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FORMER M. ARGUESO AND CO., INC. SITE NO. C360108

441/442 WAVERLY AVENUE MAMARONECK, NEW YORK

REMEDIAL INVESTIGATION /
INTERIM REMEDIAL MEASURES (RI/IRM)
WORK PLAN

## Prepared For:

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#### 1.0 INTRODUCTION

The Brownfield Site Cleanup Agreement (BCA) between New Waverly Avenue Associates, LLC (Site Owner) and the New York State Department of Environmental Conservation (NYSDEC) was signed April 9, 2009 for the properties located at 441 and 442 Waverly Avenue, Westchester County, Town and Village of Mamaroneck, New York (the "Site"). This Remedial Investigation / Interim Remedial Measures (RI/IRM) Work Plan prepared for the Site and the final RI/IRM Work Plan will be incorporated into the BCA. The purpose of the RI/IRM Work Plan is to provide a detailed description of the proposed remedial investigations and interim remedial measures for the Site. A Site Location Map is presented as Figure 1.

Monthly reports summarizing ongoing RI/IRM activities for the Site will be submitted to the NYSDEC by the 15<sup>th</sup> day of each month for the duration of the RI/IRM.

## 1.1 Summary of Operations History of Properties and Identified Contaminants

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.

## 1.1.1 441 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 M. Argueso and Company, Inc. (Argueso), which constructed the existing two (2) story office building and storage/parking garage. Raw materials were stored at 441 Waverly Avenue for use at the wax manufacturing facility 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 a two (2) level parking area (one level is underground and the second level is at grade). The current tenant is an installation subcontractor to Cablevision. According to the Phase II ESA, an oil/water separator tank and three (3) connecting drywell units are located under the northern portion of the concrete paved parking lot. 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.

## 1.1.2 442 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. A UST Closure Report was not submitted to the NYSDEC and the property was designated as a Leaking Underground Storage Tank (LUST) site.

The existing Site features at 442 Waverly Avenue include a one (1) story manufacturing building (former Argueso facility) and one (1) 8,000 gallon fuel oil UST. The tank is no longer in service. It remains permitted by the Westchester County Department of Health (WCDOH) until August 31, 2011, however is listed as temporarily out of service. Additionally, underground settling tanks and associated concrete trench drainage lines are reportedly present on the property.

## 1.2 Proposed Future Use of Properties

The two (2) level parking area located at 441 Waverly Avenue will be demolished and filled to grade level. Following demolition, the former parking area will be graded and paved. The one (1) story manufacturing building (former Argueso facility) located at 442 Waverly Avenue will be demolished and the property will be graded and paved. Following demolition of the existing Site features described above and construction of the new paved areas, the Site will be available for lease as parking space for adjacent business properties and/or an outside entity.

## 1.3 Project Contacts

Inquiries and comments regarding the RI/IRM for the Site should be directed towards the project contacts presented in Appendix A.

## 2.0 PREVIOUS SITE INVESTIGATIONS

## 2.1 Summary of Investigations

In December 2005, GZA GeoEnvironmental, Inc (GZA) completed Phase I and Phase II Environmental Site Assessment (ESA) Reports for the Site. The Phase II ESA Report includes the investigation of the following twelve (12) identified Areas of Concern (AOCs), based on the review of historic reports, the Phase I Site reconnaissance survey and understanding of former Site operations:

- AOC 1 Chlorinated Solvent Groundwater Plume
- AOC 2 Former Minerals Spirits UST
- AOC 3 Former Fuel Oils USTs
- AOC 4 Current Fuel Oil UST
- AOC 5 Loading Docks
- AOC 6 Former PCE Storage Area
- AOC 7 Former Drum Storage in Concrete Paved Parking Area
- AOC 8 Underground Settling Tanks and Floor Trench System
- AOC 9 Below Grade Storage Area (north side of Waverly Avenue)
- AOC 10 Oil/Water Separator and Associated Drywells
- AOC 11 Drywell Unit
- AOC 12 Former ASTs

Locations of the AOCs are provided in Figure 2.

A summary of analytical data for groundwater, soil and soil gas obtained during the Phase II ESA is presented in the ESA report and results are summarized in Sections 2.2 through 2.4.

## 2.2 Analytical Results for Groundwater Samples

## 2.2.1 441 Waverly Avenue

Three (3) groundwater samples collected in January 2005 were analyzed for Volatile Organic Compound (VOCs). Several chlorinated solvents were detected at concentrations above the NYSDEC 6 NYCRR Part 703.5 Water Quality Standards for Groundwater (6 NYCRR Part 703.5 Standards) in samples collected from the deep overburden aquifer in the southwest corner of the property (B6-OW(D)). Chlorinated solvents were also detected at concentrations exceeding the 6 NYCRR Part 703.5 Standards for two (2) samples collected from the shallow overburden aquifer (B6-OWS and B9A-OW) during this round of sampling.

In October 2005, four (4) groundwater samples were collected from the deep and shallow overburden aquifers. One (1) shallow (GZ-21S) and one (1) deep (GZ-21D) groundwater samples were collected from the overburden aquifer beneath the asphalt paved driveway on the south side of the property. One (1) shallow (GZ-22S) and one (1) deep (GZ-22D) groundwater samples were also collected from the overburden aquifer in AOC 10. VOCs were reported at concentrations exceeding the 6 NYCRR Part 703.5 Standards for all four (4) reported sampling locations.

A summary of the 2005 analytical data for groundwater samples is presented in Table 1A. Plate 1 presents a summary of VOCs that exceed the applicable 6 NYCRR Part 703.5 standards for each sample location.

## 2.2.2 442 Waverly Avenue

In January 2005, twelve (12) groundwater samples were collected from the overburden aquifer and analyzed for VOCs and Polynuclear Aromatic Hydrocarbons (PAHs). One (1) sample was collected from AOC 2 (VW-1), three (3) samples were collected downgradient of AOC 2 (VW-6, B101-OW, and B102-OW), two (2) samples were collected from AOC 3 (B5-OW and VW-3), one (1) sample was collected from AOC 4 (VW-4), one (1) sample was collected from AOC 5 (B2-OW), three (3) samples were collected downgradient of AOC 5 (B103-OW, VW-2, and VW-5), and one (1) sample was collected from AOC 6 and downgradient of AOC 8 (VW-7). According to the Phase II ESA Report, groundwater generally flows from west to east in the overburden aquifer. Concentrations of VOCs that exceed the 6 NYCRR Part 703.5 Standards were detected in all of the groundwater samples collected. The PAH Naphthalene was detected at concentrations that exceed the 6 NYCRR Part 703.5 groundwater standards for the samples collected from B101-OW, VW-2, and VW-6.

In October 2005, three (3) groundwater samples were collected from the overburden aquifer. All of the samples were collected in or downgradient of AOC 5. Two (2) samples (GZ-23D and GZ-24D) were collected from the deep overburden aquifer and one (1) sample (GZ-25S) was collected from the shallow overburden aquifer. The samples were analyzed for VOCs. Chlorinated solvents were detected in all three (3) samples at concentrations exceeding the 6 NYCRR Part 703.5 Standards. The greatest concentrations of chlorinated solvents, specifically Tetrachloroethylene (PCE) and Trichloroethylene (TCE), were detected in the sample collected from GZ-23D.

A summary of the analytical data for groundwater samples is presented in Table 1B. Plate 2 presents a summary of VOCs that exceed the applicable 6 NYCRR Part 703.5 groundwater standards for each sample location.

## 2.3 Analytical Results for Soil Samples

## 2.3.1 441 Waverly Avenue

On September 30 and October 3, 2005, six (6) soil samples were collected. One (1) soil sample (GZ-10) was collected from AOC 7 from a depth of 0.5 to 4 feet below ground surface (bgs). Three (3) soil samples (GZ-12 thru GZ-14) were collected from 0.5 to 4 feet bgs and one (1) soil sample (GZ-11) was collected from 4 to 8 feet bgs in AOC 9. One (1) soil sample was collected from AOC 10 (GZ-8) from a depth of 8-12 feet bgs. The samples were analyzed for VOCs and Semi-Volatile Organic Compounds (SVOCs). Low levels of VOCs were detected in samples collected from GZ-8 at concentrations below the 6 NYCRR Subpart 375.6 Soil Cleanup Objectives (SCOs) for Restricted Commercial Use. SVOCs were detected at concentrations below the SCOs for Restricted Commercial Use in samples collected from GZ-8 and GZ-14.

A summary of the analytical data for soil samples is presented in Table 2A.

## 2.3.2 442 Waverly Avenue

On September 29 and October 5, 2005, a total of twelve (12) soil samples were collected, two (2) samples (GZ-2 and GZ-19) from AOC 3, two (2) samples (GZ-2 and GZ-3) from AOC 4, three (3) samples (GZ-4, GZ-5, and GZ-23D) from AOC 5, one (1) sample (GZ-6) from AOC 6, three (3) samples (GZ-7, GZ-16, and GZ-20) from AOC 8, and two (2) samples from AOC 12. The range of sampling depths was 0.5 to 12 feet for the samples obtained. All of the samples were analyzed for VOCs. All of the samples, except those collected from GZ-4, GZ-5, and GZ-23D, were analyzed for SVOCs. All of VOCs and SVOCs reported at detectable concentrations are below the 6 NYCRR Part 375.6 SCOs for Restricted Commercial Use. Three (3) of the samples (GZ-16 thru GZ-18) were analyzed for Total Metals. Metals were detected in all three (3) samples at concentrations below the SCOs for Restricted Commercial Use.

A summary of the analytical data for soil samples is presented in Table 2B.

## 2.4 Soil Vapor Extraction Program

On November 21 and November 22, 2005, soil gas samples were collected from eight (8) locations at 442 Waverly Avenue. Samples were collected at or downgradient of the asphalt paved loading dock area of AOC 5. VOCs related to petroleum and mineral spirits (Ethylbenzene and Xylenes) were detected in two (2) of the samples submitted for analysis (SG-3 and SG-4).

A summary of the analytical data for soil gas samples collected and submitted for analysis is presented in Table 3 and the 2005 soil gas sample locations are presented on Figure 3.

## 3.0 REMEDIAL INVESTIGATION

## 3.1 Groundwater Sampling Event

Following approval of the RI/IRM Work Plan, groundwater samples will be collected from designated existing monitoring wells located at the Site.

## 3.1.1 Proposed Monitoring Well Locations / Analytical Parameter List

Groundwater will be sampled from the following monitoring wells as part of the Remedial Investigation (RI) of the shallow and deep overburden aquifers at the Site:

441 Waverly Avenue Monitoring Wells						
Screened Portion of Aquifer	Monitoring Well ID	Justification for Sampling				
S	B6-OW(S)	Upgradient well on Site property				
D	B6-OW(D)	Upgradient well on Site property				
D	B9A-OW	Downgradient well on Site property				
S	GZ-21S	Downgradient well on Site property				
D	GZ-21D	Downgradient well on Site property				
S	GZ-22S	In vicinity of oil/water separator tank and dry wells location				
D	GZ-22D	In vicinity of oil/water separator tank and dry wells location				

442 Waverly Avenue Monitoring Wells					
Screened Portion of Aquifer	Monitoring Well ID	Justification for Sampling			
D	B105-OW	Downgradient from 8,000-gallon UST (If B105-OW can not be located sample B5-OW)			
S VW-2 Down		Downgradient from Former Mineral Spirits UST			
S	VW-3	Upgradient from 8,000-gallon UST			
S	VW-5	Upgradient from Former Mineral Spirits UST			
S	VW-7	Downgradient from Underground Settling Tanks			
D	GZ-23D	Upgradient from Former Mineral Spirits UST			
D	GZ-24D	Upgradient from Former Mineral Spirits UST			
S	GZ-25S	Upgradient from Former Mineral Spirits UST			

S = shallow

D = deep

The proposed list of sampling locations is based on analytical data of groundwater samples collected during GZA's Phase II ESA in 2005 and the general groundwater flow direction in the overburden and deep overburden aquifer. All groundwater samples collected will be submitted to a certified laboratory and analyzed for VOCs by EPA Method 8260 and PAHs (SVOCs) by EPA Method 8270.

Proposed groundwater sample locations are provided on Figures 4 and 5.

## 3.1.2 Groundwater Sampling Methodology

Groundwater samples will be collected from monitoring wells using low-flow purging and sampling techniques as specified in 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 equipment (flow cell). Parameters to be monitored 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:

рН	± 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. For overburden wells, 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. For bedrock wells, samples will be collected five (5) feet from the bottom of the well.

Samples will be placed in appropriate containers prepared by the laboratory for analysis of VOCs by USEPA Method 8260 and PAHs by USEPA Method 8270. 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 (December, 2002), as follows:

- At least ten (10) percent of all samples will be connected in duplicate for OA/OC.
- Monitoring wells to be sampled in duplicate will be selected randomly at the time of sampling.

## 3.1.3 GPS Survey of Monitoring Wells

To verify the 2005 Phase II ESA locations, the monitoring wells on the Site will be surveyed using a Trimble® GeoXH 2005 Series Global Positioning System (GPS). The GeoXH handheld GPS provides subfoot horizontal accuracy (less than 30 cm).

Monitoring wells located inside the structures at 441 and 442 Waverly Avenue will be surveyed manually with a tape measure, using the Site building corners for reference.

## 3.1.4 Monitoring Well Decommissioning Procedures

The monitoring well located in the parking garage at 441 Waverly Avenue and the one (1) story former manufacturing building at 442 Waverly Avenue will be decommissioned prior to the proposed demolition of these structures. Wells identified for abandonment are as follows:

## 441 Waverly Avenue Monitoring Well:

B9A-OW

#### 442 Waverly Avenue Monitoring Wells:

- ASW-1
- B101-OW
- B102-OW
- B103-OW
- B104-OW
- GZ-24D
- GZ-25S
- VW-1
- VW-2
- VW-5
- VW-6

The monitoring wells will be abandoned in accordance with the NYSDEC Groundwater Monitoring Well Decommissioning Procedures (April 2003) and will be grouted in-place. The procedure involves filling the casing with grout to a level five (5) feet below ground surface, cutting the PVC riser at the five (5) foot depth and removing the PVC section and associated curb box. The upper five (5) feet of the borehole will be filled with materials that are physically similar to the natural soils.

## 3.2 Additional Confirmatory Soil Sampling Locations at 442 Waverly Avenue

In addition to the soil samples to be collected as part of the UST closures described in Section 4.2, confirmatory soil samples will be collected from the following specific locations at 442 Waverly Avenue (see Figure 5 for locations):

- two (2) soil samples in the vicinity of the former mineral spirits UST,
- one (1) soil sample located adjacent to the brick drain located on the southeast side of the building and
- one (1) soil sample located at the former internal discharge pit.

Soil samples will also be collected from catch basin and floor drain locations located inside the 442 Waverly Avenue building; the number of samples for these locations will be determined in the field, as approved by the NYSDEC.

All confirmatory soil samples will be collected continuously in four (4) foot intervals, by direct push drilling (and concrete coring, as needed) to a depth of twelve (12) feet or refusal. Confirmatory soil samples will be analyzed for 6 NYCRR Part 375-6.8(b) VOCs and SVOCs by Methods 8260B and 8270C, respectively. For each sample location, a composite soil sample will be collected from one (1) of the four (4) foot boring sections based on PID readings or visual observations.

## 4.0 INTERIM REMEDIAL MEASURES

## 4.1 Excavation Work Plan (EWP)

An Excavation Work Plan (EWP) is provided as Appendix B.

The EWP establishes guidelines and procedures for management of soil/fill fluid management, excavations and UST/buried drums. The EWP also presents soil characterization and composite soils sampling procedures. The requirements for the reuse of soils at the Site and off-Site are also described. Specifications for soil cover systems including soil, asphalt, and concrete are established. The EWP indentifies temporary and permanent erosion control and permitting and dust control practices to be followed during development activities on the Site property.

In addition, a Health and Safety Plan (HASP) is provided as Appendix C and a Community Air Monitoring Plan (CAMP) is provided as Appendix D. The HASP and CAMP will be implemented with the EWP for all Site operations that involve soil excavation.

## 4.2 Underground Storage Tank (UST) Removals and Closure Procedures

The closure and removal procedures for all the UST removals will adhere to the requirements presented in Article XXV of the Westchester County Sanitary Code. The following will be submitted to the Westchester County Department of Health (WCDOH) Office of Environmental Health and Risk Control, for review and approved prior to removal of the tank and associated drywells:

- Updated Petroleum Bulk Storage (PBS) Application;
- PBS Work Permit Application; and
- Site Plan identifying tank and drywell locations, extent of excavation, and sampling locations.

