves except where electrical distribution and transmission lines have been de-energized and visibly grounded at the point of work, or where insulating barriers have been erected to prevent physical contact with the lines. If drilling or excavating is required within thirty (30) feet of any overhead lines, a written work plan must be provided by the contractor or other equipment operator that includes special measures designed to mitigate the risks and is in accordance with 29 CFR 1926.550(a)(15). The work plan must be reviewed and approved by written signature by the Project Manager.

Care must be taken to ensure loose clothing does not get tangled in any moving equipment associated with drilling rigs or excavators. There may be slip or trip hazards associated with rough, slippery or elevated work surfaces.

There is also the possibility of organic vapors being encountered during ground intrusive activities due to the presence of petroleum compounds in soil and groundwater. The Project Manager will use continuous monitoring instruments that measure total VOCs while each task is being conducted to determine ambient levels of contaminants. Procedures for monitoring VOCs and airborne particulates are provided in the Community Air Monitoring Plan (CAMP).

All excavations will be maintained to prevent access by unauthorized persons and will be filled or fenced off by the end of the workday.

## **Excavator and Drill Rig Operations**

Excavation will be performed with a track-mounted excavator or backhoe. To conduct soil borings, a hollow-stem auger or direct push drilling rig will be used. Working with or near this equipment poses potential hazards, including inhaling dust from coring being struck by, or pinched/caught by equipment, potentially resulting in serious physical bodily harm.

In particular, the following precautions will be used to reduce the potential for injuries and accidents:

- The emergency stop control on a drilling rig will be shown to all personnel.
- The inspection of excavator and drill rig brakes, hydraulic lines, light signals, fire extinguishers, fluid levels, steering, tires, horn, and other safety devices will be conducted prior to the initial mobilization and checked routinely throughout the project.
- Excavator and drill rig cabs will be kept free of all nonessential items and all loose items will be secured.
- Excavators and drill rigs will be provided with necessary safety equipment, including seat belts.

- Drill rig cables and auger flight connections will be checked for evidence of wear. Frayed or broken cables or defective connections will be replaced immediately.
- Parking brakes will be set before shutting off any heavy equipment or vehicle.
- All employees will be briefed on the potential hazards prior to the start of each excavation or drilling project.

### **Adverse Weather**

Drilling or excavating is dangerous during electrical storms. All field activity must terminate during thunderstorms. Extreme heat and cold, ice and heavy rain can produce unsafe conditions for drilling work. Such conditions, when present, will be evaluated on a case-by-case basis to determine if work shall continue.

### **Fire and Explosion**

Use of gasoline or diesel powered equipment increases the risk of fire and explosion hazards. Contractors will be required to store diesel fuel and gasoline in metal cans with self-closing lids and flash arrestors.

### **Requirement to Conduct Utility Mark Out**

Prior to the start of any subsurface work, underground utilities and piping that may pose a potential hazard will be identified and located. DigSafely.NewYork or an equivalent service will be called and underground utilities will be located and marked. Also, the location of privately owned utility lines will be determined.

In the event a pipe or line is struck, work will stop and the Emergency Action Plan will be implemented (see Section 5.0).

### **Confined Space Entry**

Confined space entry is not anticipated for excavating and sampling activities. If a project requires confined space entry, a specific HASP will be implemented.

Confined Space is defined as a space that:

1. is large enough and so configured that an employee can bodily enter and perform assigned work;
2. has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and
3. is not designed for continuous employee occupancy.

## **Excavation and Sampling Work Zones**

One of the basic elements of an effective HASP is to delineate work zones for each ground intrusive location. The purpose of establishing work zones is to:

- Reduce the accidental spread of hazardous substances by personnel or equipment from the contaminated areas to the clean areas;
- Confine work activities to the appropriate areas, thereby minimizing the likelihood of accidental exposures;
- Facilitate the location and evacuation of personnel in case of an emergency; and
- Prevent unauthorized personnel from entering controlled areas.

Although a work site may be divided into as many zones as necessary to ensure minimal employee exposure to hazardous substances, this HASP uses the three (3) most frequently identified zones: the Exclusion Zone, Decontamination Zone, and Support Zone. Movement of personnel and equipment between these zones should be minimized and restricted to specific access control points to minimize the spreading of contamination.

- **Exclusion Zone**

During investigative work, the Exclusion Zone is the immediate excavation, test pit, borehole, or other area where contamination is either known or expected to occur and where the greatest potential for exposure exists. The following protective measures will be taken in the Exclusion Zone.

Unprotected onlookers will be restricted from the excavation location so that they are at least twenty-five (25) feet upwind or fifty (50) feet downwind of excavation or drilling activities.

Personnel conducting activities and sampling in the Exclusion Zone will wear the applicable PPE. The actions to be taken and PPE to be worn in the Exclusion Zone if VOCs are above background levels are described in Table 2.

- **Decontamination Zone**

During investigative work, a Decontamination Zone will be established at the perimeter of the Exclusion Zone, and will include the personnel, equipment and supplies that are needed to decontaminate equipment. The size will be selected by the Project Manager to conduct the necessary decontamination activities. Personnel and equipment in the Exclusion Zone must pass through this zone before leaving or entering the Support Zone. The necessary decontamination must be completed in this zone and the requirements are described in Section 6.0. This zone should always be established and maintained upwind of the Exclusion Zone.

- **Support Zone**

During investigative work, the areas located beyond the Decontamination Zone will be considered the Support Zone. Break areas, operational direction and support facilities will be located in this area. Eating and drinking will be allowed only in the Support Zone.

## Natural Hazards

Work that takes place in the natural environment may be affected by plants and animals that are known to be hazardous to humans. Spiders, bees, wasps, hornets, ticks, poison oak and poison ivy are only some of the natural hazards that may be encountered. Individuals who may potentially be exposed to these hazards should be made aware of their existence and instructed in their identification. Emergencies resulting from contact with a natural hazard should be handled through the normal medical emergency procedures. Individuals who are sensitive or allergic to these types of natural hazards should indicate their susceptibility to the Project Manager.

## Heat and Cold Stress Hazards

If work is to be conducted during the winter, cold stress is a concern to the health and safety of personnel. Because disposal clothing such as Tyvek does not “breathe”, perspiration does not evaporate and the suits can become wet. Wet clothes combined with cold temperatures can lead to hypothermia. If the air temperature is less than 40 degrees Fahrenheit (°F) and personnel’s clothes become wet due to perspiration, personnel must change to dry clothes.

## Signs and Symptoms of Cold Stress

- **Incipient frostbite:** is a mild form of cold stress characterized by sudden blanching or whitening of the skin.
- **Chilblain:** is an inflammation of the hands and feet caused by exposure to cold moisture. It is characterized by a recurrent localized itching, swelling, and painful inflammation of the fingers, toes, or ears. Such a sequence produces severe spasms, accompanied by pain.
- **Second-degree frostbite** is manifested by skin which has a white, waxy appearance and is firm to the touch. Individuals with this condition are generally not aware of its seriousness, because the underlying nerves are frozen and unable to transmit signals to warm the body. Immediate first aid and medical treatment are required.
- **Third-degree frostbite** will appear as blue, blotchy skin. This tissue is cold, pale and solid. Immediate medical attention is required.
- **Hypothermia** develops when body temperature falls below a critical level. In extreme cases, cardiac failure and death may occur. Immediate medical attention is warranted when the following symptoms are observed:
  - Involuntary shivering;
  - Irrational behavior;
  - Slurred speech;
  - Sluggishness; and
  - Loss of consciousness.

## Preventing Cold Related Illness/Injury

- Train personnel to identify the signs and symptoms of cold stress. Require field personnel to wear proper clothing for cold, wet and windy conditions, including layers that can be adjusted to changing weather conditions. It is important to keep hands and feet dry.

- Field personnel working in extremely cold conditions must take frequent short breaks in warm, dry shelters to allow their body temperature to increase. If possible, field work should be scheduled during the warmest part of the day. The buddy system should be used so that personnel can assist each other in recognizing signs of cold stress.
- Drink warm, sweet beverages and avoid drinks with caffeine and alcohol. Eat warm, high-calorie foods.
- Personnel with medical conditions such as diabetes, hypertension or cardiovascular disease or who take certain medications, may be at increased risk for cold stress.

### **Treatment of Cold Related Injuries**

If cold stress symptoms are evident, the affected person must move into a warm, dry sheltered area and all wet clothing should be removed and replaced with dry clothing. If frostbite is suspected, the affected person should be treated by trained medical personnel.

### **Signs and Symptoms of Heat Stress**

Wearing PPE also puts personnel at a considerable risk for developing heat stress. This can result in health effects ranging from heat fatigue to serious illness or death. Consequently, regular monitoring, remaining hydrated and other precautions are vital.

- **Heat Rash** may result from continuous exposure to heat and humid air.
- **Heat Cramps** are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include:
  - Muscle spasms; and
  - Pain in the hands, feet and abdomen.
- **Heat Exhaustion** occurs from increased stress on various body organs, including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include:
  - Pale, cool, and moist skin;
  - Heavy sweating; and
  - Dizziness, fainting, and nausea.
- **Heat Stroke** is the most serious form of heat stress. Temperature regulation fails, and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury or death occurs. Competent medical help must be obtained. Signs and symptoms are:
  - Red, hot, and unusually dry skin;
  - Lack of or reduced perspiration;
  - Dizziness and confusion;
  - Strong, rapid pulse; and
  - Loss of consciousness.

## **Preventing Heat Related Illness/Injury**

Proper training and preventive measures will help avert serious illness and loss of work productivity. Preventing heat stress is particularly important because once someone suffers from heat stroke or heat exhaustion that person may be predisposed to additional heat injuries. To avoid heat stress, the following steps should be taken:

- Have personnel drink sixteen (16) oz. (0.5 liter) of fluid (preferably water or diluted drinks) before beginning work. Urge personnel to drink a cup or two every fifteen (15) to twenty (20) minutes, or at each monitoring break. A total of 1 to 1.6 gallons (four (4) to six (6) liters) of fluid per day are recommended, but more may be necessary to maintain body weight.
- If possible, adjust work schedules to avoid the hottest parts of the day.
- Encourage personnel to maintain an optimal level of physical fitness.
- Shelter (air-conditioned, if possible) or shaded areas should be provided to protect personnel during rest periods.
- Train personnel to recognize, identify, and treat heat stress.

For personnel wearing standard work clothes, recommendations for monitoring and work/rest schedules are those approved by American Conference of Governmental Industrial Hygienists (ACGIH) and National Institute of Occupational Safety and Health (NIOSH). Personnel wearing semi-permeable PPE or impermeable PPE should be monitored when the temperature in the work area is above 70°F.

## **Noise Hazards**

Work that involves the use of heavy equipment such as a drill rig or excavator can expose personnel to noise during field activities that can result in noise-induced hearing loss. The Project Manager will monitor the noise exposure and will determine whether noise protection is warranted for each personnel. The Project Manager will ensure that either ear muffs or disposable foam earplugs are available and are used by personnel in the immediate vicinity of the field operation as required.