In addition to the requirements established by the WCDOH, a building permit application must be reviewed and approved by the Village of Mamaroneck prior to removal of the UST. The Village of Mamaroneck requires the following documents be submitted at the time of application:

- A complete Building Permit Application;
- A complete Short Environmental Assessment Form;
- Building Permit Application Fee:
- Two (2) copies of architectural plans, stamped by a Certified Architect or NYS Registered Professional Engineer;

- Four (4) additional copies of architectural plans, not stamped, and five (5) sets of color photographs of the dwelling and neighboring dwellings;
- Two (2) copies of a property survey; and
- Contractor's Westchester County License and Certificates of Liability, Workman's Compensation and Disability Insurances. The Liability Certificate must name the Village of Mamaroneck as the Certificate Holder and Additional Insured.

## 4.2.1 441 Waverly Avenue

## 4.2.1.1 Oil / Water Separator Tank and Dry Wells

An oil/water separator and three (3) connected drywell units are reportedly located under the northern portion of the concrete paved parking lot. The oil/water separator tank is a 750-gallon concrete UST connected to three (3) precast concrete drywell units approximately four (4) feet in diameter and five (5) feet high. Prior to paving 441 Waverly Avenue, removal of the existing oil/water separator tank and associated drywells at 441 Waverly Avenue will be conducted by a registered tank removal company and will be overseen by a qualified Environmental Engineer or representative.

Soils in the UST excavation will be inspected and monitored for potential contamination and sidewall and bottom soils samples will be collected and analyzed for 6 NYCRR Part 375 TCL VOCs by USEPA Method 8260B and TCL SVOCs by USEPA Method 8270C (see Figure 4 for proposed soil sampling locations). Following the excavation and removal of the oil/water separator tank and associated drywells, a UST Closure Report will be prepared by the Environmental Engineer and submitted to the NYSDEC, WCDOH, and Village of Mamaroneck.

If the oil/water separator tank and associated drywells are not located, one (1) composite bottom soil sample will be collected at a depth of six (6) feet below ground surface from the tank and drywell locations identified in the 2005 Phase II ESA Report.

#### 4.2.2 442 Waverly Avenue

#### 4.2.2.1 8.000 Gallon UST

One (1) 8,000-gallon fuel oil UST is located on the property (see Figure 5). The UST is no longer in service however is still permitted by the WCDOH until August 31, 2011 and is listed as temporarily out of service. Following approval of all required permit applications, the 8,000-gallon UST will be removed by a registered tank removal company and will be overseen by a qualified Environmental Engineer or representative.

Soils in the UST excavation will be inspected and monitored for potential contamination and sidewall and bottom soils samples will be collected and analyzed for 6 NYCRR Part 375 TCL VOCs by USEPA Method 8260B and TCL SVOCs by USEPA Method 8270C (see Figure 5 for proposed sample locations). Following the excavation and removal of the 8,000-gallon fuel oil UST, a UST Closure Report will be prepared by the Environmental Engineer and submitted to the NYSDEC, WCDOH, and Village of Mamaroneck.

## 4.2.2.2 Underground Settling Tanks

Concrete lined floor trenches primarily in the eastern portion of the manufacturing building historically drained via gravity to a series of concrete underground settling tanks prior to discharge to the sanitary sewer. The settling tanks will be removed prior to the proposed demolition of the manufacturing building and paving of the property. Following approval of all required permit applications listed in Section 4.2, the settling tanks will be removed by a registered tank removal company and will be overseen by a qualified Environmental Engineer or representative.

Soils in the excavation will be inspected and monitored for potential contamination and sidewall and bottom soils samples will be collected and analyzed for 6 NYCRR Part 375 TCL VOCs by USEPA Method 8260B and TCL SVOCs by USEPA Method 8270C. Following the excavation and removal of the settling tanks, a UST Closure Report will be prepared by the Environmental Engineer and submitted to the NYSDEC, WCDOH, and Village of Mamaroneck.

If the concrete underground settling tanks are not located, one (1) composite bottom soil sample will be collected at a depth of six (6) feet below ground surface from the reported underground settling tank locations identified in the 2005 Phase II ESA Report.

## 4.3 Asbestos Inspection / Asbestos Abatement

## 4.3.1 441 Waverly Avenue

Prior to demolition of the two (2) story storage/parking garage located on the property, an industrial building asbestos inspection of the building structures will be performed by a New York State licensed asbestos inspector. Any materials determined to contain asbestos will be removed and managed by a qualified asbestos abatement contractor in accordance with the regulations specified in 12 NYCRR Part 56 and USEPA Region 2 guidance. All non-asbestos containing materials will be handled and managed as construction debris.

## 4.3.2 442 Waverly Avenue

On November 2, 2007, Applied Envirometrics performed an industrial building asbestos inspection of the building to determine if building materials contain asbestos and to estimate the condition and quantity of friable and non-friable materials. Twenty-seven (27) bulk building material samples were collected from areas containing Presumed Asbestos Containing Building Materials (PACBM), including twenty-four (24) roofing samples, one (1) pipe insulation sample, one (1) window caulking sample, and one (1) wall plaster sample. The asbestos inspection was performed by a Certified Industrial Hygienist and the final samples were submitted to Adirondack Environmental Services, Inc., a USEPA and NYS accredited laboratory, for analysis by application of Polarized Light Microscopy, gravimetric reduction, and Transmission Electron Microscopy (TEM) in accordance with New York State Environmental Laboratory Accreditation Protocols (ELAP). A copy of the asbestos inspection Report is provided as Appendix E.

Analytical data indicates eleven (11) of the samples contained asbestos at a level exceeding the USEPA regulatory definition of asbestos containing (<1% asbestos). One (1) of the eleven (11) asbestos containing samples was also determined to be friable. A material that is asbestos containing and friable is considered hazardous and is classified as a Regulated Asbestos Containing Material (RACM). Sixteen (16) of the samples did not contain asbestos at or above the regulatory definition concentration.

- Can only be terminated or amended through a written request executed by the Commissioner of the NYSDEC;
- Is binding and applicable to all future owners and occupants of the property; and
- May be enforced against the grantor and all future owners, lessees, and occupants of the property by the State or the municipality in which the property resides.

The NYSDEC includes the following conditions regarding Environmental Easements:

- The NYSDEC may revoke the Certificate of Completion from the property owner if it is determined that an Environmental Easement has been violated:
- The State is authorized to perform inspections of a property to ensure compliance with the restrictions of an Environmental Easement;
- A copy of the Environmental Easement must be included in the database of the property to which it is issued;
- A copy of each Environmental Easement and all documents modifying or terminating the easement must be provided by the State to the municipalities in which the property resides; and
- The NYSDEC must be notified by municipalities upon receipt on any applications that may affect
  the land use or development of a property with an Environmental Easement. Municipalities may
  not approve an application unless the New York State Education Department (NYSED) has
  reviewed the application and determined that the approval would be consistent with the purpose
  of the easement.

Following demolition, the property owner will submit a request through the Westchester County Recording Office for Environmental Easements for each parcel.

## 6.0 PROPOSED SITE DEVELOPMENT

Following demolition, catch basins and stormwater sewer pipes will be installed and connected to the existing municipal stormwater drainage system. The areas will be graded and paved following the review and approval of the local and State government permit requirements described below.

## 6.1 Local Government Permit Requirements

The requirements of the UST removal permit application for Westchester County are described in Section 4.2. No other permits must be filed with the County.

In addition to the permit requirements previously discussed, the following permit applications must be filed with the Village of Mamaroneck prior to construction of the stormwater drainage system and paved parking area:

- A Building Permit Application (see requirements presented in Section 4.2); and
- An Electrical Permit Application (must be submitted by an electrician licensed in Westchester County).

## 6.2 State Government Permit Requirements

The total disturbed area that will be affected on the Site is less than one (1) acre. Therefore, a State Pollutant Discharge Elimination System (SPDES) Permit is not required and the Site is exempt from the requirements pursuant to the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity, Permit No. GP-0-08-001 (April, 2008), including a Storm Water Pollution Prevention Plan (SWPPP).

## 7.0 RI/IRM AND PROJECT DEVELOPMENT EVENTS: SEQUENCE AND SCHEDULE

The tasks required to complete the RI/IRM and subsequent development of the Site are summarized below:

Site #C360108 BCA Tasks	Estimated Schedule
Submit Proposed RI/IRM Work Plan for NYSDEC Review	May 15, 2009
NYSDEC Review Response Due for Proposed RI/IRM Work Plan (will approve, modify or reject)	June 30, 2009
Address NYSDEC Review Comments, Resubmit RI/IRM Work Plan for Approval (Resubmitted July 9, 2009, Approved July 29, 2009)	July 9, 2009
RI/IRM Work Plan dated July 29, 2009 is Placed in Village Hall Repository for 30-day Public Comment Review Period, Notice and Fact Sheet are submitted to BCA Contact List.	August 3, 2009 – September 1, 2009
Implement RI/IRM at Site (Following Approval of RI/IRM Work Plan):  RI:  Groundwater monitoring event, Survey monitoring well locations, Laboratory Analyses (10-day TAT), Summarize Findings  Collect confirmatory soil samples from locations listed in Section 3.2 at 442 Waverly Avenue Building by direct push drilling. Laboratory Analyses (10-day TAT), Summarize Findings  Make permit application to Village of Mamaroneck and WCDOH for removing USTs  IRM:  Removal of 8,000 gallon UST and associated soils, removal of underground settling tanks and associated soils at 442 Waverly Avenue. Removal of oil/water separator tank and three (3) drywells and associated soils at 441 Waverly Avenue.  Collect sidewall and bottom soil samples at all UST removal locations. Laboratory Analysis (10-day TAT), Summarize Findings  Determine if Alternatives Analysis (AA) is Required  Submit RI/IRM Report (with AA, if required) to NYSDEC	10-12 Weeks

Site #C360108 BCA Tasks	Estimated Schedule
NYSDEC and WCDOH Reviews RI/IRM Report	30 Days
Send Notice and Fact Sheet Describing RI/IRM Report to Contact List	
If the NYSDEC determines Remedial Action(s) for the Site is required, a Remedial Work Plan (RWP) will be prepared, and before the proposed RWP is finalized, the RWP will be placed in the Village Repository for 45-day public comment period and a notice and fact sheet will be sent to the contact list describing the RWP.	8 weeks
Send notice to contact list announcing the start of construction for engineering controls that are part of remedy.	
During this period, the pre-demolition inspection for the parking/storage garage at 441 Waverly Avenue and the one-story building at 442 Waverly Avenue will be conducted. The asbestos inspection for 441 Waverly Avenue will also be conducted during this period.	
Before the NYSDEC approves the Final Engineering Report (which describes any institutional or engineering controls included in the remedy), a notice and fact sheet will be sent to contact list.	6-8 weeks
Institutional Engineering Controls at Site.	
Issue a Certificate of Completion (when institutional/engineering controls are used), a notice and fact sheet will be sent to contact list within 10 days of issue date.	
Acquire local and State permits for Demolition and Site Plan Approval	4-6 weeks
Asbestos abatement for 441 and 442 Waverly Avenue	2-3 weeks
Demolish 441 and 442 Waverly Avenue Structures	3-4 weeks
Install Stormwater Drainage systems on both properties, grade and pave properties	10-12 weeks

28012/Work Plan Documents/ 441-442 Waverly Avenue Work Plan\_Txt\_072909.doc



#### Table 1A

## Summary of Groundwater Analytical Results Site # C360108

## Former M. Argueso and Company, Inc. 441 Waverly Avenue Mamaroneck, New York

Sample ID	Units	Groundwater Standard or	B6-OW(D)	B6-OW(S)	B9A-OW	
Sampling Date		Guidance Value*	01/2005	01/2005	01/2005	
Volatile Organic Compounds (VOCs) by EPA Method 8260				0.1.2000	0 172000	
Vinyl Chloride	ug/L	2	<1.0	<1.0	6.6	
Chloroethane	ug/L	5	<1.0	<1.0	<1.0	
Diethylether	ug/L		<5.0	<5.0	85	
1,1-Dichloroethene	ug/L	5	<1.0	<1.0	<1.0	
Methyl-Tert-Butyl-Ether	ug/L		<1.0	8	<1.0	
trans-1,2-Dichloroethene	ug/L	5	230	4.6	<1.0	
1,1-Dichloroethane	ug/L	5	<1.0	<1.0	<1.0	
cis-1,2-Dichloroethene	ug/L	5	550	12	5	
Chloroform	ug/L	7	<1.0	<1,0	<1.0	
Carbon Tetrachloride	ug/L	5	<1.0	<1.0	26	
1,2-Dichloroethane	ug/L	0.6	12	<1.0	140	
Benzene	ug/L	1	7.3	<1.0	<1.0	
Trichloroethene	ug/L	5	38	1.6	<1.0	
Tetrachloroethene	ug/L	5	16	3.1	1	
Ethylbenzene	ug/L	5	<1.0	<1.0	<1.0	
o-Xylene	ug/L	5	<1.0	<1.0	<1.0	
Styrene	ug/L	5	<1.0	<1.0	<1.0	
Isopropylbenzene	ug/L	5	<1.0	<1.0		
Bromobenzene	ug/L	5	<1.0	<1.0	<1.0 <1.0	
N-Propylbenzene	ug/L	5	<1.0	<1.0	<1.0	
tert-Butylbenzene	ug/L	5	<1.0	<1.0	<1.0	
sec-Butylbenzene	ug/L	5	<1.0	<1.0		
n-Butylbenzene	ug/L	5	<1.0	<1.0	<1.0	
1,2-Dichlorobenzene	ug/L	3	<1.0	<1.0	<1.0	
Naphthalene	ug/L	10	<1.0	<1.0	<1.0	
Total VOCs	ug/L		853.3	29,3	<1.0	
Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270			000.0	29.3	263.6	
Naphthalene	ug/L	10	NA	NA	NA	
2-Methylnaphthalene	ug/L	*-	NA	NA NA	NA NA	

#### Notes:

Groundwater samples were collected by GZA GeoEnvironmental, Inc. (GZA) on the dates indicated and analyzed by GZA's Environmental Chemistry Laboratory in Hopkinton, Massachussetts.

Value in BOLD indicates the reported concentration is above the applicable water quality standard or guidance value.

- Groundwater Standards and Guidance Values are obtained from the NYSDEC Technical and Operational Guidance Series (1.1.1), Ambient Water Quality Standards, Guidance Values, and Groundwater Effluent Limitations (June 1998).
- < Indicates the parameter was not detected at the laboratory detection limit shown. NA Not Analyzed.
- -- No standard or not applicable.

#### Table 1A

## Summary of Groundwater Analytical Results Site # C360108

## Former M. Argueso and Company, Inc. 441 Waverly Avenue Mamaroneck, New York

Sample ID	Units	Groundwater Standard or	GZ-21S	GZ-21D	GZ-22S	
Sampling Date		Guidance Value*	10/24/2005	10/24/2005	10/24/2005	
Volatile Organic Compounds (VOCs) by EPA Method 8260						
Vinyl Chloride	ug/L	2	2.7	2.6	<1.0	
Chloroethane	ug/L	5	<1.0	<1.0	<1.0	
Diethylether	ug/L		<5.0	54	<5.0	
1,1-Dichloroethene	ug/L	5	<1.0	<1.0	<1.0	
Methyl-Tert-Butyl-Ether	ug/L		11	<1.0	42	
trans-1,2-Dichloroethene	ug/L	5	<1.0	<1.0	<1.0	
1,1-Dichloroethane	ug/L	5	<1.0	<1.0	<1.0	
cis-1,2-Dichloroethene	ug/L	5	<1.0	140	4.4	
Chloroform	ug/L	7	<1.0	1.4	<1.0	
Carbon Tetrachloride	ug/L	5	<1.0	<1.0	<1.0	
1,2-Dichloroethane	ug/L	0.6	<1.0	130	1.2	
Benzene	ug/L	1	1	44	<1.0	
Trichloroethene	ug/L	5	<1.0	<1.0	6	
Tetrachloroethene	ug/L	5	<1.0	2.3	24	
Ethylbenzene	ug/L	5	<1.0	<1.0	<1.0	
o-Xylene	ug/L	5	<1.0	<1.0	<1.0	
Styrene	ug/L	5	<1.0	<1.0	<1.0	
Isopropylbenzene	ug/L	5	<1.0	<1.0	<1.0	
Bromobenzene	ug/L	5	<1.0	<1.0	<1.0	
N-Propyibenzene	ug/L	5	<1.0	<1.0	<1.0	
tert-Butylbenzene	ug/L	5	5.1	<1.0	<1.0	
sec-Butylbenzene	ug/L	5	7.9	<1.0	<1.0	
n-Butylbenzene	ug/L	5	<1.0	<1.0	<1.0	
1,2-Dichlorobenzene	ug/L	3	<1.0	<1.0	<1.0	
Naphthalene	ug/L	10	<1.0	<1.0	<1.0	
Total VOCs	ug/L		27.7	374.3	77.6	
Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270					71.0	
Naphthalene	ug/L	10	NA	NA NA	NA	
2-Methylnaphthalene	ug/L		NA	NA NA	NA NA	

#### Notes:

Groundwater samples were collected by GZA GeoEnvironmental, Inc. (GZA) on the dates indicated and analyzed by GZA's Environmental Chemistry Laboratory in Hopkinton, Massachussetts.