## **Slip, Trip and Fall Hazards**

Ground intrusive locations can contain a number of slip, trip and fall hazards for personnel, such as:

- Holes, pits, or ditches
- Excavation faces
- Slippery surfaces
- Steep grades
- Uneven grades
- Snow and ice
- Sharp objects

All personnel must be instructed to keep back three (3) feet from the top edge of excavation faces.



Drill auger sections will be stored on the transport vehicle as long as possible to avoid creating a trip hazard. Drill auger sections and other tools will be stored in neat arrangements convenient to the driller, but sufficiently distant from the immediate area around the drill rig to minimize trip hazards.

Personnel will be instructed to look for potential safety hazards and immediately inform the Project Manager regarding any new hazards. If the hazard cannot be immediately removed, actions must be taken to warn personnel about the hazard.

### **Modifications to this Plan**

Requirements and guidelines in this HASP are subject to modification by the Project Manager in response to additional information obtained during field work regarding the potential for exposure to hazards.

## **4.0 MEDICAL SURVEILLANCE PROGRAM**

### **General**

Personnel who participate in field activities that meet the following criteria will be included in the Medical Surveillance Program:

- All who may be exposed to hazardous substances or health hazards at or above permissible exposure limits, without regard to the use of respirators, for thirty (30) days or more per year, as required by 29 CFR 1926.65(f)(2)(i-iv).
- All who wear a respirator for thirty (30) days or more every year as required by 29 CFR 1926.65(f)(2)(i-iv).
- All who are injured because of overexposure from an incident involving hazardous substances or health hazards.

### **Frequency of Medical Exams**

Medical examinations and consultations will be provided on the following schedule to personnel who meet the above listed general qualifications:

- Prior to assignment to a work site, if any of the criteria noted above are anticipated.
- At least once every twelve (12) months, unless the physician believes a longer interval (not greater than two (2) years) is appropriate.
- As soon as possible upon notification that personnel has developed signs or symptoms indicating possible overexposure to hazardous materials.

## **5.0 EMERGENCY ACTION PLAN**

Personnel will use the following standard emergency procedures. The Project Manager will be notified of any emergency and be responsible for ensuring the appropriate procedures are followed and that the Project Manager is notified. A first aid kit, an eye wash unit that can provide a minimum flow rate of 0.4



GPM for fifteen (15) minutes, and a fire extinguisher rated 20A-B-C (or higher) will be readily available to personnel. All personnel will be trained in use of emergency supplies. Questions regarding procedures and practices described in the HASP should be directed to the Project Manager.

### **Notification**

Any symptoms of adverse health, regardless of the suspected cause, are to be immediately reported to the Project Manager.

Upon the occurrence of an emergency, including an unplanned chemical release, fire or explosion, personnel will be alerted and the area evacuated immediately. The Project Manager will notify the ambulance service, fire department and/or police department, as required. Emergency contact telephone numbers are provided below. Re-entry to the work area will be limited to those required to assist injured personnel or for firefighting or spill control. Anyone entering the work area following an emergency incident must wear appropriate protective equipment (PPE).

### **Emergency Services**

<u>Emergency Services</u>	<u>Telephone Number</u>
Owner: New Waverly Avenue Associates, LLC	(914) 935-3950
Town of Mamaroneck Fire Department	911 or (914) 834-2438
Town of Mamaroneck Police Department	911 or (914) 381-6100
Ambulance	911 or (914) 381-7838
Hospital: Sound Shore Medical Center	(914) 632-5000
Poison Control Center	(800) 222-1222
NYSDEC Spills Emergency Response Program	(800) 457-7362

A map showing the preferred route to the hospital with written directions is presented in Figure 1; and written directions are also included on the map.

The following alarm systems will be utilized to alert personnel to evacuate the restricted area:

- Direct Verbal Communication
- Radio Communication or Equivalent
- Portable or Fixed Telephone

The following standard hand signals will also be used as necessary:

<b>Hand Signal</b>	<b>Message</b>
Hand gripping throat	Can't breathe/out of air
Grip co-worker's wrist	Leave area immediately, no debate!
Hands on top of head	Need assistance
Thumbs up	Yes/O.K.
Thumbs down	No/Problem

Upon activation of an alarm, personnel will proceed to a designated assembly area. The designated assembly area will be determined on a daily basis by the Project Manager and updated as necessary

depending upon work conditions, weather, air monitoring, etc. The location of the designated assembly area will be clearly marked and communicated to employees daily or upon relocation of the area. Personnel gathered in the designated assembly area will remain there until their presence has been noted. A tally of personnel on the daily restricted area access roster will be made as necessary to ensure all personnel have been properly evacuated and accounted for.

Personnel may return to the designated work area following authorization by the Project Manager.

### **Personal Injury**

If anyone within a work area is injured and cannot leave the restricted area without assistance, emergency medical services will be notified (see Section 5.0) and appropriate first aid will be administered by certified Emergency Medical Technicians (EMTs).

### **Fire/Explosion**

Upon the occurrence of a fire beyond the incipient stage or an explosion anywhere on the site property, the fire department will be alerted and all personnel moved to a safe distance from the involved area.

### **Equipment Failure**

If any equipment fails to operate properly, the Project Manager will determine the effect of this failure on continuing operations. If the failure affects the safety of personnel (e.g., failure of monitoring equipment) or prevents completion of the planned tasks, all personnel will leave the work area until appropriate corrective actions have been taken.

### **Record Keeping**

The Project Manager will maintain records of reports concerning occupational injuries and illnesses in accordance with 29 CFR 1904.

## **6.0 DECONTAMINATION METHODS**

### **6.1 Contamination Prevention Methods**

The Project Manager will make all personnel aware of the potential for contamination. The following procedures will be established to minimize contact with waste:

- Personnel will not walk through areas obvious of contamination;
- Personnel will not directly touch potentially hazardous substances;
- Personnel will wear gloves when touching soil or waste;
- Personnel will wear disposable outer garments where appropriate; and
- Excavated soils will be placed on plastic sheeting and covered with plastic sheeting at the end of the workday.

### **6.2 Heavy Equipment Decontamination**

All equipment, tools and materials associated with sampling events must be cleaned or decontaminated prior to usage. Items such as drill rigs, auger flights, trackhoes, and backhoes all present potential sources

of contamination to environmental samples. Therefore, all heavy equipment utilized at the site must undergo the following decontamination procedures:

- The equipment will be high pressure, hot washed or steam-cleaned with potable water; and,
- The equipment will be rinsed thoroughly with potable water.

Contain, collect and dispose of all decontamination fluids in accordance with project-specific requirements. The bucket of trackhoes and backhoes may be cleaned over the excavation allowing high pressure decontamination washwater to return to the excavation.

### **6.3 Cleaning of Field Sampling Equipment**

All equipment and tools used to collect samples for chemical analyses, including spatulas, spoons, scoops, trowels, split-spoons, augers, etc. will be decontaminated using the following procedures:

- Non-phosphate detergent wash;
- Potable water or distilled/deionized water rinse; and
- Air dry.

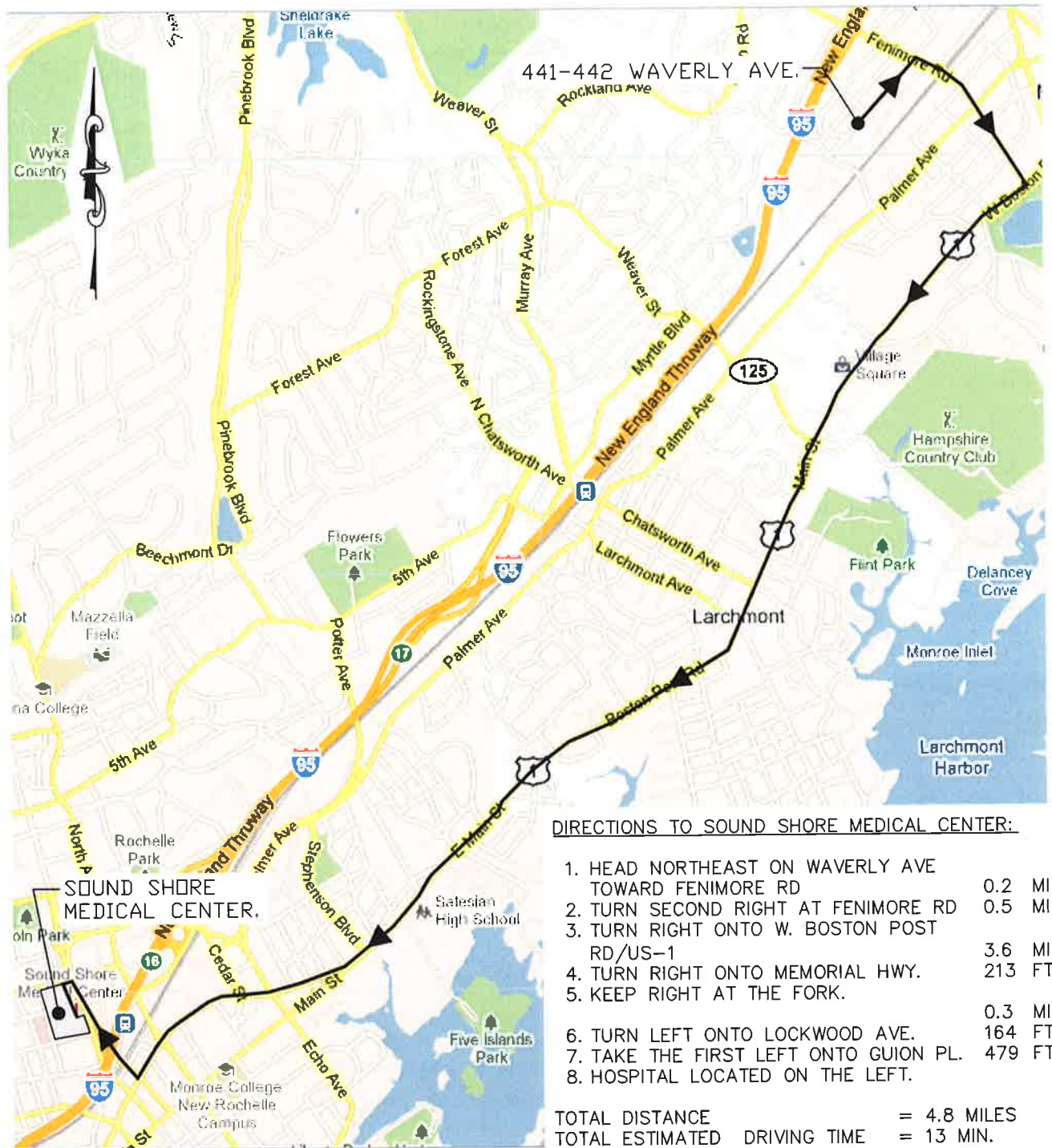
If the equipment is to be stored for future use, allow to dry and then wrap in aluminum foil (shiny-side out) or seal in plastic bags.

Collect or dispose of all decontamination fluids in accordance with project-specific requirements.

### **6.4 Personal Clothing Decontamination**

All footwear worn in and around the contamination area will be washed down using soap and water to remove soil or oily residue remnants. If disposable gloves, boots or suits (such as Tyvek® suits) are worn, such are to be removed and disposed in a designated 55-gallon drum or garbage bag on-site for future disposal. Any other clothing that comes in contact with potentially contaminated material should not be worn more than 24-hours and should be washed prior to wearing again.

SOUND SHORE MEDICAL CENTER  
16 GUIDON PLACE  
NEW ROCHELLE, NY 10801  
(914) 632-5000



NOTE: SCALE IS APPROXIMATE

FIGURE 1

**STERLING**

Sterling Environmental Engineering, P.C.

24 Wade Road • Latham, New York 12110

HOSPITAL ROUTE

SITE #C360108

441-442 WAVERLY AVENUE

NEW WAVERLY AVENUE ASSOCIATES, LLC

T/V OF MAMARONECK

WESTCHESTER CO., N.Y.



<b>Table 1</b> <b>Published Airborne Exposure Limits or Odor Thresholds in Parts Per Million (PPM)</b> <b>for Substances that Exceed Applicable Standards in Soil and Groundwater</b>						
Substance	OSHA PEL/STEL/C	NIOSH REL/STEL	ACGIH TLV/STEL	IDLH	Cancer Causing	Range of Odor Thresholds
<b>VOCs:</b>						
Benzene	1/5/25	0.1/1	0.5/2.5	500	Y	1.5
n-Butylbenzene	NA	NA	NA	NA	NA	NA
sec- Butylbenzene	NA	NA	NA	NA	NA	NA
tert- Butylbenzene	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	10/-/25	-/2	5/10	200	Y	10
Chloroethane	1000/-/-		100/-		Y	4.2
Cis-1,2-Dichloroethene (cis-1,2-DCE)	200/-/-	200/-	200/-	1000	N	19.1
1,2 Dichlorobenzene	-/-/50	50/-	25/50	200	N	
1,1 Dichloroethane	100/-/-	100/-	100/-	3000	N	120
1,2 Dichloroethane	50/-/100	1/2	10/-	50	Y	6-10
Trans 1,2 Dichloroethene						
Ethylbenzene	100/-/-	100/125	100/125	800	N	2.3
Isopropylbenzene	50/-/-	50/-	50/-	900	N	
Naphthalene	10/-/-	10/15	10/15	250	N	0.084
N-Propylbenzene	NA	NA	NA	NA	NA	NA
Tetrachloroethene	100/-/200	NA	25/100	150	Y	1
Trichloroethene	100/-/200	25/-	50/100	1000	Y	28
Vinyl Chloride	1/-/5	NA	1/-		Y	3,000
<b>SVOCs:</b>						
Naphthalene	10/-/-	10/15	10/15	250	N	0.084

NA = Not Available

Definitions of PEL, REL, STEL, TLV, C and IDLH are provided below:

**PEL** The Occupational Safety and Health Administration's (OSHA) Permissible Exposure Limit for airborne contaminants as a time-weighted average for an eight (8) hour work shift, as listed in 29 CFR 1910.1000.

**REL** The National Institute for Occupational Safety and Health's (NIOSH) Recommended Exposure Level for a work shift.

**STEL** A Short Term Exposure Limit as a 15-minute time-weighted average (No more than four (4) exposures per shift).

**TLV** The American Conference of Governmental Industrial Hygienists' (ACGIH) Threshold Limit Value for airborne concentrations to which it is believed that nearly all workers may be repeatedly exposed day after day without adverse effects.

**C** Ceiling Concentration – The concentration that should not be exceeded during any part of the working exposure.

**IDLH** The Immediately Dangerous to Life and Health maximum concentration from which one could escape within 30 minutes without experiencing any escape-impairing or irreversible health effects. (Note: Level C air-purifying respirators do not adequately protect an individual exposed to these concentrations.) These IDLH values were established by NIOSH and have not been peer reviewed. Caution is recommended with their application.

TABLE 2

## AIR MONITORING METHODS, ACTION LEVELS, AND PROTECTIVE LEVELS FOR PERSONNEL

Hazard	Monitoring Unit	Action Level	Protective Levels/Action	Monitoring Schedule
Organic Vapors (2)	PID	0-10 ppm above background in the breathing zone	Level D-Continue Work (3)	Continuous for ground intrusive activities.
		10-100 ppm above background in the breathing zone	Level C-Continue Work	
		> 100 ppm above background in the breathing zone	STOP WORK EVACUATE AREA (1)	
Oxygen-Deficient Atmosphere	Q-RAE 4-Gas Meter or Equivalent	19.5-23.5%	Level D-Continue Work	Continuous for ground intrusive activities.
		< 19.5%	Do not enter Confined Space, STOP WORK EVACUATE AREA (1)	
		> 23.5%	Fire explosion hazard: EVACUATE AREA (1)	
Explosive Gas (LEL)	Q-RAE 4-Gas Meter or Equivalent	< 10% LEL	Level D-Continue Work	Continuous for ground intrusive activities.
		10-20% LEL	Issue Warning	
		> 20% LEL	EVACUATE AREA (1)	
Hydrogen Sulfide (H <sub>2</sub> S) (2)	Q-RAE 4-Gas Meter or Equivalent	< 5 ppm	Level D-Continue Work	Continuous for ground intrusive activities.
		5-10 ppm	Issue Warning	
		> 10 ppm	STOP WORK EVACUATE AREA (1)	
Dust	Particulate Monitor Minitram or Equivalent	< 5 mg/m <sup>3</sup> above background in the breathing zone.	Level D-Continue Work	Continuous for ground intrusive activities.
		5-10 mg/m <sup>3</sup> above background in the breathing zone.	Level C-Continue Work	
		> 10 mg/m <sup>3</sup> above background in the breathing zone.	STOP WORK EVACUATE AREA (1)	

**Protection Levels:**

Level C - Required Personal Protective Equipment (PPE): Half or full face, air purifying respirator, chemical resistant clothing, inner and outer chemical resistant gloves, safety boots (steel toe/shank with chemical resistant overboots), hard hat and hearing protection (if warranted).

Level D - Required PPE: Safety goggles, hard hat, safety boots (steel toe/shank) and work clothes or coveralls.

**Notes:**

LEL - Lower Explosive Limit  
ppm= parts per million

(1) For all circumstances where work is stopped, the New York State Department of Environmental Conservation (NYSDEC) must be notified.

(2) Action levels provided represent fifteen (15) minute average values.

"Continuous" monitoring indicates the monitoring unit will collect readings and a fifteen (15) minute average will be calculated for the general breathing space/work area.

(3) Test breathing space for Benzene concentration with Drager tube, if concentration is two (2) ppm or greater, move to Level C PPE.

## APPENDIX G

### COMMUNITY AIR MONITORING PLAN (CAMP)

The Community Air Monitoring Plan (CAMP) provides for real-time monitoring of Volatile Organic Compounds (VOCs) and particulates at the downwind perimeter of each designated work area when ground-intrusive activities are implemented at the site. The CAMP was developed from the New York State Department of Health (NYSDOH) Generic CAMP that is provided in the DER-10 Technical Guidance for Site Investigation and Remediation. The CAMP provides a measure of protection for the downwind community (potential receptors include residences, businesses, and personnel not directly involved with work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The CAMP also addresses ground intrusive activities within twenty (20) feet of a potentially exposed population or occupied structure and for indoor air monitoring activities. Contractors should employ Best Management Practices (BMPs) and common sense measures to minimize VOCs, dust, and odors around work areas.

Table 1 provides action levels and corresponding required actions for VOCs and particulate monitoring that include increased monitoring, corrective actions to abate emissions, and/or work shutdown.

#### 1.0 VOLATILE ORGANIC COMPOUND (VOC) MONITORING, RESPONSE LEVELS AND ACTIONS

Real time air monitoring for VOCs and/or particulate levels is required at the perimeter of the Exclusion Zone.

Periodic monitoring for VOCs will be required during non-intrusive activities, such as the collection of groundwater samples from existing monitoring wells. Periodic VOC monitoring of the breathing space area during a sample collection event will occur upon arrival at a sample location, while opening a well cap or overturning soil, during well baling/purging, and prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring will be required during sampling activities. Examples of such situations include groundwater sampling adjacent to or within twenty (20) feet of structures.

Continuous monitoring for VOCs and particulates will be required for all major ground intrusive activities of excavated soil 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.

VOCs will be monitored at the downwind perimeter of the immediate work area on a continuous basis. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring equipment must be appropriate to measure the types of contaminants known or suspected to be present. The equipment must be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment must be capable of calculating fifteen (15) minute running average concentrations, which will be compared to the following levels:

- If the ambient air concentration of total VOCs at the downwind perimeter of the work area exceeds five (5) parts per million (ppm) above the determined background level for the fifteen (15) minute average, work activities must be temporarily halted and monitoring continued. If the total VOC level decreases rapidly to less than five (5) ppm over background, work activities can resume with continued monitoring.



- If total VOC levels at the downwind perimeter of the work area persist at levels in excess of five (5) ppm over background but less than twenty-five (25) ppm, work activities must be halted, the source of vapors investigated, 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 twenty (20) feet, is below five (5) ppm over background for the fifteen (15) minute average.
- If the organic vapor level is above twenty-five (25) ppm at the perimeter of the Exclusion Zone, activities must be halted.
- All fifteen (15) minute readings must be recorded and should be available for review by the NYSDOH, New York State Department of Environmental Conservation (NYSDEC) and Westchester County Health Department, if requested. Instantaneous readings, if any, used for decision purposes should also be recorded.

## 2.0 PARTICULATE MONITORING, RESPONSE LEVELS AND ACTIONS

Periodic monitoring for particulates will be required during non-intrusive activities and will include monitoring the breathing space for personnel and at the downwind perimeter of the designated work area. Continuous monitoring will be required during sampling activities if ground intrusive activities occur within twenty (20) feet of a structure or if they are in the proximity of individuals potentially exposed.

Particulate concentrations must be monitored continuously for all ground intrusive activities at the upwind and downwind perimeters of the work area at temporary particulate monitoring stations. The particulate monitoring must use real time monitoring equipment capable of measuring particulate matter that are less than ten (10) micrometers in size (PM-10) and is 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 ( $\mu\text{g}/\text{m}^3$ ) greater than background (upwind perimeter) for the fifteen (15) minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with the implemented dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150  $\mu\text{g}/\text{m}^3$  above the upwind level and provided that no visible dust is migrating from the work area. See Section 15 of the Excavation Work Plan (EWP) for a description of dust suppression techniques.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150  $\mu\text{g}/\text{m}^3$  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  $\mu\text{g}/\text{m}^3$  of the upwind level and in preventing visible dust migration.
- All readings must be recorded and be available for review by the NYSDOH, NYSDEC and Westchester County Health Department, if requested.