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- < Indicates the parameter was not detected at the laboratory detection limit shown. NA Not Analyzed.
- -- No standard or not applicable.

#### Table 1A

#### Summary of Groundwater Analytical Results Site # C360108

## Former M. Argueso and Company, Inc. 441 Waverly Avenue Mamaroneck, New York

		Groundwater	i -
Sample ID	Units	Standard or	GZ-22D
Sampling Date		Guidance Value*	10/24/2005
Volatile Organic Compounds (VOCs) by EPA Method 8260			
Vinyl Chloride	ug/L	2	<1.0
Chloroethane	ug/L	5	<1.0
Diethylether	ug/L		<5.0
1,1-Dichloroethene	ug/L	5	<1.0
Methyl-Tert-Butyl-Ether	ug/L		1.8
trans-1,2-Dichloroethene	ug/L	5	<1.0
1,1-Dichloroethane	ug/L	5	<1.0
cis-1,2-Dichloroethene	ug/L	5	2.9
Chloroform	ug/L	7	<1.0
Carbon Tetrachloride	ug/L	5	<1.0
1,2-Dichloroethane	ug/L	0.6	13
Benzene	ug/L	1	2
Trichloroethene	ug/L	5	71
Tetrachloroethene	ug/L	5	120
Ethylbenzene	ug/L	5	<1.0
o-Xylene	ug/L	5	<1.0
Styrene	ug/L	5	<1.0
Isopropylbenzene	ug/L	5	<1.0
Bromobenzene	ug/L	5	<1.0
N-Propylbenzene	ug/L	5	<1.0
tert-Butylbenzene	ug/L	5	<1.0
sec-Butylbenzene	ug/L	5	<1.0
n-Butylbenzene	ug/L	5	<1.0
1,2-Dichlorobenzene	ug/L	3	<1.0
Naphthalene	ug/L	10	<1.0
Total VOCs	ug/L		210.7
Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270			
Naphthalene	ug/L	10	NA
2-Methylnaphthalene	ug/L	***	NA NA

#### Notes:

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- < Indicates the parameter was not detected at the laboratory detection limit shown. NA Not Analyzed.
- -- No standard or not applicable.

## Former M. Argueso and Company, Inc. 442 Waverly Avenue Mamaroneck, New York

Sample ID	Units	Groundwater Standard or	B2-OW	B5-OW	B101-OW
Sampling Date		Guidance Value*	01/2005	01/2005	01/2005
Volatile Organic Compounds (VOCs) by EPA Method 8260					01/2003
Vinyl Chloride	ug/L	2	1.2	<1.0	<1.0
Chloroethane	ug/L	5	<1.0	8.5	<del></del>
Diethylether	ug/L		<5.0	250	<1.0 <5.0
1,1-Dichloroethene	ug/L	5	<1.0	<1.0	
Methyl-Tert-Butyl-Ether	ug/L		<1.0	<1.0	<1.0 <1.0
trans-1,2-Dichloroethene	ug/L	5	<1.0	<1.0	
1,1-Dichloroethane	ug/L	5	<1.0	<1.0	<1.0 1.2
cis-1,2-Dichloroethene	ug/L	5	2.1	<1.0	
Chloroform	ug/L	7	<1.0	<1.0	<1.0 <1.0
Carbon Tetrachloride	ug/L	5	<1.0	<1.0	<1.0
1,2-Dichloroethane	ug/L	0.6	<1.0	120	<1.0
Benzene	ug/L	1	15	9.5	
Trichloroethene	ug/L	5	3.3	<1.0	<1.0 <1.0
Tetrachloroethene	ug/L	5	3.6	<1.0	
Ethylbenzene	ug/L	5	<1.0	<1.0	<1.0
o-Xylene	ug/L	5	1.2	<1.0	4.8 <1.0
Styrene	ug/L	5	<1.0	<1.0	
Isopropylbenzene	ug/L	5	<1.0	<1.0	<1.0
Bromobenzene	ug/L	5	2.2	<1.0	100 <1.0
N-Propylbenzene	ug/L	5	<1.0	<1.0	270
tert-Butylbenzene	ug/L	5	<1.0	<1.0	270
sec-Butylbenzene	ug/L	5	<1.0	<1.0	65
n-Butylbenzene	ug/L	5	<1.0	<1.0	25
1,2-Dichlorobenzene	ug/L	3	<1.0	<1.0	
Naphthalene	ug/L	10	<1.0	<2.0	<1.0 18
Total VOCs	ug/L		28.6	388	
Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270			2010	300	505
Naphthalene	ug/L	10	NA	<2.0	33
2-Methylnaphthalene	ug/L		NA NA	<2.0	8.6

#### Notes:

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- < Indicates the parameter was not detected at the laboratory detection limit shown. NA Not Analyzed.
- -- No standard or not applicable.

## Laboratory Qualifier:

#### Former M. Argueso and Company, Inc. 442 Waverly Avenue Mamaroneck, New York

Sample ID	Units	Groundwater Standard or	B102-OW	B103-OW	VW-1	
Sampling Date		Guidance Value*	01/2005	01/2005	01/2005	
Volatile Organic Compounds (VOCs) by EPA Method 8260					0172003	
Vinyl Chloride	ug/L	2	<1.0	<1.0	<1.0	
Chloroethane	ug/L	5	<1.0	<1.0	<1.0	
Diethylether	ug/L		<5.0	<5.0	<5.0	
1,1-Dichloroethene	ug/L	5	<1.0	<1.0		
Methyl-Tert-Butyl-Ether	ug/L		<1.0	<1.0	<1.0	
trans-1,2-Dichloroethene	ug/L	5	<1.0	<1.0	<1.0	
1,1-Dichloroethane	ug/L	5	1.8	<1.0	<1.0	
cis-1,2-Dichloroethene	ug/L	5	<1.0	<1.0	5.4 2.2	
Chloroform	ug/L	7	<1.0	<1.0		
Carbon Tetrachloride	ug/L	5	<1.0	<1.0	<1.0 <1.0	
1,2-Dichloroethane	ug/L	0.6	<1.0	<1.0		
Benzene	ug/L	1	<1.0	<1.0	<1.0 <1.0	
Trichloroethene	ug/L	5	<1.0	<1.0		
Tetrachloroethene	ug/L	5	<1.0	5.6	7.5	
Ethylbenzene	ug/L	5	<1.0	<1.0		
o-Xylene	ug/L	5	<1.0	<1.0	<1.0 <1.0	
Styrene	ug/L	5	<1.0	<1.0	<1.0	
Isopropylbenzene	ug/L	5	29	<1.0	<1.0	
Bromobenzene	ug/L	5	<1.0	<1.0	<1.0	
N-Propylbenzene	ug/L	5	70	<1.0	<1.0	
tert-Butylbenzene	ug/L	5	6.6	<1.0	<1.0	
sec-Butylbenzene	ug/L	5	20	<1.0	<1.0	
n-Butylbenzene	ug/L	5	8.1	<1.0	<1.0	
1,2-Dichlorobenzene	ug/L	3	<1.0	<1.0	2.2	
Naphthalene	ug/L	10	5.8	<1.0		
Total VOCs	ug/L		141.3	5.6	<1.0	
Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270				3.0	18.7	
Naphthalene	ug/L	10	1.8 J	<2.0	<2.0	
2-Methylnaphthalene	ug/L		<2.0	<2.0	<2.0	

## Notes:

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- < Indicates the parameter was not detected at the laboratory detection limit shown. NA Not Analyzed.
- -- No standard or not applicable.

#### Laboratory Qualifier:

#### Former M. Argueso and Company, Inc. 442 Waverly Avenue Mamaroneck, New York

Sample ID	Units	Groundwater Standard or	VW-2	VW-3	VW-4	
Sampling Date			01/2005	01/2005	01/2005	
Volatile Organic Compounds (VOCs) by EPA Method 8260					01/2000	
Vinyl Chloride	ug/L	2	<1.0	<1.0	<1.0	
Chloroethane	ug/L	5	<1.0	2.2	2.1	
Diethylether	ug/L	=-	<5.0	<5.0	<5.0	
1,1-Dichloroethene	ug/L	5	<1.0	<1.0	<1.0	
Methyl-Tert-Butyl-Ether	ug/L		<1.0	<1.0	<1.0	
trans-1,2-Dichloroethene	ug/L	5	<1.0	<1.0	<1.0	
1,1-Dichloroethane	ug/L	5	1.2	2.2	1,7	
cis-1,2-Dichloroethene	ug/L	5	<1.0	<1.0	<1.0	
Chloroform	ug/L	7	<1.0	<1.0	<1.0	
Carbon Tetrachloride	ug/L	5	<1.0	<1.0	<1.0	
1,2-Dichloroethane	ug/L	0.6	<1.0	<1.0	<1.0	
Benzene	ug/L	1	<1.0	<1.0	<1.0	
Trichloroethene	ug/L	5	<1.0	<1.0	<1.0	
Tetrachloroethene	ug/L	5	<1.0	<1.0	<1.0	
Ethylbenzene	ug/L	5	4	<1.0	<1.0	
o-Xylene	ug/L	5	<1.0	<1.0	<1.0	
Styrene	ug/L	5	<1.0	<1.0	<1.0	
Isopropylbenzene	ug/L	5	86	6.2	3.5	
Bromobenzene	ug/L	5	<1.0	<1.0	<1.0	
N-Propylbenzene	ug/L	5	210	5.9	3.7	
tert-Butylbenzene	ug/L	5	15	4.5	3.8	
sec-Butylbenzene	ug/L	5	47	2.5	6	
n-Butylbenzene	ug/L	5	16	<1.0	1.1	
1,2-Dichlorobenzene	ug/L	3	<1.0	<1.0	<1.0	
Naphthalene	ug/L	10	70	2	12	
Total VOCs	ug/L		449.2	25.5	33.9	
Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270				20.0	5,5	
Naphthalene	ug/L	10	21	0.46	<2.0	
2-Methylnaphthalene	ug/L		3.1	<2.0	<2.0	

## Notes:

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- < Indicates the parameter was not detected at the laboratory detection limit shown.
- NA Not Analyzed.
- -- No standard or not applicable.

## **Laboratory Qualifier:**

#### Former M. Argueso and Company, Inc. 442 Waverly Avenue Mamaroneck, New York

Sample ID	Units	Groundwater Standard or	VW-5	VW-6	VW-7
Sampling Date		Guidance Value*	01/2005	01/2005	01/2005
Volatile Organic Compounds (VOCs) by EPA Method 8260					
Vinyl Chloride	ug/L	2	<1.0	<1.0	<1.0
Chloroethane	ug/L	5	<1.0	<1.0	<1.0
Diethylether	ug/L		<5.0	<5.0	<5.0
1,1-Dichloroethene	ug/L	5	<1.0	<1.0	<1.0
Methyl-Tert-Butyl-Ether	ug/L		<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	ug/L	5	<1.0	<1.0	<1.0
1,1-Dichloroethane	ug/L	5	<1.0	1.5	<1.0
cis-1,2-Dichloroethene	ug/L	5	1.4	<1.0	<1.0
Chloroform	ug/L	7	<1.0	<1.0	<1.0
Carbon Tetrachloride	ug/L	5	<1.0	<1.0	<1.0
1,2-Dichloroethane	ug/L	0.6	<1.0	<1.0	<1.0
Benzene	ug/L	1	<1.0	<1.0	<1.0
Trichloroethene	ug/L	5	<1.0	<1.0	<1.0
Tetrachloroethene	ug/L	5	<1.0	<1.0	<1.0
Ethylbenzene	ug/L	5	5.2	2.1	<1.0
o-Xylene	ug/L	5	<1.0	<1.0	<1.0
Styrene	ug/L	5	<1.0	<1.0	2.5
Isopropylbenzene	ug/L	5	18	99	8.6
Bromobenzene	ug/L	5	<1.0	<1.0	<1.0
N-Propylbenzene	ug/L	5 ·	11	240	9.2
tert-Butylbenzene	ug/L	5	6.9	14	2
sec-Butylbenzene	ug/L	5	11	55	2.2
n-Butylbenzene	ug/L	5	1	19	<1.0
1,2-Dichlorobenzene	ug/L	3	<1.0	4.7	<1.0
Naphthalene	ug/L	10	4.2	82	1.9
Total VOCs	ug/L		58.7	517.3	26.4
Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270					
Naphthalene	ug/L	10	1 J	25	3.2
2-Methylnaphthalene	ug/L		<2.0	4	<2.0

#### Notes:

Groundwater samples were collected by GZA GeoEnvironmental, Inc. (GZA) on the dates indicated and analyzed by GZA's Environmental Chemistry Laboratory in Hopkinton, Massachussetts.

Value in BOLD indicates the reported concentration is above the applicable water quality standard or guidance value.

- Groundwater Standards and Guidance Values are obtained from the NYSDEC Technical and Operational Guidance Series (1.1.1), Ambient Water Quality Standards, Guidance Values, and Groundwater Effluent Limitations (June 1998).
- < Indicates the parameter was not detected at the laboratory detection limit shown.
- NA Not Analyzed.
- -- No standard or not applicable.

## Laboratory Qualifier:

## Table 1B

## Summary of Groundwater Analytical Results Site # C360108

## Former M. Argueso and Company, Inc. 442 Waverly Avenue Mamaroneck, New York

Sample ID	Units	Groundwater Standard or	GZ-23D	GZ-24D	GZ-25S
Sampling Date		Guidance Value*	10/24/2005	10/24/2005	10/24/2005
Volatile Organic Compounds (VOCs) by EPA Method 8260					10/24/2005
Vinyl Chloride	ug/L	2	1.3	<1.0	1.9
Chloroethane	ug/L	5	<1.0	<1.0	<1.0
Diethylether	ug/L		<5.0	<5.0	<5.0
1,1-Dichloroethene	ug/L	5	2.4	<1.0	<1.0
Methyl-Tert-Butyl-Ether	ug/L		<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	ug/L	5	6.8	<1.0	<1.0
1,1-Dichloroethane	ug/L	5	<1.0	1.4	3.1
cis-1,2-Dichloroethene	ug/L	5	5.6	<1.0	21
Chloroform	ug/L	7	<1.0	<1.0	<1.0
Carbon Tetrachloride	ug/L	5	<1.0	<1.0	<1.0
1,2-Dichloroethane	ug/L	0.6	9.7	1.9	<1.0
Benzene	ug/L	1	11	1.3	19
Trichloroethene	ug/L	5	1,000	<1.0	<1.0
Tetrachloroethene	ug/L	5	22,000	<1.0	1.7
Ethylbenzene	ug/L	5	<1.0	<1.0	<1.0
o-Xylene	ug/L	5	<1.0	<1.0	<1.0
Styrene	ug/L	5	<1.0	<1.0	<1.0
Isopropylbenzene	ug/L	5	<1.0	<1.0	<1.0
Bromobenzene	ug/L	5	<1.0	<1.0	<1.0
N-Propylbenzene	ug/L	5	<1.0	<1.0	<1.0
tert-Butylbenzene	ug/L	5	<1.0	<1.0	<1.0
sec-Butylbenzene	ug/L	5	<1.0	<1.0	<1.0
n-Butylbenzene	ug/L	5	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	ug/L	3	<1.0	<1.0	<1.0
Naphthalene	ug/L	10	<1.0	<1.0	<1.0
Total VOCs	ug/L		23,036,8	15.3	46.7
Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270				10.0	40.7
Naphthalene	ug/L	10	NA NA	NA	NA
2-Methylnaphthalene	ug/L	=+	NA NA	NA NA	NA NA

#### Notes:

Groundwater samples were collected by GZA GeoEnvironmental, Inc. (GZA) on the dates indicated and analyzed by GZA's Environmental Chemistry Laboratory in Hopkinton, Massachussetts.

Value in BOLD indicates the reported concentration is above the applicable water quality standard or guidance value.

- Groundwater Standards and Guidance Values are obtained from the NYSDEC Technical and Operational Guidance Series (1.1.1), Ambient Water Quality Standards, Guidance Values, and Groundwater Effluent Limitations (June 1998).
- < Indicates the parameter was not detected at the laboratory detection limit shown.

#### NA Not Analyzed.

-- No standard or not applicable.