### **3.0 GENERAL RECOMMENDATIONS FOR WORK AREAS WITHIN 20 FEET OF POTENTIALLY EXPOSED POPULATIONS OR OCCUPIED STRUCTURES**

When work areas are within twenty (20) feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must be based on the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices will be considered to prevent exposures related to the work activities and to control dust and odors. Consideration will be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours.

- If total VOC readings exceed one (1) ppm at locations that are next to the walls of occupied rooms or next to intake vents, monitoring will also occur within the adjacent occupied room(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels and response actions. Background readings in the occupied rooms must be measured prior to commencement of the planned work. Any background readings that are greater than one (1) ppm should be discussed with the NYSDEC prior to commencement of the work.
- If total particulate readings exceed  $150 \text{ ug/m}^3$  next to the walls of adjacent occupied room(s) or next to intake vents, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to  $150 \text{ ug/m}^3$  or less at the monitoring point. Particulate response levels and actions should be pre-determined.
- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosive gas, oxygen, carbon monoxide) may also need to be monitored in accordance with the Health and Safety Plan (HASP).

28012/Site Management Plan/Appendix G\_CAMP\_fnl.doc

**Table 1**  
**Air Monitoring Action Levels at Downwind Perimeter of Exclusion Zone**

<b>Parameter/ Instrument</b>	<b>Action Level</b>	<b>Action</b>
VOCs/PID	The 15-minute average of continuous readings for Total VOCs at downwind perimeter of Exclusion Zone exceeds 5 ppm above the determined background level.	Work activities are temporarily halted and VOCs monitoring continued. If downwind Exclusion Zone VOC readings decrease to < 5 ppm above background level, work can resume with continuous monitoring.
VOCs/PID	The 15-minute average of continuous readings is greater than 5 ppm but less than 25 ppm over the background level at the downwind perimeter of the Exclusion Zone.	Work activities must be halted, the source of vapors must be identified and corrective actions taken to abate emissions. Following these steps, work may continue if air monitoring readings indicate the Total VOCs level is 5 ppm or less over background for the 15-minute average at 200 feet downwind of the Exclusion Zone, or at half the distance to the nearest potential receptor or building, whichever is less (but in no case less than 20 feet).
VOCs/PID	Continuous reading of 25 ppm or greater over the background level at the downwind perimeter of the Exclusion Zone.	Stop Work. Reevaluate work conditions and procedures. Contact NYSDEC for authorization prior to resuming work.
Particulates/ Monitor Unit and Direct Observation	PM-10 particulate level is 100 micrograms per cubic meter (ug/m <sup>3</sup> ) or greater than the background level for the 15-minute period at the downwind edge of the Exclusion Zone or visible dust is leaving the Exclusion Zone.	Suppress particulates by spraying the dusty area with water, work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 ug/m <sup>3</sup> above the upwind level and provided that no visible dust is migrating from the Exclusion Zone.
Particulates/ Monitor Unit and Direct Observation	After implementation of dust suppression techniques, downwind PM-10 particulate levels at the downwind edge of the exclusion zone are greater than 150 ug/m <sup>3</sup> above the upwind level.	Work must be stopped and the NYSDEC must be notified. Re-evaluate dust suppression techniques. Workers are required to use full face respirators with NIOSH approved P100 cartridges or combination cartridges. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 ug/m <sup>3</sup> of the upwind level and in preventing visible dust migration.

**References:**

DER-10 Technical Guidance for Site Investigation and Remediation, NYSDOH Generic Community Air Monitoring Plan

## **APPENDIX H**

### **ASPHALT & SOIL COVER SYSTEM INSPECTION FORM**

**441/442 WAVERLY AVENUE, MAMARONECK, NEW YORK**  
**SITE #C360108**

**ASPHALT AND SOIL COVER SYSTEM INSPECTION FORM**

Inspector: \_\_\_\_\_ Date: \_\_\_\_\_

1. Describe cover system condition and list needed repairs (note location and photograph\*).

a. Asphalt – Inspect for cracks, potholes, and other penetrations:

---

---

b. Curbed lighting areas, retaining walls, and other miscellaneous areas – Inspect for signs of erosion

---

---

2. Indicate corrective actions to be taken for any and all above noted deficiencies. Note who completed the repair and date completed:

---

---

---

\*Attach photographs for cover systems inspection to this report with a description of each photograph taken and date.

**APPENDIX I**

**MONITORING WELL CONSTRUCTION LOGS**





**GZA**  
GeoEnvironmental, Inc.  
Engineers and Scientists

441 WAVERLY AVENUE  
MAMARONECK, NEW YORK

Boring No.: GZ-21D

Page: 1 of 2

File No.: 43401

Check: DJR

Contractor: A&A Test Boring

Foreman: A. Augustine

Logged by: D. Barstow

Date Start/Finish: 9-28-05 / 9-29-05

Boring Location: See Plan

GS Elev.: Datum:

Auger/  
Casing

Sampler

Type:

O.D. / I.D.:

Hammer Wt.:

Hammer Fall:

Other:

Steel

S.S.

4-1/4"

2" O.D.

300 lb.

140 lb.

24"

30"

# GROUNDWATER READINGS

Date Time Depth Casing Stab

## Sample Information

Depth	No.	Pen/ Rec. (in.)	Depth (Ft.)	Blows (/6")	Field Test Data (ppm)	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
1	S-1	18/5	0.5-1.5	16-18 18	ND	Dense brown, fine to coarse SAND, some fine to coarse Gravel, trace Silt	0.5' ASPHALT FILL	1	
2	S-2	24/4	2-4	4-4 5-4	ND	Loose, brown, fine to coarse SAND, little fine to coarse Gravel, trace Silt			
3									
4	S-3	24/10	4-6	7-2 2-2	ND	Top 4": Brown, fine SAND and SILT Bottom 6": Brown, fine to medium SAND, trace Silt	4.5' ALLUVIAL DEPOSITS		
5									
6	S-4	24/11	6-8	4-1 2-2	ND	Very loose, brown, fine to medium SAND, trace Silt			
7									
8	S-5	24/6	8-10	3-1/12" 3	ND	Very loose, brown, fine to medium SAND, trace Silt			
9									
10	S-6	24/8	10-12	2-3 3-3	ND	Loose, brown, fine to medium SAND, trace Silt			
11									
12	S-7	24/10	12-14	4-4 2-2	1.3	Loose, brown, fine to medium SAND, trace Silt			
13									
14	S-8	24/7	14-16	5-3 4-4	ND	Loose, brown, fine to medium SAND, trace Silt			
15									
16	S-9	24/9	16-18	4-3 4-3	ND	Loose, grey-brown, fine to medium SAND, trace Silt			
17									
18	S-10	24/6	18-20	6-4 3-3	ND	Loose, grey-brown, fine to medium SAND, trace Silt			Cement Bentonite Grout (1-34')
19									
20	S-11	24/5	20-22	4-3 4-4	ND	Loose, grey-brown, fine to medium SAND, trace Silt			2" PVC Riser (0.5-40')
21									
22									
23									
24									
25	S-12	24/1	25-27	5-4 5-5	ND	Loose, grey, fine SAND, little Silt			
26									
27									
28									
29									

1. Boring was advanced with hollow stem augers to 4 feet below grade. Borehole was advanced with cased/rotary wash.

REMARKS

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: GZ-21D

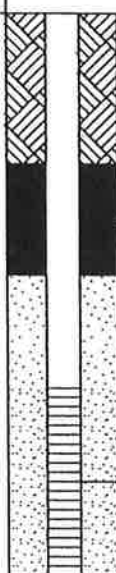
W. B. SAMP-DEPTH BORINGS.GPJ GZADEPTH.GDT 12/2/05



GZA  
GeoEnvironmental, Inc.  
Engineers and Scientists

441 WAVERLY AVENUE  
MAMARONECK, NEW YORK

Boring No.: GZ-21D  
Page: 2 of 2  
File No.: 43401  
Check: DJR

		Sample Information								Check: DJR	
Depth	No.	Pen/ Rec. (In.)	Depth (Ft.)	Blows (/6")	Field Test Data (ppm)	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed		
31	S-13	24/40	30-32	5-6 6-7	ND	Medium dense, grey, fine SAND, little Silt	ALLUVIAL DEPOSITS	 <p>Bentonite Chips (34-37')</p> <p>Filter Sand (37-45')</p> <p>2" PVC Screen (40-45')</p>	2		
32	S-14	24/11	35-37	3-6 7-8	ND	Medium dense, grey, fine SAND, little (+) Silt	ALLUVIAL DEPOSITS				
33											
34											
35											
36	S-15	24/13	40-42	6-8 7-9	ND	Medium dense, grey, fine SAND, some (-) Silt					
37											
38											
39											
40	S-16	24/15	45-47	4-6 5-6	ND	Medium dense, grey, fine SAND, some (-) Silt					
41											
42											
43											
44	End of Exploration at 47'						47'				
45											
46											
47											
48											
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											
61											
62											
63											
64											
REMARKS											
2. 5 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 45 feet below grade. Well completed to ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 37 to 45 feet below grade. Bentonite seal installed from 34 to 37 feet below grade. Remaining annulus filled with cement from 1 to 34 feet below grade. Well protected with locking end cap and curb box.											
Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.								Boring No.: GZ-21D			

W. B. SAMP-DEPTH BORINGS.GPJ GZADEPTH.GDT 12/2/05



GZA  
GeoEnvironmental, Inc.  
Engineers and Scientists

441 WAVERLY AVENUE  
MAMARONECK, NEW YORK

Boring No.: GZ-21S

Page: 1 of 1

File No.: 43401

Check: DJR

Contractor: A&A Test Boring

Foreman: A. Augustine

Logged by: D. Barstow

Date Start/Finish: 9-29-05 / 9-29-05

Boring Location: See Plan

GS Elev.: Datum:

Auger/  
Casing

Sampler

Type:

HSA

S.S.

O.D. / I.D.: 4-1/4"

2" O.D.

Hammer Wt.: 140 lb.

Hammer Fall: 30"

Other:

#### GROUNDWATER READINGS

Date Time Depth Casing Stab


#### Sample Information

Depth	No.	Pen/ Rec. (in.)	Depth (Ft.)	Blows (/6")	Field Test Data (ppm)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					

No samples collected. Refer to GZ-21D log for stratum description.