## Laboratory Qualifier:

#### Table 2A

## Summary of Soil Analytical Results Site # C360108

## Former M. Argueso and Company, Inc. 441 Waverly Avenue Mamaroneck, New York

Sample ID			GZ-8, S-3	C7 10 C 1
Sample Depth (feet below ground surface)	Units	Soil Cleanup	8-12'	GZ-10, S-1
Sampling Date		Objective*	10/3/2005	0.5-4' 10/3/2005
Volatile Organic Compounds (VOCs) by EPA			- 0,012000	10/3/2005
Method 8260B				
n-Butylbenzene	ug/kg	**	26,000	<110
sec-Butylbenzene	ug/kg	500,000	26,000	<110
tert-Butylbenzene	ug/kg	500,000	4,300	<110
Ethylbenzene	ug/kg	390,000	260	<110
Isopropylbenzene	ug/kg		3,900	<110
p-Isopropyltoluene	ug/kg		7,600	<110
Naphthalene	ug/kg		1,300	<110
n-Propylbenzene	ug/kg	500,000	21,000	<110
Tetrachloroethene	ug/kg	150,000	<110	<110
1,2,4-Trimethylbenzene	ug/kg	190,000	170,000	<110
Semi-Volatile Organic Compounds (SVOCs) by			17 0,000	V110
EPA Method 8270C				
Benzo(a)pyrene	ug/kg	1,000	<330	<330
Benzo(b)fluoranthene	ug/kg	5,600	<330	<330
Bis(2-ethylhexyl)phthalate	ug/kg	**	7,200	<330
Chrysene	ug/kg	56,000	<330	<330
Fluoranthene	ug/kg	500,000	<330	<330
2-Methylnaphthalene	ug/kg		<330	<330
Naphthalene	ug/kg	500,000	<330	<330
Phenanthrene	ug/kg	500,000	<330	<330
Pyrene	ug/kg	500,000	<330	<330
Nitrobenzene	ug/kg		2,900	<330
Total Metals by EPA Method 200			-,000	7550
Aluminum	mg/kg		NA.	NA
Arsenic	mg/kg	16	NA NA	NA NA
Barium	mg/kg	400	NA	NA NA
Calcium	mg/kg		NA NA	NA NA
Cadmium	mg/kg	9.3	NA NA	NA NA
Cobalt	mg/kg		NA .	NA NA
Chromium (Total)	mg/kg	1,500	NA.	NA NA
Copper	mg/kg	270	NA.	NA NA
Iron	mg/kg		NA NA	NA NA
Mercury	mg/kg	2.8	NA NA	NA NA
Magnesium	mg/kg		NA NA	NA NA
Manganese	mg/kg	10,000	NA NA	NA NA
Nickel	mg/kg	310	NA NA	NA NA
Lead	mg/kg	1,000	NA NA	NA NA
Vanadium	mg/kg		NA NA	NA NA
Zinc	mg/kg	10,000	NA NA	NA NA
Potassium	mg/kg		NA NA	NA NA
Sodium	mg/kg	**	NA NA	NA NA

#### Notes:

Soil samples were collected by GZA GeoEnvironmental, Inc. (GZA) on the dates indicated and analyzed by GZA's Environmental Chemistry Laboratory in Hopkinton, Massachussetts.

- No standard or not applicable.
- \* Soil Cleanup Objectives obtained from 6 NYCRR Part 375-6.8(b) Restricted Use Soil Cleanup Objectives, Protection of Public Health, Commercial.
- < Indicates the parameter was not detected at the laboratory detection limit shown.

## Table 2A Summary of Soil Analytical Results

## Site # C360108

## Former M. Argueso and Company, Inc. 441 Waverly Avenue Mamaroneck, New York

Sample Depth (feet below ground surface) Sampling Date Volatile Organic Compounds (VOCs) by EPA	Units	Soil Cleanup	GZ-11, S-2	GZ-12, S-1
Sampling Date	<b>-</b>		4-8'	0.5-4'
Volatile Organic Compounds (VOCs) by EDA		Objective*	9/30/2005	9/30/2005
reading engaing compounds (vous) by EPA			0.00,2000	9/30/2005
Method 8260B				
n-Butylbenzene	ug/kg		<130	<150
sec-Butylbenzene	ug/kg	500,000	<130	<150
tert-Butylbenzene	ug/kg	500,000	<130	<150
Ethylbenzene	ug/kg	390,000	<130	<150
Isopropylbenzene	ug/kg		<130	<150
p-lsopropyltoluene	ug/kg		<130	<150
Naphthalene	ug/kg		<130	<150
n-Propylbenzene	ug/kg	500,000	<130	<150
Tetrachloroethene	ug/kg	150,000	<130	<150
1,2,4-Trimethylbenzene	ug/kg	190,000	<130	<150 <150
Semi-Volatile Organic Compounds (SVOCs) by			1100	V150
EPA Method 8270C				
Benzo(a)pyrene	ug/kg	1,000	<330	<330
Benzo(b)fluoranthene	ug/kg	5,600	<330	<330
Bis(2-ethylhexyl)phthalate	ug/kg		<330	<330
Chrysene	ug/kg	56,000	<330	<330
Fluoranthene	ug/kg	500,000	<330	<330
2-Methylnaphthalene	ug/kg	••	<330	<330
Naphthalene	ug/kg	500,000	<330	<330
Phenanthrene	ug/kg	500,000	<330	<330
Pyrene	ug/kg	500,000	<330	<330
Nitrobenzene	ug/kg		<330	<330
Total Metals by EPA Method 200				1000
Aluminum	mg/kg		NA	NA
Arsenic	mg/kg	16	NA	NA
Barium	mg/kg	400	NA	NA NA
Calcium	mg/kg		NA	NA NA
Cadmium	mg/kg	9.3	NA	NA NA
Cobalt	mg/kg		NA NA	NA NA
Chromium (Total)	mg/kg	1,500	NA	NA NA
Copper	mg/kg	270	NA	NA NA
lfon	mg/kg		NA	NA
Mercury	mg/kg	2.8	NA	NA NA
Magnesium	mg/kg		NA NA	NA NA
Manganese	mg/kg	10,000	NA NA	NA NA
Nickel	mg/kg	310	NA NA	NA NA
Lead	mg/kg	1,000	NA NA	NA NA
Vanadium	mg/kg		NA NA	NA NA
Zinc	mg/kg	10,000	NA NA	NA NA
Potassium	mg/kg	**	NA NA	NA NA
Sodium	mg/kg		NA NA	NA NA

#### Notes:

Soil samples were collected by GZA GeoEnvironmental, Inc. (GZA) on the dates indicated and analyzed by GZA's Environmental Chemistry Laboratory in Hopkinton, Massachussetts.

- -- No standard or not applicable.
- \* Soil Cleanup Objectives obtained from 6 NYCRR Part 375-6.8(b) Restricted Use Soil Cleanup Objectives, Protection of Public Health, Commercial.
- < Indicates the parameter was not detected at the laboratory detection limit shown.

#### Table 2A Summary of Soil Analytical Results Site # C360108

## Former M. Argueso and Company, Inc. 441 Waverly Avenue

Mamaroneck, New York						
Sample ID		A ".O.	GZ-13, S-1	GZ-14, S-1		
Sample Depth (feet below ground surface)	Units	Soil Cleanup	0.5-4'	0.5-4'		
Sampling Date		Objective*	9/30/2005	9/30/2005		
Volatile Organic Compounds (VOCs) by EPA Method 8260B						
n-Butylbenzene	ug/kg		<80	<110		
sec-Butylbenzene	ug/kg	500,000	<80	<110		
tert-Butylbenzene	ug/kg	500,000	<80	<110		
Ethylbenzene	ug/kg	390,000	<80	<110		
Isopropylbenzene	ug/kg		<80			
p-Isopropyltoluene	ug/kg		<80	<110		
Naphthalene	ug/kg		<80	<110		
n-Propylbenzene	ug/kg	500,000	<80	<110		
Tetrachloroethene	ug/kg	150,000	<80	<110		
1,2,4-Trimethylbenzene	ug/kg	190,000	<80	<110		
Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C			700	<110		
Benzo(a)pyrene	ug/kg	1,000	<330	<330		
Benzo(b)fluoranthene	ug/kg	5,600	<330	<330		
Bis(2-ethylhexyl)phthalate	ug/kg		<330	900		
Chrysene	ug/kg	56,000	<330	<330		
Fluoranthene	ug/kg	500,000	<330	<330		
2-Methylnaphthalene	ug/kg		<330	<330		
Naphthalene	ug/kg	500,000	<330	<330		
Phenanthrene	ug/kg	500,000	<330	<330		
Pyrene	ug/kg	500,000	<330	<330		
Nitrobenzene	ug/kg		<330	<330		
Total Metals by EPA Method 200			300	7330		
Aluminum	mg/kg		NA	NA		
Arsenic	mg/kg	16	NA NA	NA NA		
Barium	mg/kg	400	NA NA	NA NA		
Calcium	mg/kg		NA NA	NA NA		
Cadmium	mg/kg	9.3	NA NA	NA NA		
Cobalt	mg/kg		NA NA	NA NA		
Chromium (Total)	mg/kg	1,500	NA NA	NA NA		
Copper	mg/kg	270	NA NA	NA NA		
Iron	mg/kg		NA NA	NA NA		
Mercury	mg/kg	2.8	NA NA	NA NA		
Magnesium	mg/kg		NA NA			
Manganese	mg/kg	10,000	NA NA	NA NA		
Nickel	mg/kg	310	NA NA	NA NA		
Lead	mg/kg	1,000	NA NA	NA NA		
Vanadium	mg/kg		NA NA	NA NA		
Zinc	mg/kg	10,000	NA NA	NA NA		
Potassium	mg/kg		NA NA	NA NA		
Sodium	mg/kg			NA NA		
Notoo	j mg/kg		NA	NA		

## Notes:

Soil samples were collected by GZA GeoEnvironmental, Inc. (GZA) on the dates indicated and analyzed by GZA's Environmental Chemistry Laboratory in Hopkinton, Massachussetts.

- -- No standard or not applicable.
- \* Soil Cleanup Objectives obtained from 6 NYCRR Part 375-6.8(b) Restricted Use Soil Cleanup Objectives, Protection of Public Health, Commercial.
- < Indicates the parameter was not detected at the laboratory detection limit shown.

## Table 2B

#### Summary of Soil Analytical Results Site # C360108

## Former M. Argueso and Company, Inc. 442 Waverly Avenue Mamaroneck, New York

Sample ID			GZ-2, S-2	GZ-3, S-2	
Sample Depth (feet below ground surface)	Units	Soil Cleanup	4-8'	4-8'	
Sampling Date	1	Objective*	10/5/2005	10/6/2005	
Volatile Organic Compounds (VOCs) by EPA				10/0/2003	
Method 8260B					
n-Butylbenzene	ug/kg		<80	<85	
sec-Butylbenzene	ug/kg	500,000	<80	<85	
tert-Butylbenzene	ug/kg	500,000	<80	<85 <85	
Ethylbenzene	ug/kg	390,000	<80	<85	
Isopropylbenzene	ug/kg	-	<80	<85	
p-isopropyltoluene	ug/kg	**	<80	<85	
Naphthalene	ug/kg		<80	<85	
n-Propylbenzene	ug/kg	500,000	<80	<85	
Tetrachloroethene	ug/kg	150,000	<80	<85	
1,2,4-Trimethylbenzene	ug/kg	190,000	<80	<85	
Semi-Volatile Organic Compounds (SVOCs) by				<b>~00</b>	
EPA Method 8270C					
Benzo(a)pyrene	ug/kg	1,000	<660	<330	
Benzo(b)fluoranthene	ug/kg	5,600	<660	<330	
Bis(2-ethylhexyl)phthalate	ug/kg		21,000	<330	
Chrysene	ug/kg	56,000	<660	<330	
Fluoranthene	ug/kg	500,000	<660	<330	
2-Methylnaphthalene	ug/kg		<660	<330	
Naphthalene	ug/kg	500,000	<660	<330	
Phenanthrene	ug/kg	500,000	<660	<330	
Pyrene	ug/kg	500,000	<660	<330	
Nitrobenzene	ug/kg		<660	<330	
Total Metals by EPA Method 200			1000	<b>\330</b>	
Aluminum	mg/kg		NA	NA	
Arsenic	mg/kg	16	NA NA	NA NA	
Barium	mg/kg	400	NA NA	NA NA	
Calcium	mg/kg	<u>-</u>	NA	NA NA	
Cadmium	mg/kg	9.3	NA NA	NA NA	
Cobalt	mg/kg	**	NA NA	NA NA	
Chromium (Total)	mg/kg	1,500	NA NA	NA NA	
Copper	mg/kg	270	NA NA	NA NA	
Iron	mg/kg		NA NA	NA NA	
Mercury	mg/kg	2.8	NA NA	NA NA	
Magnesium	mg/kg		NA NA	NA NA	
Manganese	mg/kg	10,000	NA NA	NA NA	
Nickel	mg/kg	310	NA NA	NA NA	
Lead	mg/kg	1,000	NA NA	NA NA	
Vanadium	mg/kg		NA NA	NA NA	
Zinc	mg/kg	10.000	NA NA		
Potassium	mg/kg		NA NA	NA NA	
Sodium	mg/kg		NA NA	NA NA	
	, 5.3		177	NA	

## Notes:

Soil samples were collected by GZA GeoEnvironmental, Inc. (GZA) on the dates indicated and analyzed by GZA's Environmental Chemistry Laboratory in Hopkinton, Massachussetts.

- -- No standard or not applicable.
- \* Soil Cleanup Objectives obtained from 6 NYCRR Part 375-6.8(b) Restricted Use Soil Cleanup Objectives, Protection of Public Health, Commercial.
- < Indicates the parameter was not detected at the laboratory detection limit shown.

#### Table 2B

#### Summary of Soil Analytical Results Site # C360108

## Former M. Argueso and Company, Inc.

442 Waverly Avenue Mamaroneck, New York

Sample ID			GZ-4, S-3	GZ-5, S-1
Sample Depth (feet below ground surface)	Units	Soil Cleanup	8-12'	0.5-4
Sampling Date		Objective*	10/3/2005	10/3/2005
Volatile Organic Compounds (VOCs) by EPA Method 8260B				10002000
n-Butylbenzene	ug/kg		<130	<110
sec-Butylbenzene	ug/kg	500,000	<130	<110
tert-Butylbenzene	ug/kg	500,000	<130	<110
Ethylbenzene	ug/kg	390,000	<130	<110
Isopropylbenzene	ug/kg		<130	<110
p-Isopropyltoluene	ug/kg		<130	<110
Naphthalene	ug/kg		<130	<110
n-Propylbenzene	ug/kg	500,000	<130	<110
Tetrachloroethene	ug/kg	150,000	<130	<110
1,2,4-Trimethylbenzene	ug/kg	190,000	<130	<110
Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C				110
Benzo(a)pyrene	ug/kg	1,000	NA	NA
Benzo(b)fluoranthene	ug/kg	5,600	NA	NA NA
Bis(2-ethylhexyl)phthalate	ug/kg		NA	NA
Chrysene	ug/kg	56,000	NA	NA
Fluoranthene	ug/kg	500,000	NA	NA NA
2-Methylnaphthalene	ug/kg		NA	NA.
Naphthalene	ug/kg	500,000	NA	NA NA
Phenanthrene	ug/kg	500,000	NA	NA NA
Pyrene	ug/kg	500,000	NA	NA NA
Nitrobenzene	ug/kg		NA	NA
Total Metals by EPA Method 200				
Aluminum	mg/kg		NA	NA
Arsenic	mg/kg	16	NA NA	NA
Barium	mg/kg	400	NA	NA NA
Calcium	mg/kg		NA	NA
Cadmium	mg/kg	9.3	NA	NA
Cobalt	mg/kg		NA	NA
Chromium (Total)	mg/kg	1,500	NA	NA
Copper	mg/kg	270	NA	NA
Iron	mg/kg		NA	NA NA
Mercury	mg/kg	2.8	NA	NA
Magnesium	mg/kg		NA	NA
Manganese	mg/kg	10,000	NA	NA NA
Nickel	mg/kg	310	NA	NA NA
Lead	mg/kg	1,000	NA	NA NA
Vanadium	mg/kg		NA	NA NA
Zinc	mg/kg	10,000	NA NA	NA NA
Potassium	mg/kg		NA NA	NA NA
Sodium	mg/kg		NA NA	NA NA

## Notes:

Soil samples were collected by GZA GeoEnvironmental, Inc. (GZA) on the dates indicated and analyzed by GZA's Environmental Chemistry Laboratory in Hopkinton, Massachussetts.

- -- No standard or not applicable.
- \* Soil Cleanup Objectives obtained from 6 NYCRR Part 375-6.8(b) Restricted Use Soil Cleanup Objectives, Protection of Public Health, Commercial.
- < Indicates the parameter was not detected at the laboratory detection limit shown.