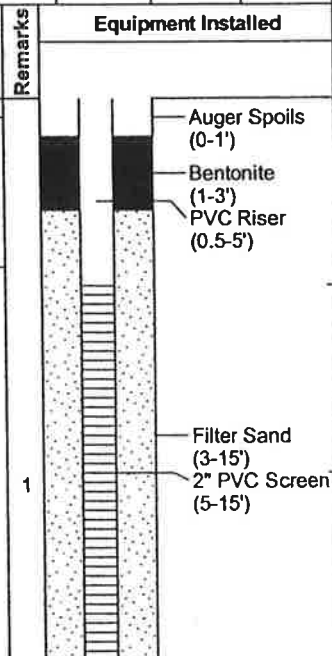
0.5' ASPHALT  
FILL

4.5'  
ALLUVIAL  
DEPOSITS

15'

End of Exploration at 15'

#### Equipment Installed



1

2

3

- REMARKS
1. Borehole located 10' south of Boring No. GZ-21d.
  2. See Boring No. GZ-21d for stratum descriptions.
  3. 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 15 feet below grade. Well completed to ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 3 to 15 feet below grade. Bentonite seal installed from 1 to 3 feet below grade. Remaining annulus filled with auger spoils from 0 to 1 feet below grade. Well protected with locking end cap and curb box.

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: GZ-21S

W. B. SAMP-DEPTH BORINGS.GPJ GZADEPTH.GDT 12/2/05



**GZA**  
GeoEnvironmental, Inc.  
Engineers and Scientists

441 WAVERLY AVENUE  
MAMARONECK, NEW YORK

Boring No.: GZ-22D  
Page: 1 of 2  
File No.: 43401  
Check: DJR

Contractor: A&A Test Boring  
Foreman: A. Augustine  
Logged by: D. Barstow  
Date Start/Finish: 9-27-05 / 9-28-05  
Boring Location: See Plan  
GS Elev.: Datum:

Auger/  
Casing  
Steel  
Type: O.D. / I.D.: 4-1/4" / 2" O.D.  
Hammer Wt.: 300 lb. / 140 lb.  
Hammer Fall: 24" / 30"  
Other:

#### GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab
9/24/05	7:00	9.7'	Well	18 hrs.

Depth	Sample Information					Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed	
	No.	Pen/ Rec. (In.)	Depth (Ft.)	Blows (/6")	Field Test Data (ppm)					
1	S-1	18/8	0-2	8-9 7	ND	Medium dense, brown, fine to coarse SAND, some fine to coarse Gravel, little Silt	0.6 CONCRETE FILL	1		
2	S-2	24/12	2-4	11-32 9-22	ND	Dense, grey, fine to coarse SAND, some fine to coarse Gravel, little Silt, trace Concrete		2		
3	S-3	24/4	4-6	4-10 8-7	ND	Medium dense, brown, fine to coarse SAND, some fine to coarse Gravel, little Silt, trace Brick				
4	S-4	24/4	6-8	11-13 12-11	ND	Medium dense, brown, fine to medium SAND, trace Silt	6' ALLUVIAL DEPOSITS	3		
5	S-5	24/12	8-10	7-7 6-6	ND	Medium dense, brown, fine to medium SAND, trace Silt				
6	S-6	24/14	10-12	4-3 4-5	ND	Loose, brown, fine to medium SAND, trace Silt				
7	S-7	24/16	12-14	5-4 4-4	ND	Loose, brown, fine to medium SAND, trace Silt				
8	S-8	24/16	14-16	5-2 2-4	ND	Loose, brown, fine to medium SAND, trace Silt				
9	S-9	24/24	16-18	4-4 5-5	1.3	Top 4": Brown, fine to mdium SAND, trace Silt Bottom 12": Grey, fine SAND, trace Silt				
10	S-10	24/11	18-20	4-3 3-4	1.3	Loose, grey, fine to medium SAND, trace Silt				
11	S-11	24/14	20-22	3-3 4-5	2.3	Loose, grey, fine to medium SAND, trace Silt				
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25	S-12	24/13	25-27	4-4 5-5	3.4	Loose, dark-grey, fine SAND, trace Silt				
26										
27										
28										
29										

Cement  
Bentonite  
Grout (1-35')  
2" PVC Riser  
(0-40')

REMARKS

- Soil samples screened with a 10.6 eV Thermo Environmental Instruments Model 580B organic vapor meter (OVM). OVM values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. A \*\*\* indicates a sample sent to a laboratory for additional analyses or screening. ND=None Detected above background.
- GZA collected a groundwater level reading after the split spoon sample S-2 was driven. GZA observed the borehole depth to be 5.5' below grade. The borehole was moved.
- The borehole was advanced with hollow stem augers to 4' below grade and cased-wash methods from 4' to 45' below grade.

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: GZ-22D

W.B. SAMP-DEPTH BORINGS.GPJ GZADEPTH.GDT 12/2/05



GZA  
GeoEnvironmental, Inc.  
Engineers and Scientists

441 WAVERLY AVENUE  
MAMARONECK, NEW YORK

Boring No.: GZ-22D  
Page: 2 of 2  
File No.: 43401  
Check: DJR

Depth	Sample Information					Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
	No.	Pen./ Rec. (in.)	Depth (Ft.)	Blows (/6")	Field Test Data (ppm)				
31	S-13	24/12	30-32	4-3 4-6	1.8	Loose, grey, fine to medium SAND, trace Silt	ALLUVIAL DEPOSITS		
32									
33									
34									
35	S-14	24/12	35-37	4-5 6-8	1.8	Top 8": Grey, fine to medium SAND, trace Silt Bottom 4": Grey, fine SAND, little Silt			
36									
37									
38									
39									
40	S-15	24/15	40-42	4-4 7-8	2.3	Medium dense, grey, fine SAND, little (+) Silt			
41									
42									
43									
44									
45	S-16	24/14	45-47	6-6 6-10	2.3	Medium dense, grey, fine SAND, little Silt			
46									
47						End of Exploration at 47'	47'		
48									
49									
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
60									
61									
62									
63									
64									

4. 5 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 45 feet below grade. Well completed to ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 38 to 45 feet below grade. Bentonite seal installed from 35 to 38 feet below grade. Remaining annulus filled with grout from 1 to 35 feet below grade. Well protected with locking end cap.

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: GZ-22D

W.B. SAMP-DEPTH BORINGS.GPJ GZADEPTH.GDT 12/2/05



GZA  
GeoEnvironmental, Inc.  
Engineers and Scientists

441 WAVERLY AVENUE  
MAMARONECK, NEW YORK

Boring No.: GZ-22S

Page: 1 of 1

File No.: 43401

Check: DJR

Contractor: A&A Test Boring  
Foreman: A. Augustine  
Logged by: D. Barstow  
Date Start/Finish: 9-28-05 / 9-28-05  
Boring Location: See Plan  
GS Elev.: Datum:

Auger/  
Casing  
Type: S.S.  
O.D. / I.D.: 2" O.D.  
Hammer Wt.: 140 lb.  
Hammer Fall: 30"  
Other:

#### GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab

Sample Information						Stratum Desc.	Remarks	Equipment Installed
Depth	No.	Pen./ Rec. (In.)	Depth (Ft.)	Blows (/6")	Field Test Data (ppm)			
1						0.6' CONCRETE FILL  6' ALLUVIAL DEPOSITS  15'	1	<p>Bentonite Chips (1-3') 2" PVC Riser (0-5')  Filter Sand (3-15') 2" PVC Screen (5-15')</p>
2							2	
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15							3	
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

- REMARKS
1. See Boring no. GZ-22D for stratum description.
  2. Refusal on concrete at 3.5' below grade. Borehole moved 5' south.
  3. 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 15 feet below grade. Well completed to ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 3 to 15 feet below grade. Bentonite seal installed from 1 to 3 feet below grade. Remaining annulus filled with auger spoils from 0 to 1 feet below grade. Well protected with locking end cap and curb box.

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: GZ-22S

W.B. SAMP-DEPTH BORINGS.GPJ GZ-DEPTH.GDT 12/2/05





GZA  
GeoEnvironmental, Inc.  
Engineers and Scientists

441 WAVERLY AVENUE  
MAMARONECK, NEW YORK

Boring No.: GZ-23D  
Page: 1 of 2  
File No.: 43401  
Check: DJR

Contractor: A&A Test Boring  
Foreman: A. Augustine  
Logged by: D. Barstow  
Date Start/Finish: 9-29-05 / 9-30-05  
Boring Location: See Plan  
GS Elev.: Datum:

Auger/  
Casing  
Type: Steel  
O.D. / I.D.: 4-1/4"  
Hammer Wt.: 300 lb.  
Hammer Fall: 24"  
Other:

Sampler  
S.S.  
2" O.D.  
140 lb.  
30"

#### GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab
9/29/05	0940	7.9'	4'	5 min.

Depth	Sample Information					Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed	
	No.	Pen/ Rec. (in.)	Depth (FL)	Blows (/6")	Field Test Data (ppm)					
1	S-1	12/6	1-2	2-4	ND	Brown, fine to medium SAND, little Silt	ASPHALT	1	Auger Spoils (0-1')	
2	S-2	24/12	2-4	6-7	ND	Medium dense, brown, fine to medium SAND, trace Silt	FILL	2		
3				10-10			ALLUVIAL DEPOSITS			
4	S-3	24/15	4-6	5-7	ND	Medium dense, brown, fine to medium SAND, trace Silt		2		
5				8-7						
6	S-4	24/17	6-8	9-6	ND	Medium dense, brown, fine to medium SAND, trace Silt				
7				6-6						
8	S-5	24/16	8-10	5-5	2.9*	Medium dense, brown, fine to medium SAND, trace Silt				
9				6-6						
10	S-6	24/15	10-12	4-2	1.8	Loose, brown, fine to medium SAND, trace Silt		3		
11				4-3						
12	S-7	24/12	12-14	4-2	ND	Loose, brown, fine to medium SAND, trace Silt				
13				3-3						
14	S-8	24/3	14-16	2-1	ND	Very loose, grey to black, fine to medium SAND, trace Silt				
15				2-2						
16	S-9	24/8	16-18	2-1	ND	Very loose, black, fine to medium SAND, trace Silt				
17				2-2						
18	S-10	24/6	18-20	4-2	ND	Loose, black, fine to coarse SAND, trace Silt				
19				3-4						
20	S-11	24/9	20-22	3-4	ND	Loose, dark-grey, fine to medium SAND, trace Silt				
21				4-4						
22										
23										
24										
25	S-12	24/11	25-27	3-4	ND	Loose, grey, fine to medium SAND, trace Silt				
26				4-5						
27										
28										
29										

REMARKS

1. Soil samples screened with a 10.6 eV Thermo Environmental Instruments Model 580B organic vapor meter (OVM). OVM values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. A \*\*\* indicates a sample sent to a laboratory for additional analyses or screening. ND=None Detected above background.
2. Borehole was advanced with hollow stem augers to 4' below grade. Borehole was advanced cased-wash methods from 4' to 4.5' below grade.
3. Sheen observed on water in drill tub during the casing wash from 10 to 14 feet below grade.