## Table 2B Summary of Soil Analytical Results

## Site # C360108 Former M. Argueso and Company, Inc.

442 Waverly Avenue Mamaroneck, New York

Sample ID			GZ-6, S-3	GZ-7, S-3	
Sample Depth (feet below ground surface)	Units	Soil Cleanup	8-12'	8-12'	
Sampling Date	7	Objective*	10/4/2005	10/4/2005	
Volatile Organic Compounds (VOCs) by EPA Method 8260B				10,4,2000	
n-Butylbenzene	ug/kg		13,000	23,000	
sec-Butylbenzene	ug/kg	500,000	25,000	41,000	
tert-Butylbenzene	ug/kg	500,000	4,700	6,800	
Ethylbenzene	ug/kg	390,000	970	370	
Isopropylbenzene	ug/kg		14,000	18,000	
p-Isopropyltoluene	ug/kg		<100	<120	
Naphthalene	ug/kg		41,000	5,500	
n-Propylbenzene	ug/kg	500,000	47,000	56,000	
Tetrachloroethene	ug/kg	150,000	<100	<120	
1,2,4-Trimethylbenzene	ug/kg	190,000	<100	160	
Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C		Account to the second s		100	
Benzo(a)pyrene	ug/kg	1,000	<660	<660	
Benzo(b)fluoranthene	ug/kg	5,600	<660	<660	
Bis(2-ethylhexyl)phthalate	ug/kg	n-	<660	<660	
Chrysene	ug/kg	56,000	<660	<660	
Fluoranthene	ug/kg	500,000	<660	<660	
2-Methylnaphthalene	ug/kg		1,600	900	
Naphthalene	ug/kg	500,000	23,000	5,200	
Phenanthrene	ug/kg	500,000	<660	<660	
Pyrene	ug/kg	500,000	<660	<660	
Nitrobenzene	ug/kg		<660	<660	
Total Metals by EPA Method 200	1		- 000	<b>~000</b>	
Aluminum	mg/kg	**	NA	NA	
Arsenic	mg/kg	16	NA NA	NA NA	
Barium	mg/kg	400	NA NA	NA NA	
Calcium	mg/kg		NA NA	NA NA	
Cadmium	mg/kg	9.3	NA	NA NA	
Cobalt	mg/kg	*-	NA	NA NA	
Chromium (Total)	mg/kg	1,500	NA	NA NA	
Copper	mg/kg	270	NA	NA	
Iron	mg/kg		NA	NA	
Mercury	mg/kg	2.8	NA	NA NA	
Magnesium	mg/kg		NA	NA NA	
Manganese	mg/kg	10,000	NA NA	NA NA	
Nickel	mg/kg	310	NA NA	NA NA	
Lead	mg/kg	1,000	NA NA	NA NA	
Vanadium	mg/kg	**	NA NA	NA NA	
Zinc	mg/kg	10,000	NA NA	NA NA	
Potassium	mg/kg		NA NA	NA NA	
Sodium	mg/kg	*-	NA NA	NA NA	

## Notes:

Soil samples were collected by GZA GeoEnvironmental, Inc. (GZA) on the dates indicated and analyzed by GZA's Environmental Chemistry Laboratory in Hopkinton, Massachussetts.

- -- No standard or not applicable.
- \* Soil Cleanup Objectives obtained from 6 NYCRR Part 375-6.8(b) Restricted Use Soil Cleanup Objectives, Protection of Public Health, Commercial.
- < Indicates the parameter was not detected at the laboratory detection limit shown.

#### Table 2B Summary of Soil Analytical Results Site # C360108

#### Former M. Argueso and Company, Inc. 442 Waverly Avenue Mamaroneck, New York

Sample ID		9-11-01	GZ-16, S-1	GZ-17, S-1	
Sample Depth (feet below ground surface)	Units	Soil Cleanup	0.5-4'	0.5-4'	
Sampling Date		Objective*	10/3/2005	10/3/2005	
Volatile Organic Compounds (VOCs) by EPA					
Method 8260B					
n-Butylbenzene	ug/kg		<130	<140	
sec-Butylbenzene	ug/kg	500,000	<130	<140	
tert-Butylbenzene	ug/kg	500,000	<130	<140	
Ethylbenzene	ug/kg	390,000	<130	<140	
Isopropylbenzene	ug/kg		<130	<140	
p-Isopropyltoluene	ug/kg		<130	<140	
Naphthalene	ug/kg		<130	<140	
n-Propylbenzene	⊔g/kg	500,000	<130	<140	
Tetrachloroethene	ug/kg	150,000	140	<140	
1,2,4-Trimethylbenzene	ug/kg	190,000	170	<140	
Semi-Volatile Organic Compounds (SVOCs) by					
EPA Method 8270C					
Benzo(a)pyrene	ug/kg	1,000	<330	<330	
Benzo(b)fluoranthene	ug/kg	5,600	<330	<330	
Bis(2-ethylhexyl)phthalate	ug/kg		<330	<330	
Chrysene	ug/kg	56,000	<330	<330	
Fluoranthene	ug/kg	500,000	<330	<330	
2-Methylnaphthalene	ug/kg		<330	<330	
Naphthalene	ug/kg	500,000	<330	<330	
Phenanthrene	ug/kg	500,000	<330	<330	
Pyrene	ug/kg	500,000	<330	<330	
Nitrobenzene	ug/kg		<330	<330	
Total Metals by EPA Method 200					
Aluminum	mg/kg		15,700	9,100	
Arsenic	mg/kg	16	3.38	11.9	
Barium	mg/kg	400	52.8	75.7	
Calcium	mg/kg		557	4,760	
Cadmium	mg/kg	9.3	0.55	2.66	
Cobalt	mg/kg	~-	13.4	9.23	
Chromium (Total)	mg/kg	1,500	17.3	43.9	
Copper	mg/kg	270	14	142	
Iron	mg/kg		18,200	13,200	
Mercury	mg/kg	2.8	<0.0345	0.513	
Magnesium	mg/kg		2,690	3,010	
Manganese	mg/kg	10,000	401	362	
Nickel	mg/kg	310	12.6	56.6	
Lead	mg/kg	1,000	13.1	271	
Vanadium	mg/kg		24.6	242	
Zinc	mg/kg	10,000	263	345	
Potassium	mg/kg		1,000	1,100	
Sodium	mg/kg		310	2,600	
				2,000	

## Notes:

Soil samples were collected by GZA GeoEnvironmental, Inc. (GZA) on the dates indicated and analyzed by GZA's Environmental Chemistry Laboratory in Hopkinton, Massachussetts.

- -- No standard or not applicable.
- \* Soil Cleanup Objectives obtained from 6 NYCRR Part 375-6.8(b) Restricted Use Soil Cleanup Objectives, Protection of Public Health, Commercial.
- < Indicates the parameter was not detected at the laboratory detection limit shown.

#### Table 2B Summary of Soil Analytical Results Site # C360108

## Former M. Argueso and Company, Inc. 442 Waverly Avenue Mamaroneck, New York

Sample ID			G7 10 C4	1 07/000
Sample Depth (feet below ground surface)	Units	Soil Cleanup	GZ-18, S-1 0.5-4'	GZ-19, S-3
Sampling Date	-	Objective*	10/3/2005	8-12'
Volatile Organic Compounds (VOCs) by EPA			10/3/2005	10/5/2005
Method 8260B				
n-Butylbenzene	ug/kg		<130	1,900
sec-Butylbenzene	ug/kg	500,000	<130	2,600
tert-Butylbenzene	ug/kg	500,000	<130	850
Ethylbenzene	ug/kg	390,000	<130	110
Isopropylbenzene	ug/kg		<130	1,200
p-Isopropyltoluene	ug/kg		<130	<110
Naphthalene	ug/kg		<130	340
n-Propylbenzene	ug/kg	500,000	<130	3,400
Tetrachloroethene	ug/kg	150,000	<130	<110
1,2,4-Trimethylbenzene	ug/kg	190,000	<130	<110
Semi-Volatile Organic Compounds (SVOCs) by			100	7110
EPA Method 8270C				
Benzo(a)pyrene	ug/kg	1,000	360	<660
Benzo(b)fluoranthene	ug/kg	5,600	350	<660
Bis(2-ethylhexyl)phthalate	ug/kg		<330	<660
Chrysene	ug/kg	56,000	330	<660
Fluoranthene	ug/kg	500,000	520	<660
2-Methylnaphthalene	ug/kg		<330	<660
Naphthalene	ug/kg	500,000	<330	<660
Phenanthrene	ug/kg	500,000	360	<660
Pyrene	ug/kg	500,000	450	<660
Nitrobenzene	ug/kg		<330	<660
Total Metals by EPA Method 200				
Aluminum	mg/kg		10,900	NA
Arsenic	mg/kg	16	3.77	NA
Barium	mg/kg	400	46.7	NA
Calcium	mg/kg		919	NA
Cadmium	mg/kg	9.3	< 0.542	NA
Cobalt	mg/kg		6.17	NA
Chromium (Total)	mg/kg	1,500	15.1	NA
Copper	mg/kg	270	28	NA
Iron	mg/kg		14,600	NA
Mercury	mg/kg	2.8	0.0805	NA
Magnesium	mg/kg		2,300	NA
Manganese	mg/kg	10,000	215	NA
Nickel	mg/kg	310	12.1	NA
Lead	mg/kg	1,000	39.4	NA
Vanadium	mg/kg		17	NA
Zinc	mg/kg	10,000	50.7	NA
Potassium	mg/kg	77	720	NA
Sodium	mg/kg		<170	NA

## Notes:

Soil samples were collected by GZA GeoEnvironmental, Inc. (GZA) on the dates indicated and analyzed by GZA's Environmental Chemistry Laboratory in Hopkinton, Massachussetts.

- -- No standard or not applicable.
- \* Soil Cleanup Objectives obtained from 6 NYCRR Part 375-6.8(b) Restricted Use Soil Cleanup Objectives, Protection of Public Health, Commercial.
- < Indicates the parameter was not detected at the laboratory detection limit shown.

#### Table 2B Summary of Soil Analytical Results Site # C360108

## Former M. Argueso and Company, Inc. 442 Waverly Avenue Mamaroneck, New York

Sample ID						
Sample Depth (feet below ground surface)	Units	Soil Cleanup	GZ-20, S-3 8-12'	GZ-23D, S-5		
Sampling Date		Objective*	10/3/2005	8-10' 9/29/2005		
Volatile Organic Compounds (VOCs) by EPA			10/0/2000	9/29/2005		
Method 8260B						
n-Butylbenzene	ug/kg		12,000	<100		
sec-Butylbenzene	ug/kg	500,000	36,000	<100		
tert-Butylbenzene	ug/kg	500,000	5,400	<100		
Ethylbenzene	ug/kg	390,000	2,500	<100		
Isopropylbenzene	ug/kg		10,000	<100		
p-Isopropyltoluene	ug/kg		1,300	<100		
Naphthalene	ug/kg		9,700	<100		
n-Propylbenzene	ug/kg	500,000	45,000	<100		
Tetrachloroethene	ug/kg	150,000	<110	<100		
1,2,4-Trimethylbenzene	ug/kg	190,000	170,000	<100		
Semi-Volatile Organic Compounds (SVOCs) by			1,0,00	~100		
EPA Method 8270C						
Benzo(a)pyrene	ug/kg	1,000	<660	NA		
Benzo(b)fluoranthene	ug/kg	5,600	<660	NA.		
Bis(2-ethylhexyl)phthalate	ug/kg		<660	NA NA		
Chrysene	ug/kg	56,000	<660	NA NA		
Fluoranthene	ug/kg	500,000	<660	NA NA		
2-Methylnaphthalene	ug/kg		1,200	NA		
Naphthalene	ug/kg	500,000	6,500	NA		
Phenanthrene	ug/kg	500,000	<660	NA		
Pyrene	ug/kg	500,000	<660	NA		
Nitrobenzene	ug/kg		<660	NA		
Total Metals by EPA Method 200						
Aluminum	mg/kg		NA	NA		
Arsenic	mg/kg	16	NA	NA		
Barium	mg/kg	400	NA	NA		
Calcium	mg/kg		NA	NA		
Cadmium	mg/kg	9.3	NA	NA		
Cobalt	mg/kg		NA	NA		
Chromium (Total)	mg/kg	1,500	NA	NA NA		
Copper	mg/kg	270	NA	NA		
Iron	mg/kg		NA	NA		
Mercury	mg/kg	2.8	NA	NA		
Magnesium	mg/kg		NA	NA NA		
Manganese	mg/kg	10,000	NA	NA		
Nickel	mg/kg	310	NA	NA NA		
Lead	mg/kg	1,000	NA	NA NA		
Vanadium	mg/kg		NA	NA NA		
Zinc	mg/kg	10,000	NA	NA		
Potassium	mg/kg		NA	NA NA		
Sodium	mg/kg		NA	NA NA		

## Notes:

Soil samples were collected by GZA GeoEnvironmental, Inc. (GZA) on the dates indicated and analyzed by GZA's Environmental Chemistry Laboratory in Hopkinton, Massachussetts.

- -- No standard or not applicable.
- \* Soil Cleanup Objectives obtained from 6 NYCRR Part 375-6.8(b) Restricted Use Soil Cleanup Objectives, Protection of Public Health, Commercial.
- < Indicates the parameter was not detected at the laboratory detection limit shown.

Table 3 Summary of 2005 Soil Gas Analytical Results Site # C360108 Former M. Argueso and Company, Inc. 442 Waverly Avenue Mamaroneck, New York

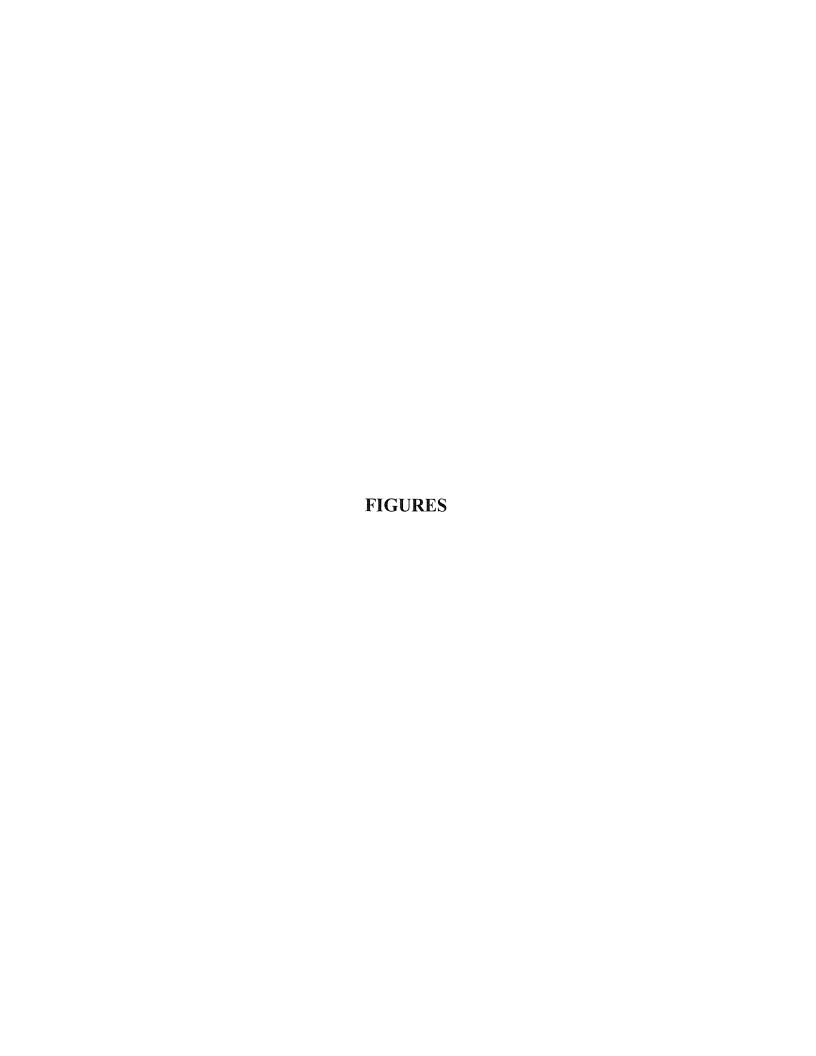
	1 [22]	86-3	SG-4	SG-11	SG-22	SG-29	SG-30	SG-31	SG-34
Sampling Date	OIIIES	11/21/05	11/21/05	11/21/05	11/22/05	11/22/05	11/22/05	11/22/05	11/22/05
Volatile Organic Compounds (VOCs)									
Tetrachloroethene	mdd	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	41.0
Trichloroethene	шдд	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene	mdd	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	mdd	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	mdd	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	шdd	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	mdd	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	mdd	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	mdd	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroethane	mdd	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl-Tert-Butyl-Ether	mdd	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	mdd	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Toluene	mdd	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Ethylbenzene	mdd	0.25	0.71	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
m,p-Xylenes	mdd	1.2	3.3	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
o-Xylenes	mdd	0.43	0.91	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Methane	mdd	<10	<10	<10	<10	<10	<10	<10	<10

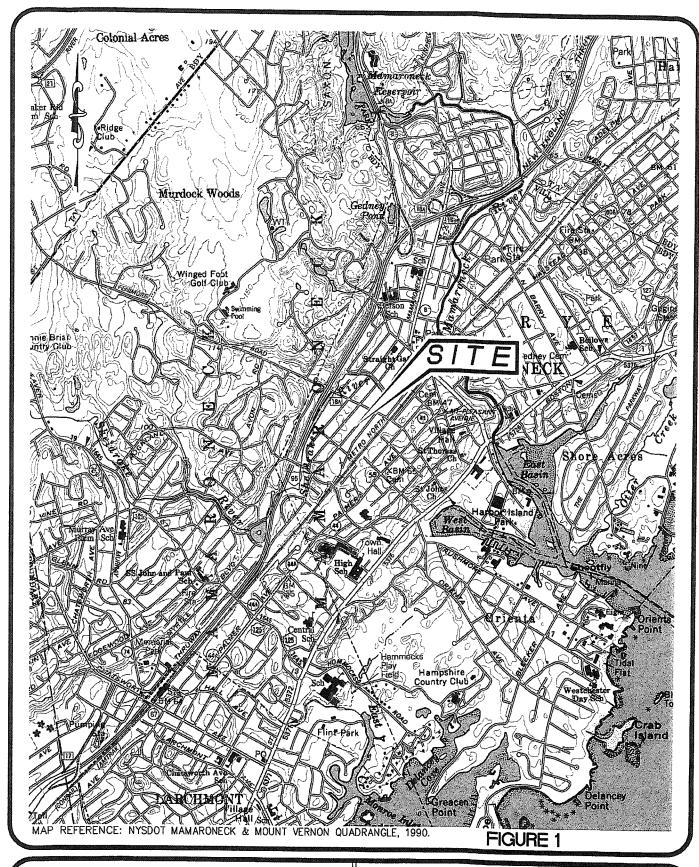
# Notes:

Soil gas samples were collected in tedlar bags by GZA GeoEnvironmental, Inc. (GZA) and submitted for a gas chromatograph (GC) screen by GZA's Environmental Chemistry Laboratory located in Hopkinton, Massachussetts.

ppm parts per million

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





### SERLING

Sterling Environmental Engineering, P.C.

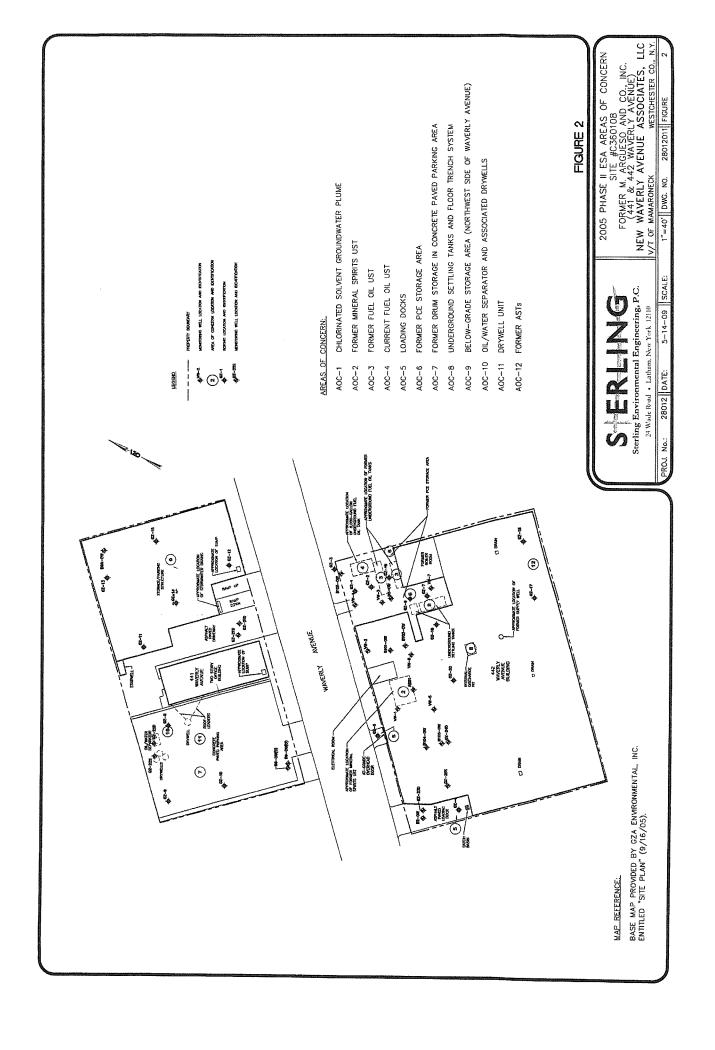
24 Wade Road . Latham, New York 12110

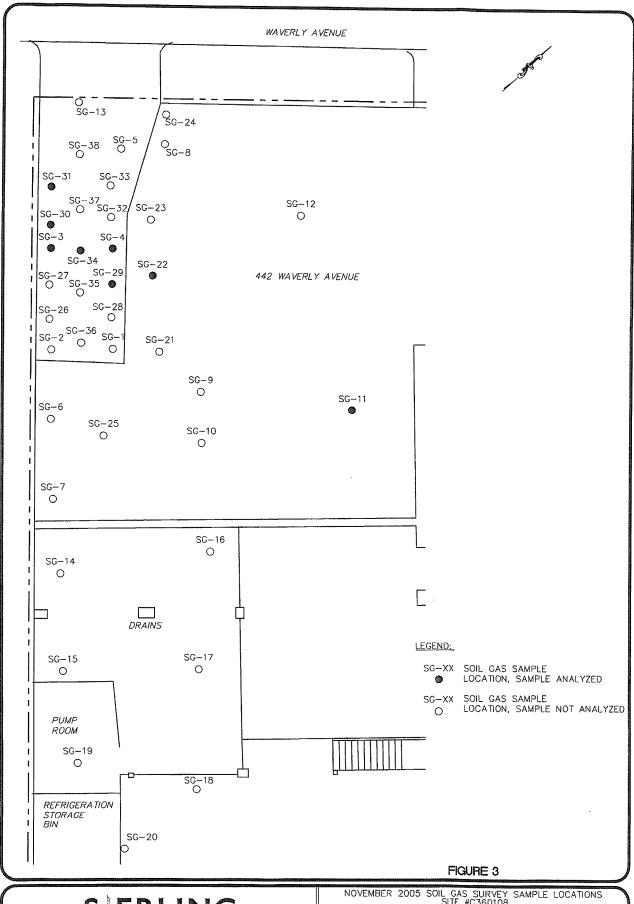
SITE LOCATION MAP
SITE #C360108

FORMER M. ARGUESO AND CO., INC.
(441-442 WAVERLY AVENUE)

NEW WAVERLY AVENUE ASSOCIATES, LLC
V/T OF MAMARONECK WESTCHESTER CO., N.Y.

PROJ. No.: 28003 DATE: 10-27-08 SCALE: 1" = 2000' DWG. NO. 28012001 FIGURE





SERLING
Sterling Environmental Engineering, P.C.

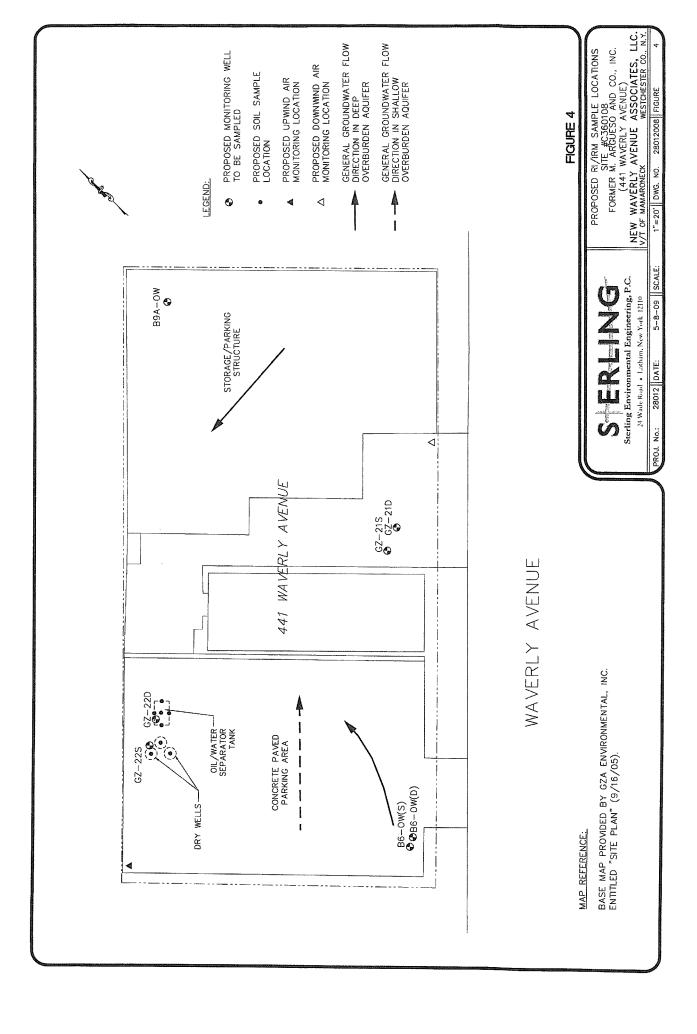
NOVEMBER 2005 SOIL CAS SURVEY SAMPLE LOCATIONS
SITE #C360108
FORMER M. ARGUESO AND CO., INC.
(442 WAVERLY AVENUE)

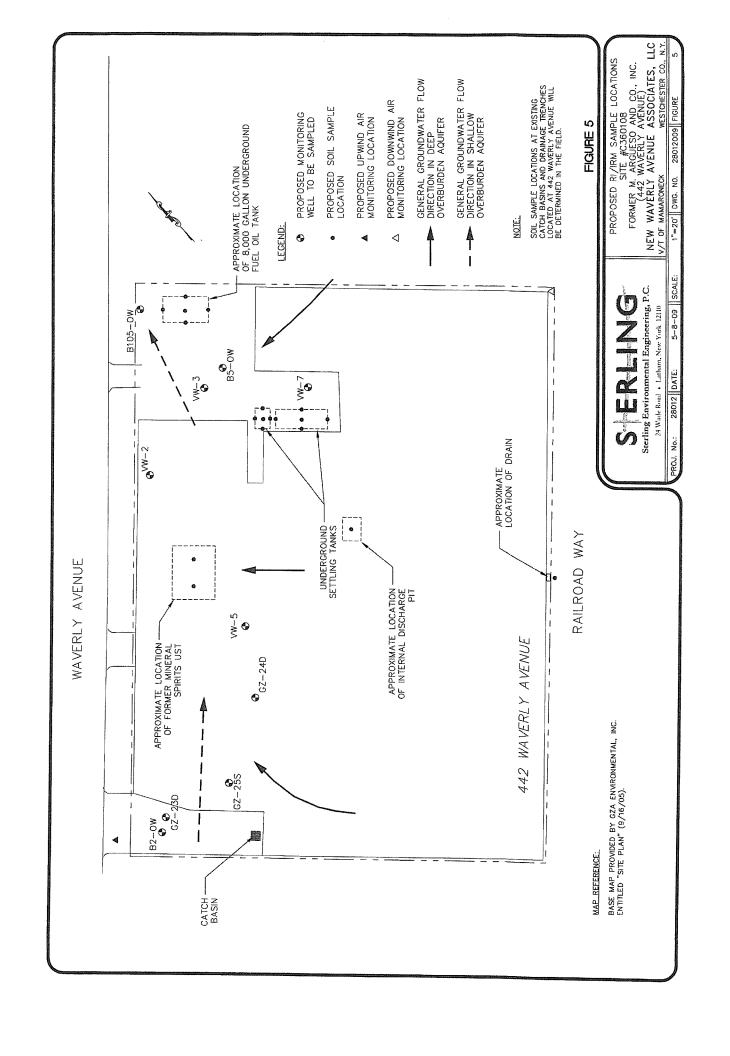
NEW WAVERLY AVENUE ASSOCIATES, LLC. V/T OF MAMARONECK WESTCHESTER CO., N.Y.

 24 Wade Road • Latham, New York 12110

 PROJ. No.:
 28012 DATE:
 7-8-09 SCALE:

1"=10" DWG. NO. 28012014 FIGURE







### APPENDIX A PROJECT CONTACT LIST

#### <u>APPENDIX A – PROJECT CONTACTS</u>

William T. Ports, P.E. Project Manager NYSDEC Division of Environmental Remediation 625 Broadway Albany, New York 12233-7014

Phone: 518-402-9667

Email: wfports@gw.dec.state.ny.us

Nathan M. Walz Project Manager NYSDOH Bureau of Environmental Exposure Investigation Flanigan Square 547 River Street Troy, New York 12180 Phone: 518-402-7880

Email: nmw02@health.state.ny.us

Michael J. Knipfing, P.E. Citizen Participation Specialist NYSDEC - Region 3 21 South Putt Corners Road New Paltz, New York 12561-1696

Phone: 845-256-3154

Email: mjknipfi@gw.dec.state.ny.us

Elizabeth M. Davis Hydrogeologist Sterling Environmental Engineering, P.C. 24 Wade Road Latham, New York 12110 Phone: 518-456-4900

Email: <u>liz@sterlingenvironmental.com</u>

TJ Milo 566 Westchester Avenue Rye Brook, New York 10573 Phone: 914-935-3950

Email: tj@306fayetteaverealty.com

## APPENDIX B EXACAVATION WORK PLAN (EWP)

#### APPENDIX B

#### **EXCAVATION WORK PLAN (EWP)**

#### 1.0 NOTIFICATION

At least fifteen (15) days prior to the start of any proposed excavation activity, 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 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. NYSDEC – Division of Environmental Remediation 625 Broadway Albany, New York 12233-7014 (518) 402-9667

#### 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 soil cover, 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 EWP.
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120.
- A copy of the contractor's Health and Safety Plan (HASP), in electronic format, if it differs from the HASP provided in Appendix C of the Remedial Investigation/Interim Remedial Measures (RI/IRM) Work Plan.
- Identification of permitted disposal facilities for potential waste streams.
- Identification of off-Site sources for any anticipated backfill, along with all required chemical testing results.

As specified in the NYSDEC General Permit for Stormwater Discharges from Construction Activity, a berm or silt fencing will be installed on the downgradient side of a soil stockpile.

Simple excavations may require compliance with only a portion of the EWP. 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.

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 done and will include all excavations performed during development, such as excavations for foundations and utility work, after issuance of the Certificate of Completion.

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 stockpiled soil will be sampled for parameters required by the disposal facility if the soil will be disposed off-Site, or for the parameters listed in Table B-1, if the soil is being considered for re-use on the Site property.

As specified in the NYSDEC General Permit for Stormwater Discharge, SWPPP standard practice is to place controls on the downgradient side.

#### 3.0 STOCKPILE METHODS

As specified in the NYSDEC General Permit for Stormwater Discharges from Construction Activity, a berm or silt fencing will be installed on the downgradient side of a soil stockpile.

If soil stockpiles will not be used within fourteen (14) days, they 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. 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.

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 wheel wash will be operated on-Site as required. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the Site until the activities performed under this section are complete. All truck wheel 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 from the Site 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 OFF-SITE

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 as required by Westchester County.

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.

Transport routes and directions for Site material hauling trucks to and from the Site are provided on Figure B-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 off-Site 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.

Trucks will be prohibited from stopping and idling in the project Site neighborhood. Queuing of trucks will occur on-Site in order to minimize off-Site disturbances.

#### 6.0 MATERIALS MANAGEMENT OFF-SITE

All soil/fill/solid waste excavated and removed from the Site 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 off-Site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-Site management of materials from this Site will not occur without formal NYSDEC approval.

Off-Site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C&D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils 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 ON-SITE

If excavated soil does not present characteristics indicating it is potentially contaminated soil which is planned for reuse on the Site, where reuse is defined as material that originates at the Site and does not leave the Site during the excavation, a composite soil sample must be collected for every 500 cubic yards (cy) of excavated soil. Chemical criteria for on-Site reuse of material have been approved by NYSDEC and are listed in Table B-1.

According to NYSDEC DER-10, composite soil sample will be collected from five (5) locations within each stockpile. 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 also 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) listed in Table B-1 and composite soil samples will be analyzed for all parameters listed in Table B-1, 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.

The qualified environmental professional will ensure that materials reuse procedures defined in this EWP are followed and that unacceptable material does not remain on-Site. Contaminated on-Site material, including historic fill and contaminated soil, that is acceptable for re-use on-Site will be placed below a demarcation layer or impervious surface, and will not be reused in a cover soil layer or landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-Site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-Site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site will not be reused on-Site.

#### 8.0 FLUIDS MANAGEMENT

All fluids to be removed from the Site, including fluids generated from truck wheel washing, excavation dewatering, monitoring well purging and development, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Fluids generated from Site operations will not be recharged back to the land surface or subsurface of the Site.