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: GZ-23D

W.B. SAMP-DEPTH BORINGS.GPJ GZADEPTH.GDT 12/2/05



GZA  
GeoEnvironmental, Inc.  
Engineers and Scientists

441 WAVERLY AVENUE  
MAMARONECK, NEW YORK

Boring No.: GZ-23D  
Page: 2 of 2  
File No.: 43401  
Check: DJR

Sample Information

Depth	No.	Pen./ Rec. (in.)	Depth (Ft.)	Blows (/6")	Field Test Data (ppm)	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
31	S-13	24/14	30-32	5-6 9-10	ND	Medium dense, brown, fine SAND, little Silt	ALLUVIAL DEPOSITS		
32									
33									
34									
35	S-14	24/16	35-37	6-7 5-6	ND	Medium dense, brown to grey, fine SAND, some (-) Silt			Bentonite Chips (34-37')
36									
37									
38									
39									
40	S-15	24/16	40-42	6-6 6-7	ND	Medium dense, grey, fine SAND, some (-) Silt			Filter Sand (37-45')
41									2" PVC Screen (40-45')
42									
43									
44									
45	S-16	24/15	45-47	5-8 8-8	ND	Medium dense, grey, fine SAND, some (-) Silt		4	
46							47'		
47						End of Exploration at 47'			
48									
49									
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
60									
61									
62									
63									
64									

REMARKS

4. 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 45 feet below grade. Well completed to ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 37 to 45 feet below grade. Bentonite seal installed from 34 to 37 feet below grade. Remaining annulus filled with grout from 1 to 34 feet below grade. Well protected with locking end cap.

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: GZ-23D



# BORING LOG

Boring No. OSMW-3

**Project Name:** 441/442 Waverly Avenue – Offsite Monitoring Wells      **Project No.:** 28012  
**Client Name:** New Waverly Avenue Associates, LLC      **Date:** 12/20/2011  
**Location:** 532 Waverly Avenue      **Logged By:** Liz Davis  
**Weather/Temp.:** Overcast, slight breeze, 47° F

**Drilling Co.:** Aquifer Drilling & Testing      **Depth:** 39' below grade  
**Driller:** Marty Bachner & Jay Burlingare      **Equipment:** Geoprobe 6610DT  
**Date Started:** 12/20/2011      **Top of Casing Elevation:** 30.5'  
**Date Completed:** 12/20/2011

Depth (ft)	Sample No.	Recovery (ft)	DESCRIPTIVE LOG (color, grain size and amount, texture, moisture)	PID Measurement for Soil Samples background/headspace (ppm)
0				
5	1	4.2	0 – 0.7' – ASPHALT and sub-base FILL 0.7 – 1.54' – orange-brown SILT, some clay and gravel 1.54 – 2.42' – dark brown to black FILL with brick fragments 2.42 – 4.2' – gray-brown, medium-coarse SAND (dry)	0/0.2
10	2	4.42	5 – 9.42' – light brown, medium grain SAND (some orange bands, grades to dark brown color)	0/0.1
15	3	4.2	10 – 11.6' – reddish-brown, fine-medium grain SAND 11.6 – 13.5' – dark brown-gray, medium-coarse grain SAND with orange bands 13.5 – 14.2' – brown-gray, fine-medium grain SAND (moist)	0/0.1
20	4	4.6	15 – 16.3' – brown, fine-coarse grain SAND	0/0.1
25	5	NA*	20 – 25' – gray, coarse grain SAND, some gravel (moist)	0/0 * Recovery measurement not available-had to hammer rod to get soil out.

(cont.)



# BORING LOG

Boring No. OSMW-3

**Project Name:** 441/442 Waverly Avenue – Offsite Monitoring Wells
**Project No.:** 28012  
**Client Name:** New Waverly Avenue Associates, LLC
**Date:** 12/20/2011  
**Location:** 532 Waverly Avenue
**Logged By:** Liz Davis  
**Weather/Temp.:** Overcast, slight breeze, 47° F

**Drilling Co.:** Aquifer Drilling & Testing
**Depth:** 39' below grade  
**Driller:** Marty Bachner & Jay Burlingare
**Equipment:** Geoprobe 6610DT  
**Date Started:** 12/20/2011
**Top of Casing Elevation:** 30.5'  
**Date Completed:** 12/20/2011

Depth (ft)	Sample No.	Recovery (ft)	<b>DESCRIPTIVE LOG</b> (color, grain size and amount, texture, moisture)	<b>PID Measurement for Soil Samples</b>  <b>background/headspace (ppm)</b>
25				
30	6	4.42	25 – 27.4' – gray-brown, fine-medium grain SAND (loose) 27.4 – 27.92' – brown, medium-coarse SAND, some gravel 27.92 – 29.42' – brown, fine grain SAND 30 – 31.5' –brown, fine grain SAND (moist)	0.1/0.1
35	7	4.5	31.5 – 34.5' – gray-brown, fine-medium grain SAND, trace silt (dry, dense)	0/0.1
40	8	4.4	35 – 37.3' – brown, 37.3 – 39.4' gray-brown, fine-medium grain SAND Refusal at 39.4'	0/0.1  Construction Details: 1" PVC casing & screen – Screened from 29-39 feet below grade (see Figure 4 for details)

**BORING LOG**Boring No. OSMW-4

<b>Project Name:</b>	<u>441/442 Waverly Avenue – Offsite Monitoring Wells</u>	<b>Project No.:</b>	<u>28012</u>
<b>Client Name:</b>	<u>New Waverly Avenue Associates, LLC</u>	<b>Date:</b>	<u>12/21/2011</u>
<b>Location:</b>	<u>532 Waverly Avenue</u>	<b>Logged By:</b>	<u>Liz Davis</u>
<b>Weather/Temp.:</b>	<u>Raining, calm, 47° F</u>		

<b>Drilling Co.:</b>	<u>Aquifer Drilling &amp; Testing</u>	<b>Depth:</b>	<u>35' below grade</u>
<b>Driller:</b>	<u>Marty Bachner &amp; Jay Burlingare</u>	<b>Equipment:</b>	<u>Geoprobe 6610DT</u>
<b>Date Started:</b>	<u>12/21/2011</u>	<b>Top of Casing Elevation:</b>	<u>30.84'</u>
<b>Date Completed:</b>	<u>12/21/2011</u>		

Depth (ft)	Sample No.	Recovery (ft)	DESCRIPTIVE LOG (color, grain size and amount, texture, moisture)	PID Measurement for Soil Samples  background/headspace (ppm)
0				
5	1	4.3	0 – 0.8' – ASPHALT and sub-base FILL 0.8 – 2.4' – FILL – dark brown fine SAND with black cinder more fragments 2.4 – 3.3' – brown SILT and CLAY (dense) 3.3 – 4.3' – gray-brown, fine-medium grain SAND	0.1/0.5
10	2	4.3	5 – 11.7' – gray-brown, fine-medium grain SAND (some orange bands noted, dry)	0.1/0.5
15	3	4.2	11.7 – 14.2' –dark brown, fine-medium grain SAND	0.1/7.2
20	4	3.1	15 – 15.75' – gray-brown, medium-coarse grain SAND 15.75 – 16.75' – brown, fine-medium grain SAND 16.75 – 23.5' – gray-brown, fine grain SAND (sewer odor, moist)	0.1/7.5
25	5	5	23 – 25' – gray brown, fine-medium grain SAND (moist)	0.1/8.2
(cont.)				



# BORING LOG

Boring No. OSMW-4

<b>Project Name:</b>	<u>441/442 Waverly Avenue – Offsite Monitoring Wells</u>	<b>Project No.:</b>	<u>28012</u>
<b>Client Name:</b>	<u>New Waverly Avenue Associates, LLC</u>	<b>Date:</b>	<u>12/21/2011</u>
<b>Location:</b>	<u>532 Waverly Avenue</u>	<b>Logged By:</b>	<u>Liz Davis</u>
<b>Weather/Temp.:</b>	<u>Raining, calm, 47° F</u>		

<b>Drilling Co.:</b>	<u>Aquifer Drilling &amp; Testing</u>	<b>Depth:</b>	<u>35' below grade</u>
<b>Driller:</b>	<u>Marty Bachner &amp; Jay Burlingare</u>	<b>Equipment:</b>	<u>Geoprobe 6610DT</u>
<b>Date Started:</b>	<u>12/21/2011</u>	<b>Top of Casing Elevation:</b>	<u>30.84'</u>
<b>Date Completed:</b>	<u>12/21/2011</u>		

Depth (ft)	Sample No.	Recovery (ft)	DESCRIPTIVE LOG (color, grain size and amount, texture, moisture)	PID Measurement for Soil Samples background/headspace (ppm)
25				
30	6	4.7	25 – 29.7' – gray-brown, fine-medium grain SAND, trace clay (moist)	0.1/1.9
35	7	5	30 – 33.1' – gray brown, fine-medium grain SAND 33.1 – 33.6' – gray brown, fine grain SAND and SILT (dense) 33.6 – 35' – gray brown, fine-medium grain SAND (dry)	0/8.6
40	8	3.58	35 – 36.75' – gray, fine grain SAND (wet) 36.75 – 38.6' – gray, fine grain SAND, some silt (saturated)	0/0.8
45	9	4	42 – 44' – gray SILT and CLAY (wet)  Refusal at 44'	0/0.4  Construction Details: 1" PVC casing & screen – screened from 25-35 feet below grade (see Figure 5 for details)

**APPENDIX J**  
**GROUNDWATER SAMPLING LOG**



# Groundwater Monitoring Well Sampling Log Form

## Facility Information

NYSDEC Site ID Number: C360108  
Site Name: 441 & 442 Waverly Avenue  
NYSDEC Project Manager (contact name): William Ports, P.E. (518) 402-9672  
Site Address Line 1: 441 & 442 Waverly Avenue  
Site Address Line 2: \_\_\_\_\_  
City: Mamaroneck  
County: Westchester  
State: New York  
Zip Code: 10543  
Site Owner: New Waverly Avenue Associates, LLC

## Well Locational Information

Well ID Number: \_\_\_\_\_

	By Field GPS
Latitude, in decimal degrees	
Longitude, in decimal degrees	

GPS Instrument used: Trimble GeoXH  
Datum: NAD83  
Accuracy/Precision: 5'

## Well Construction Details

Type of well (Circle one) Flush Mount Stick up

Depth of well inner casing below ground surface, in feet: \_\_\_\_\_

Well inner casing material: PVC

Well inner casing diameter: 2 inches

Well Depth: \_\_\_\_\_ as measured, in feet below top of casing

Protective outer surface casing material: \_\_\_\_\_

Protective outer surface casing diameter: \_\_\_\_\_ inches

Depth to water: \_\_\_\_\_ feet below measuring point (usually top of inner casing)

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Elevation of Measuring Point, as surveyed (usually top of inner casing) \_\_\_\_\_

Well \_\_\_\_\_

# Groundwater Monitoring Well Sampling Log Form

## Low – Flow Purging Field Parameter Readings

See attached data sheet.