Discharge of water generated during large-scale construction activities (> one (1) acre) to surface waters (i.e. a local pond, stream or river) will be performed under a State Pollutant Discharge Elimination System (SPDES) permit.

#### 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.
- The topsoil used for the final cover shall conform to the 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 for roads, sidewalks, and parking lots, the asphalt pavement will represent an approved cover system that will have a minimum cross-sectional thickness of six (6) 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 for roads, sidewalks, and parking lots, it will represent an approved cover system that will have a minimum cross-sectional thickness of six (6) 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. The demarcation layer, consisting of orange snow fencing material or an equivalent material will be replaced 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., a 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.

#### 10.0 BACKFILL FROM OFF-SITE SOURCES

Subgrade material from off-Site 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).
- 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 B-1.
- Non-virgin soils will be tested by collecting one (1) composite sample and one (1) grab sample per 500 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 area, and both samples of the first 1,000 cy meet the SCOs in Table B-1, 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 cubic yards, 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 should be analyzed for parameters listed in Table B-1, except for VOCs, and grab soil samples should be analyzed only for the VOCs listed in Table B-1.
   Off-Site soil will be acceptable for use at the Site provided that all parameters meet the SCOs provided in Table B-1.

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 EWP prior to receipt at the Site.

#### 11.0 STORMWATER POLLUTION PREVENTION

For construction projects that disturb more than one (1) acre, a Storm Water Pollution Prevention Plan (SWPPP) must be prepared.

For all excavations, silt fence barriers and hay bale checks will be installed and inspected in accordance with the Construction Stormwater Permit GP-0-08-001 and SWPPP. At a minimum, inspections will be conducted once a week. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures shall be inspected weekly to ensure that they are operating correctly. Discharge locations or points shall be inspected to determine if erosion control measures are effective in preventing significant impacts to receiving waters.

#### 12.0 CONTINGENCY PLAN

If buried drums or underground storage tanks (USTs) or grossly contaminated media 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) 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. These findings will be also included in RI/IRM monthly update reports submitted to the NYSDEC.

#### 13.0 COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Plan (CAMP) is provided as Appendix D of the RI/IRM Work Plan and must be implemented for soil excavation operations. The CAMP is intended to provide 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.

A figure showing the location of air sampling stations based on generally prevailing wind conditions is shown in Figures 3 and 4 of the RI/IRM Work Plan. 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 (2) downwind monitoring stations.

Exceedances of action levels listed in the CAMP will be reported to the NYSDEC.

#### 14.0 ODOR CONTROL PLAN

This Odor Control Plan addresses the control of emissions of nuisance odors from the Site. Specific odor control methods to be used on a routine basis are discussed below. If nuisance odors are identified at the Site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. The NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-Site 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 will include: (d) direct load-out of soils to trucks for off-Site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

#### 15.0 DUST CONTROL PLAN

Particulate monitoring will be performed in accordance with the CAMP (see Appendix D of the RI/IRM Work Plan) when ground-intrusive activities are conducted, including excavation, grading, and soil handling activities.

Dust suppression techniques that may be used at the Site 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, but fugitive dust will be suppressed.

28012/Work Plan Documents/Appendix B EWP.doc

#### TABLE B-1

#### SOIL CLEANUP OBJECTIVES

#### SITE #C360108 FORMER M. ARGUESO AND CO., INC. (441/442 WAVERLY AVENUE)

Parameter	Soil Cleanup Objectives (1) (ppm)
Metals (for composite soil samples):	
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.

(1) As provided in 6 NYCRR Part 375-6.8(b) – Restricted Commercial Use, Protection of Health

PCBs/Pesticides (for composite soil samples):  2,4,5-TP Acid (Silvex)	Soil Cleanup Objectives (1) (ppm) 500
·	
4,4'-DDE	62
4,4'-DDT	47
4,4'-DDD	92
Aldrin	0.68
alpha-BHC	3.4
beta-BHC	3
Chlordane (alpha)	24
delta-BHC	500
Dibenzofuran	350
Dieldrin	1.4
Endosulfan I	200
Endosulfan II	200
Endosulfan sulfate	200
Endrin	89
Heptachlor	15
Lindane	9.2
Polychlorinated biphenyls	1
SVOCs (for composite soil samples):	
Acenaphthene	500
Acenapthylene	500
Anthracene	500

NA = Not available.

(1) As provided in 6 NYCRR Part 375-6.8(b) – Restricted Commercial Use, Protection of Health

Parameter	Soil Cleanup Objectives (1) (ppm)
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
VOCs (grab soil samples only):	
1,1,1-Trichloroethane	500
1,1-Dichloroethane	240
1,1-Dichloroethene	500
1,2-Dichlorobenzene	500

NA = Not available.

(1) As provided in 6 NYCRR Part 375-6.8(b) – Restricted Commercial Use, Protection of Health

1,2-Dichloroethane       30         cis-1,2-Dichloroethene       500         trans-1,2-Dichloroethene       500         1,3-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 ethyl tetr-butyl ether       500         Methylene chloride       500         n-Propylbenzene       500         sec-Butylbenzene       500         tetr-Butylbenzene       500         Tetrachloroethene       150         Toluene       500         Trichloroethene       200	Parameter	Soil Cleanup Objectives (1) (ppm)
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           n-Propylbenzene         500           sec-Butylbenzene         500           tert-Butylbenzene         500           Tetrachloroethene         150           Toluene         500	1,2-Dichloroethane	30
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         n-Propylbenzene       500         sec-Butylbenzene       500         tert-Butylbenzene       500         Tetrachloroethene       150         Toluene       500	cis-1,2-Dichloroethene	500
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         n-Propylbenzene       500         sec-Butylbenzene       500         Tetrachloroethene       150         Toluene       500	trans-1,2-Dichloroethene	500
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         n-Propylbenzene       500         sec-Butylbenzene       500         Tetrachloroethene       150         Toluene       500	1,3-Dichlorobenzene	280
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           n-Propylbenzene         500           sec-Butylbenzene         500           Tetrachloroethene         150           Toluene         500	1,4-Dichlorobenzene	130
Benzene	l,4-Dioxane	130
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           n-Propylbenzene         500           sec-Butylbenzene         500           tert-Butylbenzene         500           Tetrachloroethene         150           Toluene         500	Acetone	500
Carbon tetrachloride         22           Chlorobenzene         500           Chloroform         350           Ethylbenzene         390           Hexachlorobenzene         6           Methyl ethyl ketone         500           Methyl tert-butyl ether         500           Methylene chloride         500           n-Propylbenzene         500           sec-Butylbenzene         500           tert-Butylbenzene         500           Tetrachloroethene         150           Toluene         500	Benzene	44
Chlorobenzene         500           Chloroform         350           Ethylbenzene         390           Hexachlorobenzene         6           Methyl ethyl ketone         500           Methyl tert-butyl ether         500           Methylene chloride         500           n-Propylbenzene         500           sec-Butylbenzene         500           tert-Butylbenzene         500           Tetrachloroethene         150           Toluene         500	Butylbenzene	500
Chloroform         350           Ethylbenzene         390           Hexachlorobenzene         6           Methyl ethyl ketone         500           Methyl tert-butyl ether         500           Methylene chloride         500           n-Propylbenzene         500           sec-Butylbenzene         500           tert-Butylbenzene         500           Tetrachloroethene         150           Toluene         500	Carbon tetrachloride	22
Ethylbenzene 390  Hexachlorobenzene 6  Methyl ethyl ketone 500  Methyl tert-butyl ether 500  Methylene chloride 500  n-Propylbenzene 500  sec-Butylbenzene 500  tert-Butylbenzene 500  Tetrachloroethene 150  Toluene 500	Chlorobenzene	500
Hexachlorobenzene 6  Methyl ethyl ketone 500  Methyl tert-butyl ether 500  Methylene chloride 500  n-Propylbenzene 500  sec-Butylbenzene 500  tert-Butylbenzene 500  Tetrachloroethene 150  Toluene 500	Chloroform	350
Methyl ethyl ketone500Methyl tert-butyl ether500Methylene chloride500n-Propylbenzene500sec-Butylbenzene500tert-Butylbenzene500Tetrachloroethene150Toluene500	Ethylbenzene	390
Methyl tert-butyl ether 500  Methylene chloride 500  n-Propylbenzene 500  sec-Butylbenzene 500  tert-Butylbenzene 500  Tetrachloroethene 150  Toluene 500	Hexachlorobenzene	6
Methylene chloride 500  n-Propylbenzene 500  sec-Butylbenzene 500  tert-Butylbenzene 500  Tetrachloroethene 150  Toluene 500	Methyl ethyl ketone	500
n-Propylbenzene 500 sec-Butylbenzene 500 tert-Butylbenzene 500 Tetrachloroethene 150 Toluene 500	Methyl tert-butyl ether	500
sec-Butylbenzene 500 tert-Butylbenzene 500 Tetrachloroethene 150 Toluene 500	Methylene chloride	500
tert-Butylbenzene 500  Tetrachloroethene 150  Toluene 500	n-Propylbenzene	500
Tetrachloroethene 150 Toluene 500	sec-Butylbenzene	500
Toluene 500	tert-Butylbenzene	500
	Tetrachloroethene	150
Trichloroethene 200	Toluene	500
	Trichloroethene	200

NA = Not available.

(1) As provided in 6 NYCRR Part 375-6.8(b) - Restricted Commercial Use, Protection of Health

Parameter	Soil Cleanup Objectives (1) (ppm)
1,2,4-Trimethylbenzene	190
1,3,5-Trimethylbenzene	190
Vinyl chloride	13
Xylene (mixed)	500

NA = Not available.

(1) As provided in 6 NYCRR Part 375-6.8(b) – Restricted Commercial Use, Protection of Health

## 441/442 WAVERLY 10 DIRECTIONS

# NORTH-BOUND

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 1-95:

I-95 SOUTH-BOUND TO EXIT 18A.
RIGHT OFF EXIT RAMP ONTO MAMARONECK AVE, PROCEED 1.1 MILES.
RIGHT ONTO WEST BOSTON POST ROAD (ROUTE 1), PROCEED 0.48 MILE.
RIGHT ONTO FENIMORE ROAD, PROCEED 0.28 MILE.
LEFT ONTO WAVERLY AVE, PROCEED 550 FEET. TAKE TURN TURN TURN

TO SITE ROUTE



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

28012 | DATE:

TRUCK ROUTES #C360108 UESO AND CO., I PROPOSED FORMER M. AF (441 & 44

NEW WAVERLY AVENUE ASSOCIATES, MAMARONECK

OF.

28012010 FIGURE

## APPENDIX C HEALTH AND SAFETY PLAN (HASP)

#### **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 construction 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 construction personnel working on this project must read this HASP, acknowledge understanding of this plan, and abide by its requirements.

In general, construction 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 the project and identified potential hazards specific to the project that are not discussed herein.

#### 2.0 DESIGNATION OF RESPONSIBILITIES

Implementing this HASP is the responsibility of the 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 construction personnel/subcontractors and communicating pertinent matters to them promptly.
- Ensuring all field activities are performed in a manner consistent with this HASP.
- Monitoring for dangerous conditions during field 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 the 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 ensure that these valuable inputs improve overall safety. Individual project members are the key elements in ensuring health and safety compliance. Every project member is considered responsible for implementing and following this HASP.

#### 3.0 SITE PROPERTY SPECIFIC HEALTH AND SAFETY CONCERNS

#### **Airborne Exposure Limits**

Table C-1 lists the published airborne exposure limits for those substances that are known or suspected to be present at the Site property.

Unknown or unexpected materials of a hazardous nature may be encountered during ground intrusive activities. No work will be conducted if field measurements or observations indicate that there is potential uncontrolled exposure to undefined hazards, or that exposures may exceed protection afforded by the requirements in this HASP.

#### **Explosive Gas**

Explosive gas, including hydrogen sulfide  $(H_2S)$ , 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  $H_2S$  in parts per million (ppm). Action levels for explosive gas and  $H_2S$  are provided in Table C-2. If the measured LEL and  $H_2S$  levels are between 10-20% and 5-10 ppm, respectively, and the Site building is occupied, work will halt and the area will be allowed to ventilate until levels are less than 10% LEL and 5 ppm  $H_2S$ . If LEL and  $H_2S$  levels are between 10-20% and 5-10 ppm, respectively, and the Site building is unoccupied, a warning will be issued and work will continue with continuous monitoring.

#### **Personal Protective Equipment (PPE)**

Table B-1 provides a summary of potential airborne hazards that may be encountered by workers during ground intrusive and construction activities, action levels and corresponding required actions and the PPE level required for workers. Specific types of PPE for levels C and D are also listed on Table C-2.

No work is anticipated requiring Levels B or A 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 compound soils 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 air-borne particulates are provided in the Community Air Monitoring Plan (CAMP) provided in Appendix D of the RI/IRM Work Plan.

All excavations will be maintained to prevent access by unauthorized persons and will be filled or fenced off by the end of the workday. Absolutely no one will be permitted in the excavations, except the operator of equipment where the operator is always located above ground level. If equipment breaks down within the excavation, the equipment will have to be towed out of the excavation for repair. All subsurface samples will be obtained by operation of the excavating equipment and will be collected from the excavator bucket.

#### **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 being struck by or pinched/caught by equipment, potentially resulting in serious physical bodily harm or inhaling dust from concrete coring.

In particular, the following precautions will be used to reduce the potential for injuries and accidents:

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 terminate.

#### 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 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 the delineation of work zones for each ground intrusive location. The purpose of establishing work zones is to:

- Reduce the accidental spread of hazardous substances by workers 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.

Workers 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 C-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 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 channels. 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 a worker's clothes become wet due to perspiration, the worker 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 a worker 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 workers drink sixteen (16) oz. (0.5 liter) of fluid (preferably water or diluted drinks) before beginning work. Urge workers 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 workers 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 workers to recognize, identify, and treat heat stress.

For workers 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). Workers 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 workers 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 of the workers. The Project Manager will ensure that either ear muffs or disposable foam earplugs are available and are used by the workers 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 workers, such as:

- Holes, pits, or ditches
- Excavation faces
- Slippery surfaces
- Steep grades
- Uneven grades

- Snow and ice
- Sharp objects

All workers 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.

Workers 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 workers 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

Workers 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 1926.65(f)(2)(i-iv).
- All who wear a respirator for thirty (30) days or more every year as required by 1926.62(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 the workers 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 a worker has developed signs or symptoms indicating possible overexposure to hazardous materials.

#### 5.0 EMERGENCY ACTION PLAN

Workers will use the following standard emergency procedures. The Project Manager will be notified of any emergency and be responsible for ensuring that 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 workers. All workers 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, workers 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 workers or for firefighting or spill control. Anyone entering the work area following an emergency incident must wear appropriate protective equipment.

#### **Emergency Services**

Emergency Services	Telephone Number
Owner: New Waverly Avenue Associates, LLC	(914) 907-2385
Fire Department	911 or (914) 834-2192
Town of Mamaroneck Police Department	911 or (914) 381-6100
Ambulance	911
Hospital: Montefiore Medical Center	(718) 920-5731
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 C-1; and written directions are also included on the map.

The following alarm systems will be utilized to alert workers 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:

Hand Signal	Message
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, workers 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. Workers gathered in the designated assembly area will remain there until their presence has been noted. A tally of workers on the daily restricted area access roster will be made as necessary to ensure all workers have been properly evacuated and accounted for.

Workers 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 workers (e.g., failure of monitoring equipment) or prevents completion of the planned tasks, all workers 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

#### **Contamination Prevention Methods**

The Project Manager will make all workers aware of the potential for contamination. The following procedures will be established to minimize contact with waste:

- Workers will not walk through areas obvious of contamination;
- Workers will not directly touch potentially hazardous substances;
- Workers will wear gloves when touching soil or waste;
- Workers 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.

#### **Decontamination Methods**

All workers, clothing, and equipment leaving designated contaminated areas must be decontaminated, as presented in Appendix C-1, Equipment Cleaning and Decontamination Procedures. Decontamination of equipment will be the responsibility of the Project Manager.