## Well Condition

Is the concrete pad in good condition?	Yes	No
Is there any evidence of soil erosion or settling?	Yes	No
Is the well surface casing in good condition?	Yes	No
Is the protective outer surface casing vertical and in good condition?	Yes	No
Is the inner cap or well seal in place?	Yes	No
Has there been physical damage to the well?	Yes	No
Is measuring point marked?	Yes	No
Is the well clearly labeled?	Yes	No
Is the well lock functional?	Yes	No
Type of lock and key number: _____		
Flush mount - Are bolts and gasket in good condition?	Yes	No
Flush mount - Any evidence of ponded water?	Yes	No
Is the well currently used for water-level measurements?	Yes	No
Is the well currently used for water-quality sampling?	Yes	No

Other Comments: \_\_\_\_\_

## Recommendations

Does the well require any of the following actions? (Check all that apply)

Well needs to be redeveloped.	_____
Well needs to be re-surveyed.	_____
Well needs to be repaired.	_____
Well needs to be replaced.	_____
Well needs new lock or security device.	_____
Well needs to be properly decommissioned.	_____

## Comments

\_\_\_\_\_  
\_\_\_\_\_  
**Inspected by:** \_\_\_\_\_  
**Date of Inspection:** \_\_\_\_\_  
**Reviewed by:** \_\_\_\_\_ (Print)  
\_\_\_\_\_ (Sign)

Well \_\_\_\_\_

**APPENDIX K**

**INSTITUTIONAL AND ENGINEERING  
CONTROL EVALUATION FORM**

# INSTITUTIONAL AND ENGINEERING CONTROL EVALUATION FORM

## **I. Site Background Information**

### **A. Site Name and Location:**

Site name as it appears on the Environmental Easement: \_\_\_\_\_

Name of the current property owner(s): \_\_\_\_\_

Site Street Address: \_\_\_\_\_

Municipality (-ies): \_\_\_\_\_ County (-ies): \_\_\_\_\_

Blocks: \_\_\_\_\_

Lots: \_\_\_\_\_

Source information obtained from: \_\_\_\_\_

### **B. Person responsible for preparing Institutional and Engineering Control Evaluation Form:**

Person's Name: \_\_\_\_\_

Person's Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

Relationship to the Site (check as appropriate): Owner\_\_\_\_ Operator\_\_\_\_ Lessee\_\_\_\_

Person Who Conducted the Cleanup \_\_\_\_

Other (describe) \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Telephone Number: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Fax Number: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Email Address: \_\_\_\_\_

**C. Case Specific Information (Complete all that apply)**

- Site Name: \_\_\_\_\_
- Site Registry Number: \_\_\_\_\_
- Date of final Remediation Report and/or Certificate of Completion: \_\_\_\_\_
- Name and program of assigned Project Manager at issuance of Environmental Easement: \_\_\_\_\_

**D. Existing Site Conditions**

- Describe the physical characteristics of the site (features, topography, drainage, vegetation, access, etc.). If necessary, attach additional sheets.

---

---

---

---

---

---

- Describe the current site operations/use. If necessary, attach additional sheets.

---

---

---

---

---

---

- Describe visual integrity/condition engineering control. If necessary, attach additional sheets.

---

---

---

---

---

---

## II. Protectiveness Evaluation

### A. Environmental Easement and Engineering Control Information (Complete below)

- Provide the following information for the recorded Environmental Easement:

Book Number: \_\_\_\_\_

Page Number: \_\_\_\_\_

Date the Environmental Easement was filed in the office of the county recording officer:

\_\_\_\_\_

- Have any amendments and/or additional filings been recorded that may modify or supersede the Environmental Easement?

Yes \_\_\_\_\_ No \_\_\_\_\_

If "Yes", provide an explanation. If necessary, attach additional sheets.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### B. Evaluation of Institutional and Engineering Controls

#### 1. Zoning or Land Use Changes (Complete below)

- a. Land use at the time of the Environmental Easement was filed (check all that apply):

Non-Residential \_\_\_\_\_ Residential \_\_\_\_\_ Agricultural \_\_\_\_\_ Other \_\_\_\_\_

- b. Current land use (check all that apply):

Non-Residential \_\_\_\_\_ Residential \_\_\_\_\_ Agricultural \_\_\_\_\_ Other \_\_\_\_\_

- c. Has there been an actual or pending zoning or land-use change?

Yes \_\_\_\_\_ No \_\_\_\_\_

**2. Inspections (Complete below)**

Have periodic inspections of the site identified any excavation or other disturbance activities that have taken place within the restricted areas?

Yes\_\_\_\_\_ No\_\_\_\_\_

Date(s) of Disturbance: \_\_\_\_\_

Duration of Disturbance: Years\_\_\_\_\_ Months\_\_\_\_\_ Days\_\_\_\_\_

Date the NYSDEC was notified: \_\_\_\_\_

Date Work Plan Approved: \_\_\_\_\_

Description of the disturbance and methods to address the disturbance. If necessary, attach additional sheets.

---

---

---

---

---

---

---

Name of Contact Person Relative to the Disturbance:

\_\_\_\_\_

Title: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_



**3. Changes to Laws and Regulations (Complete Below)**

- a. Are there any subsequently promulgated or modified environmental laws or regulations, which apply to the site?

Yes\_\_\_\_\_ No\_\_\_\_\_

- b. If “Yes”, has the evaluation also determined that the Environmental Easement and engineering control, as applicable, meets the requirements of the new laws and regulations?

Yes \_\_\_\_\_ No \_\_\_\_\_

- c. The Environmental Easement and engineering control, as applicable that did not meet the requirements of the new laws and regulations has been addressed in the following manner to bring them into compliance. If necessary, attach additional sheets.

---

---

---

---

---

---

---

---

## **APPENDIX L**

### **QAPP**

## **APPENDIX L**

### **QUALITY ASSURANCE PROJECT PLAN**

#### **1.0 QUALITY ASSURANCE PROJECT PLAN (QAPP)**

The purpose of the Quality Assurance Project Plan (QAPP) is to develop and describe detailed sample collection and analytical procedures that ensure high quality, valid data to evaluate the implemented remedies, and whether the remedial action objectives for the site are being achieved.

##### **1.1 Field and Analytical Parameters**

Field parameters pH, Oxidation Reduction Potential (ORP), Specific Conductivity and Temperature will be measured prior to sample collection. Groundwater samples will be collected and analyzed in accordance with NYSDEC July 2005 analytical Services Protocol (ASP) or latest ASP revision.

Groundwater and soil samples will be analyzed for Volatile and Semi-Volatile Organic Compounds listed in Table 3 of the SMP provided by Methods 8260C and 8270D.

Table 1 presents a summary of the analytical methods for groundwater monitoring at the site.

##### **1.2 Laboratory Sample Custody Procedures**

A NYSDOH ELAP and CLP certified laboratory meeting the requirements for sample custody procedures, including cleaning and handling sample containers and analytical equipment will be used.

##### **1.3 Data Quality Requirements and Assessments**

Data quality requirements and assessments are provided in the NYSDEC ASP, which includes the detection limit for each analyte and sample matrix. Note that the quantification limits, estimated accuracy, accuracy protocol, estimated precision and precision protocol are determined by the laboratory and will be in conformance with the requirements of the NYSDEC ASP (latest revision) and/or USEPA 5/99 SOW for organics and USEPA 1/00 SOW for inorganics, where applicable.

##### **1.4 Monitoring Procedures**

Representative samples will be collected as follows:

- Groundwater samples will be collected by low-flow which includes stabilization of field parameters prior to sample collection. Peristaltic pumps and dedicated tubing for each monitoring well will be used.

##### **1.5 Sample Identification**

Each sample container will have a durable label affixed to it that specifies the following sample information:

- Sample location;
- Sample type;
- Sample identification number (including well designation);

- Date and time of sample collection; and
- Laboratory analyte;
- Preservative type (if applicable).

## **1.6 Sample Preservation, Handling and Shipment**

All analytical samples will be placed in the appropriate sample containers as specified in the NYSDEC ASP. The holding time criteria identified for the individual methods of the ASP will be followed.

Prior to shipment to the laboratory, the sample containers will be checked for proper identification and compared to the field logbook for accuracy. The samples will be wrapped with a cushioning material and will be placed in a cooler with ice immediately after sample collection and maintained at 4 degrees Celsius (4°C) throughout the duration of the sampling event and subsequent shipment to and storage at the analytical laboratory until analysis.

Chain of Custody Forms will be placed in a sealed plastic bag and taped to the underside of the cooler lid. The cooler will be sealed with packaging tape and custody seals will be placed in such a manner that any opening of the cooler prior to arrival at the laboratory can be detected.

All samples will be shipped to ensure laboratory receipt within 48 hours of sample collection in accordance with NYSDEC requirements. The laboratory will be notified prior to the shipment of the samples.

## **1.7 Decontamination Procedures**

All field sampling equipment should be sterile and dedicated to a particular sampling location. In situations where this is not possible, decontamination procedures will be used to reduce the risk of cross-contamination between sample locations. A decontamination station will be established at an area located away from the suspected source of contamination, however close enough to the sampling area to keep equipment handling to a minimum.

All non-disposable equipment will be decontaminated prior to initial use, prior to moving to a new sampling location and prior to leaving the site. Different decontamination procedures are used for various types of equipment as discussed below. When using field decontamination, it is advisable to start sampling in the area of the site with the lowest known contamination and proceed to the areas of highest suspected contamination.

### **1.7.1 Decontamination Procedures for Excavation and Drilling Equipment**

All equipment such as drill rigs, backhoes and other mobile equipment should receive an initial cleaning prior to use at the site. The equipment will also be decontaminated prior to leaving the site. Unless otherwise specified, all wash/rinse solutions can be discharged to the ground on the site property.

Drilling and excavation equipment will be decontaminated in the following manner:

- Scrub all surfaces thoroughly with a non-residual, non-ionic detergent (such as Alconox) and tap water, using a brush to remove particulate matter or surface film. This is necessary in order to remove any solids buildup on the back of the rig, auger flights, drill rods, drilling head, etc. Any loose paint chips, paint flakes and rust must also be removed.
- Auger flights, rods, drill bits and excavation buckets, vehicular wheels and tracks must be steam

cleaned prior to leaving the site.

- All downhole/drilling items, such as split spoon samplers, or any equipment that comes in direct contact with site soil will be decontaminated by steam cleaning.

### **1.7.2 Decontamination Procedures for Sampling Equipment**

Teflon, PVC, polyethylene, polystyrene and stainless steel sampling equipment decontamination procedures will be the following:

- Wash thoroughly with non-residual, non-ionic anionic detergent (such as Alconox) and clean potable tap water, using a brush to remove particulate matter or surface film.
- Rinse thoroughly with tap water.
- Rinse thoroughly with distilled water.
- Rinse thoroughly with distilled water and air dry.
- Wrap completely in clean aluminum foil with dull side against the equipment.

### **1.7.3 Decontamination Procedures for Well Casing/Screen Installation and Development/Purging Equipment**

Well casing and screen for a new monitoring well installation should be decontaminated by manually scrubbing to remove foreign material and steam cleaning, inside and out, until all traces of oil and grease are removed. Pre-cleaned certified well casings and screens from a manufacturer are acceptable and should be stored to preserve it in this condition. Special attention to threaded joints may be necessary to remove cutting oil or welding residues.

Materials and equipment that will be used within the monitoring well for well development and purging should also be decontaminated. If a submersible pump is used, the following methods must be followed to decontaminate it between sample locations:

- Place pump in an Alconox/water solution and wash the outside of the pump with a scrub brush.
- Pump approximately five (5) gallons of the wash solution through the pump.
- Place pump in bucket of clean water and pump out five (5) gallons of water.
- Wipe down the cable with deionized water and a paper towel.

## **1.8 Field Work Documentation**

Proper management and documentation of field work is essential to ensure that all necessary work is conducted in accordance with the SMP and QAPP in an efficient and qualified manner.

### **1.8.1 Field Log Book**

Field log books must be bound and should have consecutively numbered, water resistant pages. All pertinent information regarding the site and sampling procedures must be documented. Notations should be made in log book fashion, noting the time and date of all entries. Information recorded in this notebook should include, but not be limited to, the following:

- Project name and address
- Name, address and telephone number of field contact
- Site address
- Purpose of sampling
- Location of sampling point(s)
- Number(s) and volume(s) of sample(s) taken
- Description of sampling point and sampling methodology
- Date and time of collection, arrival and departure
- Sample distribution and method of storage and transportation
- References, such as sketches of the sampling site or photographs of sample collection
- Field observations, including results of field analyses (e.g., pH, temperature, specific conductance), water levels, drilling logs, and organic vapor and air quality measurements.
- Signature of personnel responsible for completing log entries.

### **1.8.2 Chain of Custody Forms**

The Chain of Custody (COC) form is initiated at the laboratory with bottle preparation and is shipped with the bottles. The COC remains with the sample(s) at all times and lists the name of the person assuming responsibility for the samples. This person is tasked with ensuring secure and appropriate handling of the bottles and samples. When the form is complete, it should indicate that there were no lapses in sample accountability.

A sample is considered to be in an individual's custody if any of the following conditions are met:

- It is in the individual's physical possession,
- It is in the individual's view after being in his or her physical possession,
- It is secured by the individual so that no one can tamper with it, or
- The individual puts it in a designated and identified secure area.

At a minimum, the following information shall be provided on the COCs:

- Project name and address
- Project number
- Sample identification number
- Date
- Time
- Sample location
- Sample type
- Analysis requested
- Number and volume of containers
- Remarks
- Type of waste
- Sampler(s) name(s) and signature(s)
- Spaces for relinquished by/received by signature and date/time.

The Chain of Custody Form is filled out and signed by the person performing the sampling. The original of the form travels with the sample(s) and is signed and dated each time the sample is relinquished to another party, until it reaches the laboratory or analysis is complete. The field sampler keeps one copy and a copy is retained for the project file. Each cooler will have a COC that corresponds with the samples for that cooler.

### **1.8.3 Field Changes and Corrective Action Notification**

Whenever there is a required or recommended investigation/sampling change or correction, the NYSDEC Project Manager contact must be notified for approval.

## **1.9 Monitoring Equipment Calibration Procedures and Preventative Maintenance**

The following information regarding equipment will be maintained for a project:

1. Equipment calibration and operating procedures will include provisions for documentation of frequency, conditions, standards and records reflecting the calibration procedures, methods of usage and repair history of the monitoring unit. Calibration of field equipment will be performed daily at the site so background conditions can be taken into consideration and the instrument calibrated accordingly.
2. Critical spare parts, necessary tools and manuals will be available to facilitate equipment maintenance and repair.

### **1.10 Disposal of Site Soil, Groundwater and Personal Protective Equipment (PPE)**

During sampling of the monitoring wells or ground intrusive activities for site maintenance, site soil and water may be generated from drill cuttings, drilling fluids, development water and purge water.

Soil and groundwater generated from ground intrusive activities must be contained and samples analyzed to determine if disposal to an offsite permitted facility is required or if the soil may be reused onsite as backfill and/or if water can be disposed to the stormwater drainage system. Characterization details are provided in Section 7.0 of the Excavation Work Plan (EWP).



Soiled personal protective equipment (PPE) and disposable sampling equipment will be considered solid waste and contained and disposed offsite. If hazardous waste contamination of PPE or disposable equipment is suspected due to elevated measurements of screening instruments, visual observations, odors or other means, PPE and equipment will be drummed and secured onsite and an approved disposal method will be employed.

### **1.11 Laboratory Data Deliverables and Reporting Requirements**

Baseline groundwater monitoring samples for the site require Category A data deliverables as defined in the NYSDEC ASP, July 2005.

Category B data deliverables will be required for the Remedial Process Closure when groundwater monitoring can be terminated for the site. At this time, a Data Usability Summary Report (DUSR) will be generated by an independent third party for the Category B data deliverables.

### **1.12 Laboratory Trip Blanks**

The laboratory supplies trip blank samples with sample containers when Volatile Organic Compounds (VOCs) are analyzed for groundwater. The purpose of trip blanks is to detect additional sources of VOCs that might potentially influence contaminant values reported in actual samples both quantitatively and qualitatively. The following are potential sources of contamination:

- Laboratory reagent water
- Sample containers
- Cross contamination in shipment
- Contact with analytical instrumentation during preparation of the sample containers and analysis of the samples at the laboratory
- Laboratory reagents used in analytical procedures

A trip blank consists of a set of 40 ml sample vials filled by the laboratory with demonstrated analyte free water. Trip blanks should be handled, transported and analyzed in the same manner as the samples acquired that day, except the trip blank samples are not opened in the field. Trip blanks must accompany samples at a rate of one (1) set per shipment. The temperature of the trip blanks must be maintained at 4 degrees Celsius (4°C) while onsite and during shipment. Trip blanks must be returned to the laboratory with the same set of bottles they accompanied in the field.

### **1.13 Duplicates and Matrix Spikes/Matrix Spike Duplicates**

Duplicate and matrix/matrix-spike duplicates are required at a frequency of one (1) per twenty (20) samples. The selected location for collecting these sample types may be randomly chosen.

Matrix spike samples are quality control procedures, consistent with NYSDEC ASP specifications, used by the laboratory as part of its internal Quality Assurance/Quality Control program. The matrix and matrix spike duplicates are aliquots of a designated sample (water or soil) which are spiked with known quantities of specified compounds. They are used to evaluate the matrix effect of the sample upon the analytical methodology as well as to determine the precision of the applicable analytical method.

28012/SMP/Appendix L\_Quality Assurance Project Plan.doc

TABLE 1  
SITE # C360108 441 and 442 WAVERLY AVENUE  
ANALYTICAL METHODS/QUALITY ASSURANCE SUMMARY  
FOR GROUNDWATER SAMPLES

Groundwater Wells <sup>(1)</sup>		T.O.G.S 1.1.1 Groundwater Standards and Guidance Values	Units	Method	Preservative	Sample Volume (ml)	Container Type	Sample Holding Time
# of Samples <sup>(2)</sup>	Parameter							
6	Static Water Level	---	ft.	---	---	---	---	---
6	Specific Conductance	---	mS/cm	---	---	---	---	---
6	Temperature	---	C°	---	---	---	---	---
6	Floaters or Sinks	---	---	---	---	---	---	---
6	pH	6.5 - 8.5	---	---	---	---	---	---
6	ORP	---	mV	---	---	---	---	---
6	DO	---	mg/L	---	---	---	---	---
VOCs								
6	1,1,1-Trichloroethane	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	1,1-Dichloroethane	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	1,1-Dichloroethene	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	1,2,4-Trimethylbenzene	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	1,2-Dichlorobenzene	3	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	1,2-Dichloroethane	0.6	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	1,3,5-Trimethylbenzene	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	1,3-Dichlorobenzene	3	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	1,4-Dichlorobenzene	3	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	1,4-Dioxane	---	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Acetone	50 GV	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Benzene	1	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Carbon tetrachloride	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Chlorobenzene	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Chloroform	7	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	cis-1,2-Dichloroethene	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Ethyl/benzene	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Hexachlorobenzene	0.04 GV	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Methyl ethyl ketone	50 GV	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Methyl tert-butyl ether	10	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Methylene chloride	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	n-Butylbenzene	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	n-Propylbenzene	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	sec-Butylbenzene	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	tert-Butylbenzene	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Tetrachloroethene	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Toluene	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	trans-1,2-Dichloroethene	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Trichloroethene	5	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Vinyl chloride	2	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
6	Xylene (mixed)	5 <sup>(3)</sup>	ug/L	8260C	HCL	3 x 40	Clear glass	14 days
SVOCs								
6	Acenaphthene	20 GV	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	Acenaphthylene	---	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
9	Anthracene	50 GV	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
9	Benz(a)anthracene	0.002 GV	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
9	Benzo(a)pyrene	ND <sup>(4)</sup>	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
9	Benzo(b)fluoranthene	0.002 GV	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	Benzo(g,h,i)perylene	---	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	Benzo(k)fluoranthene	0.002 GV	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	Chrysene	0.002GV	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	DBenz(a,h)anthracene	---	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	Fluoranthene	50 GV	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	Fluorene	50 GV	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	Indeno(1,2,3-cd)pyrene	0.002 GV	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	m-Cresol	---	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	Naphthalene	10 GV	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	o-Cresol	---	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	p-Cresol	---	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	Pentachlorophenol	1 <sup>(5)</sup>	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	Phenanthrene	50 GV	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	Phenol	1 <sup>(5)</sup>	ug/L	8270D	None	2 x 1000	Amber Glass	7 days
6	Pyrene	50 GV	ug/L	8270D	None	2 x 1000	Amber Glass	7 days

Notes:

GV = Guidance Value

HCL = Hydrochloric Acid

--- Not Applicable or Not Available

(1) 441 Monitoring Wells: B6-OW(D), GZ-22(D), GZ-21(D)

442 Monitoring Wells: GZ-23(D)

Offsite Wells: OSMW-3, OSMW-4

(2) Number of samples does not include one duplicate and one matrix spike/matrix spike duplicate which will be collected per sample event, at a randomly selected sample location.

(3) Based on standards for 1,2-Xylene, 1,3-Xylene, 1,4-Xylene

(4) Non-detectable concentrations by the approved analytical methods from the NYSDEC

(5) Applies to the total sum of phenolic compounds.

**APPENDIX M**  
**SITE-WIDE INSPECTION FORM**

**SITE-WIDE INSPECTION FORM**  
**SITE #C360108**  
**441/442 WAVERLY AVENUE**

Date: \_\_\_\_\_

Inspected By: \_\_\_\_\_

Site Property Item	Condition		Remarks
	Acceptable	Not Acceptable	
1. Asphalt Cover			
2. Light Pole Islands / Soil Cover			
3. Stormwater Catch Basins			
4. Entrance/Exit Ramps			
5. Retaining Walls			
6. Fences and Gates			