28012/Work Plan Documents/APP C\_HASP.doc

		Table C-	1			
Published A	irborne Exposure			arts Per	Million (DD	M
In Air for	Substances that Ex	xceed Applicable	Standards in S	Soil and C	Frannon (1 1 Frannon (1 1	1 <b>V1</b> )
Substance	OSHA	NIOSH	ACGIH	IDLH	Cancer	Range of Odor
	PEL/STEL/C	REL/STEL	TLV/STEL		Causing	Thresholds
Groundwater-VOCs:						Tinesnoius
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	200/-/-	200/-	200/	1000		
(cis-1,2-DCE)	2007-7-	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						0 10
Ethylbenzene	100/-/-	100/125	100/125	800	N	2.3
Isopropylbenzene	50/-/-	50/-	50/-	900	N	2.5
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/-	1000	Y	3,000
Groundwater-SVOCs:					-	3,000
Naphthalene	10/-/-	10/15	10/15	250	N	0.084

NA = Not Available

Definitions of PEL, REL, STEL, TLV, C and IDLH are discussed 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 C-2

# AIR MONITORING METHODS, ACTION LEVELS, AND PROTECTIVE LEVELS FOR WORKERS

Hazard	Monitoring Unit	Action Level	Protective Levels/Action	Monitoring Schedule
		0-10 ppm above background in the breathing zone	Level D-Continue Work (3)	
Organic Vapors (2)	PID	10-100 ppm above background in the breathing zone	Level C-Continue Work	Continuous for ground intrusive activities.
		> 100 ppm above background in the breathing zone	STOP WORK EVACUATE AREA	
		19.5-23.5%	Level D-Continue Work	
			Do not enter Confined Space,	
Oxygen-Deficient Atmosphere	Q-RAE 4-Gas Meter or Equivalent	< 19.5%	STOP WORK EVACUATE AREA (1)	Continuous for ground intrusive activities.
		> 23.5%	Fire explosion hazard; EVACUATE AREA (1)	
		< 10% LEL	Level D-Continue Work	
Explosive Gas (LEL)	Q-RAE 4-Gas Meter or Equivalent	10-20% LEL	Issuc Warning	Continuous for ground intrusive activities.
		> 20% LEL	EVACUATE AREA (I)	
		< 5 ppm	Level D-Continue Work	
Hydrogen Sulfide (H <sub>2</sub> S)	Q-RAE 4-Gas Meter or Equivalent	5-10 ppm	Issue Warning	Continuous for ground intrusive activities
		> 10 ppm	STOP WORK EVACUATE AREA (1)	
		< 5 mg/m³ above background	Level D-Continue Work	
		in the breathing zone.		
Dust	Particulate Monitor Miniram or Equivalent	5-10 mg/m³ above background in the breathing zone.	Level C-Continue Work	Continuous for ground intrusive activities.
		> 10 mg/m³ above background	STOP WORK	
		in the breathing zone.	EVACUATE AREA (1)	

# Protection Levels:

Level C - Required Personal Protective Equipment (PPE): 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 Benzenc concentration with Drager tube, if concentration is two (2) ppm or greater, move to Level C PPE.

#### APPENDIX C-1

#### STANDARD OPERATING PROCEDURES

#### EQUIPMENT CLEANING AND DECONTAMINATION PROCEDURES

#### Summary

Equipment, tools, materials, etc. used in the investigation and collection of soil samples at field investigation-sites must be properly prepared and cleaned/decontaminated during and after each sampling event. The degree of cleaning/decontamination will be dependent upon-site conditions and the nature and type of contamination, if present, the intent and goal(s) of the investigation, and data quality objectives, as well as other site-specific requirements.

#### **Procedure**

#### 1. 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 a site must undergo the following decontamination procedures:

- the equipment will first 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 site/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.

#### 2. 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 or oven-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 site/project-specific requirements.

#### 3. 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 the potentially contaminated material should not be worn more than 24-hours and should be washed prior to wearing again.

Projects/Standard Forms/SOPs/Equipment Cleaning & Decontamination Procedures

# APPENDIX D COMMUNITY AIR MONITORING PLAN (CAMP)

#### COMMUNITY AIR MONITORING PLAN

The Community Air Monitoring Plan (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. 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 (December 2002). The CAMP provides a measure of protection for the downwind community (potential receptors include residences, businesses, and workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The 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 D-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 minor ground intrusive (< 20 cubic yards) or non-intrusive activities, such as the collection of soil and sediment samples or 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 (> 20 cubic yards) 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 should 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 minor ground intrusive activities (< 20 cubic yards) and will include monitoring the breathing space for workers 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 major ground intrusive activities (> 20 cy) 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 (ug/m³) 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 ug/m³ above the upwind level and provided that no visible dust is migrating from the work area. See Section 15 of the EWP for a description of dust suppression techniques.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 ug/m³ 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 ug/m³ 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 ug/m³ 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 ug/m³ 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 HASP.

28012/Work Plan Documents/Appendix D\_CAMP.doc

		Table D-1
	Air Monitoring Action Levels	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 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/m3) 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/m³ 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/m³ 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/m³ of the upwind level and in preventing visible dust migration.

# References:

Draft DER-10 Technical Guidance for Site Investigation and Remediation, NYSDOH Generic Community Air Monitoring Plan (December 2002)

## APPENDIX E ASBESTOS INSPECTION REPORT FOR 442 WAVERLY AVENUE

#### APPLIED ENVIROMETRICS 7 ASHLOR DRIVE

#### MIDDLEGROVE, NEW YORK 12850

Phone: (518) 583-0507 Cell: (518) 337-7712)

December 17, 2007

Attn: T.J. Milo

306 Fayette Avenue Realty 566 Westchester Avenue

Rye Brook, New York 10573

VIA E-mail and US Mail

Subject: Submitt

Submittal of Results of Asbestos Building Inspection of 441-442 Waverly Avenue, Mamaroneck, New York In Accordance With

Applied Envirometrics Quote # 101907WLS001

Dear Mr.Milo,

Applied Environmetrics was pleased to conduct industrial hygiene services in the form of an Asbestos Building Inspection at your project located at 441-442 Waverly Avenue, Mamaroneck, New York.

Attached you will find your final report for the asbestos inspection. The inspection was conducted on November 2, 2007 and results were received from the lab on November 15, 2007.

A signed and completed copy will be mailed Wednesday 19,2007.

If any further clarification is required, please do not hesitate to contact me. I will be happy to discuss these results with you and may be reached by cell number 518-337-7712.

Sincerely,
APPLIED ENVIROMETRICS

Wade L. Sikora, CIH Principal

Attachments

Industrial Hygiene Survey Asbestos Building Inspection Of 441— 442 Waverly Avenue Mamaroneck, New York

Submitted to: T.J. Milo 306 Fayette Avenue Realty 566 Westchester Avenue Rye Brook, New York 10573

Prepared by

Wade L. Sikora, CIH. C.P. # 5033

12/17/07

Report Title: Asbestos Building Inspection Date of Inspection November 2, 2007 Date of Request: October 23, 2007 Place: 441-442 Waverly Avenue Mamaroneck, NY Phone- (914) 935-3950 Cell- (914) 907-2385

Reason:

To provide 306 Fayette Realty with an Asbestos Building Inspection Of the 441-442 Waverly Avenue, a vacant Wax Candle Industrial Site. Purpose is to provide information to identify, manage, and potentially dispose or recycle building construction materials that may contain asbestos

Industrial Hygienist:

Wade Sikora, CIH CP # 5033

**Applied Envirometrics** 

7 Ashlor Drive

Middlegrove, NY 12850 Phone: (518) 337-7712 Cell

Related Standards:

OSHA CFR Title 29 Part 1910.1001 General Industry

OSHA CFR Title 29 Part 1926.1101 Construction

U.S. EPA Title 40 CFR Part 763 AHERA

U.S. EPA 40 CFR Part 61 National Emission Standards of

**Hazardous Air Pollutants** 

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Appendix A Summary of Asbestos Sample results	A.1
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Client: 306 Fayette Avenue Realty Performed By: Wade Sikora, CIH

Location: 441-442 Waverly- Mamaroneck, NY

Subject: Industrial Asbestos Insp. Date Performed: November 2, 2007 AE Project ID # 1019074WLS001

#### **EXECUTIVE SUMMARY**

On November 2, 2007, Applied Envirometrics performed an industrial building asbestos inspection of all building areas located at 441-442 Waverly Avenue, Mamaroneck, New York.

The purpose of this survey was to gather information about the potential for building materials to contain asbestos, determine the condition friable or non-friable and to estimate the quantity of each.

Wade Sikora a Certified Industrial Hygienist, (C.P. # 5033 American Board of Industrial Hygiene) was contracted by 306 Fayette Realty, through the environmental attorney, Kevin Young of Albany, New York to perform a qualified asbestos building inspection as outlined by the federal OSHA asbestos standard.

Mr. Sikora visited the vacant industrial site on November 2, 2007. Mr. Sikora identified all areas of Presumed Asbestos Containing Material (PACM) with orange/silver paint spray and then collected one specimen from each of these areas, for analysis by a qualified laboratory. Mr. Sikora additionally noted the condition of the PACM in terms of if the asbestos was in hazardous condition (friable) or non-hazardous condition (non-friable) and estimated approximate area of each sample area.

The final samples were submitted to Adirondack Environmental Services, an US EPA and NY accredited lab on 11-02-07. A final copy of the lab results were submitted to Mr. Sikora on November 15, 2007. This report was generated December 17, 2007. During the inspection bulk building material samples were collected when they were in areas that contained Presumed Asbestos Containing Building Materials (PACBM). Samples were not collected for every material in the building. This logic is permitted when the inspection is performed by an experienced and qualified asbestos building inspector. The material condition, estimated quantity and the sample results are provided in an attached Appendix A. The Lab utilized was an accredited lab for this type of analysis. The analysis technique was application of Polarized Light Microscopy, gravimetric reduction, and Transmission Electron Microscopy (TEM) in accordance with New York State Environmental Laboratory Accreditation Protocols. The actual Laboratory results are attached in Appendix B.

#### **Results Discussion**

There were 27 samples collected. Twenty four were roofing samples, one was pipe insulation, one was window caulking and one was wall plaster. Only one sample area where friable asbestos pipe insulation was found on the first floor. This must be cleaned up by a NYS qualified asbestos abatement contractor. Your qualified contractor will inform you what notifications must be made. Ask the qualified contractor to remove the asbestos from the site and properly dispose of it as part of the plan and ask for a copy of credentials and authorizing /documentation to dispose of this small quantity of friable asbestos.

Client: 306 Fayette Avenue Realty Performed By: Wade Sikora, CIH

Location: 441-442 Waverly- Mamaroneck, NY

Subject: Industrial Asbestos Insp. Date Performed: November 2, 2007 AE Project ID # 1019074WLS001

#### Results Discussion -- Continued

Eleven samples contained asbestos at a level just above 1 per cent which is the US EPA regulatory definition of asbestos containing. Sixteen samples were shown not to contain asbestos at or above 1 %. These samples are considered asbestos free. These materials can be handled as standard construction debris in terms of removal or disposal. Twenty five samples were in the non-friable, condition. A sample is considered friable if it can be crushed with normal hand pressure. If sample material is friable and when analyzed it contains greater than 1 per cent asbestos it is considered HAZARDOUS and it is considered Regulated Asbestos Containing Material (RACM). RACM that is non-friable, is an area greater than 160 square feet or greater than 35 cubic feet will require notification to the department of environmental conservation, USEPA Region 2 Enforcement and Compliance, NYS DOL, and local towns ten days prior to removal.

Two samples were in friable (hazardous) condition. One was the pipe insulation in one location on the first floor and the other was the wall plaster in the same area (which was non-asbestos). Friable is defined as material can be pulverized with normal hand pressure. The pipe insulation tested positive for asbestos.

Materials proven positive for containing friable asbestos are required to be labeled as to containing asbestos and any material that is identified as waste and containing asbestos will need to be labeled stored, handled, shipped and disposed of as Regulated Asbestos Containing Material.

#### Recommendations:

Hire a NYS qualified asbestos abatement contractor to remove and clean up the small asbestos pipe insulation (< 60 linear feet).

Identify all roofing materials that contain asbestos and follow NYS Code Rule 56 and applicable variances to remove non-friable roofing materials and properly dispose of them in accordance with USEPA Region 2 guidance.

Identify all roofing materials that are asbestos free and review these with your building reclaim, renovation contractor for disposal as general contruction debris.

Approved: Wade Sikora, CIH C.P. # 5033

#### **APPENDIX A**

Asbestos Building Inspection RESULTS

Area(s) Inspected: 441-442 Waverly Mamaroneck, NY Date / Time of Inspection: November 2, 2007 AM

Sikora, CIH, CP #5033
딍
Wade Sikora,
Title
nd
Inspector a

Date of Report December 17, 2007

SAMPLE NUMBER	Analytical Test Result	Quantity and Condition	Location	Hazard Classification Severity	Recommended Corrective Action
001	ACM 3.1 % Positive Asbestos Containing Material	> 100 ft². Non-friable excellent condition flashing/ coping	North East Coping (A)	Non- Friable	RACM- Wetting Notifications- Local, State, Federal Disposal IAW NESHAP
002	< 1 % No Asbestos Detected	<ul> <li>616 ft². Non-friable excellent condition roofing</li> </ul>	North East Roofing (A)	Non- Friable	General Construction Debris Handling and Disposal
003	< 1 % No Asbestos Detected	> 4500 ft <sup>2</sup> . Non-friable excellent condition roofing	North East Roofing (B)	Non- Friable	General Construction Debris Handling and Disposal
004	ACM 1.9 % Positive Asbestos Containing Material	> 56 ft². Non-friable excellent condition flashing/ coping	North East Coping (B)	Non- Friable	RACM- Wetting Notifications- Local, State, Federal Disposal IAW NESHAP
900	< 1 % No Asbestos Detected	> 132 ft². Non-friable excellent condition roofing	Central East Roofing (C)	Non- Friable	General Construction Debris Handling and Disposal
900	< 1 % No Asbestos Detected	> 528 ft². Non-friable excellent condition roofing	Central East Coping (C)	Non- Friable	General Construction Debris Handling and Disposal
200	< 1 % No Asbestos Detected	> 836 ft². Non-friable excellent condition roofing	South East Roofing (D)	Non- Friable	General Construction Debris Handling and Disposal
800	< 1 % No Asbestos Detected	ষ্ঠ Same as Sample # 007 Non-friable excellent condition roofing	South East Roofing (D)	Non- Friable	General Construction Debris Handling and Disposal

Area(s) Inspected: 441-442 Waverly Mamaroneck, NY Date / Time of Inspection: November 2, 2007 AM

Inspector and Title Wade Sikora, CIH, CP #5033

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				Hazard	Recommended
SAMPLE	Analytical Test Result	Quantity and Condition	Location	Classification Corrective Severity	Corrective Action
600	ACM 16.6 %	➤ 189 ft². Non-friable excellent	Central (E)	Non- Friable	RACM- Wetting Notifications
	Positive Asbestos	condition flashing/ coping	Coping		Local, State, Federal
	Containing Material				Disposal IAW NESHAP
010	< 1 %	➤ 432 ft². Non-friable excellent	Central (F)	Non- Friable	General Construction
	No Asbestos Detected	condition roofing	Roofing		Debris Handling and Dispos
011	< 1 %	➤ 720 ft². Non-friable excellent	Central (G)	Non- Friable	General Construction
	No Asbestos Detected	condition roofing	Roofing		Debris Handling and Dispos
012	ACM 2.7 %	➤ 644 ft². Non-friable excellent	Central (H)	Non- Friable	RACM- Wetting Notifications
	Positive Asbestos	condition flashing/ coping	Coping		Local, State, Federal
	Containing Material	A debate distribution of the contract of the c			Disposal IAW NESHAP
013	×1%	> 9 ft². Non-friable excellent	Central (H)	Non- Friable	General Construction
	No Asbestos Detected	condition roofing	Roofing		Debris Handling and Dispos
014	ACM 2.8 %	> 408 ft <sup>2</sup> . Non-friable excellent	Central (I)	Non- Friable	RACM- Wetting Notifications
	Positive Asbestos	condition roofing	Roofing		Local, State, Federal
015	< 1%	> 9,750 ft <sup>2</sup> . Non-friable excellent	Central (J)	Non- Friable	General Construction
	No Asbestos Detected	condition roofing	Roofing		Debris Handling and Dispos
016	ACM 2.6 %	V 4ff <sup>2</sup>	Metal window caulk	Non- Eriable	RACM. Wetting Notifications
	Positive Asbestos Containing Material	Non-friable excellent condition roofing	(K)		Local, State, Federal
					Disposal IAW INFORME

Area(s) Inspected: 441-442 Waverly Mamaroneck, NY Date / Time of Inspection: November 2, 2007 AM

Inspector and Title Wade Sikora, CIH, CP #5033

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		Andrew Advisor and Andrew Advisor		Hazard	Recommended
SAMPLE NUMBER	Analytical Test Result	Quantity and Condition	Location	Classification Severity	Corrective Action
017	< 1 % No Asbestos Detected	898 ft². Non-friable excellent condition roofing cupola	Roofing Cupola (K) Roofing	Non- Friable	General Construction Debris Handling and Disposal
018	< 1 % No Asbestos Detected	> 1,440 ft2. Non-friable excellent condition roofing	Gabled Roofing (K) Roofing	Non- Friable	General Construction Debris Handling and Disposal
019	ACM 1.9 % Positive Asbestos Containing Material	> 4,950 ft². Non-friable excellent condition roofing	Flat Roof	Non- Friable	RACM- Wetting Notifications- Local, State, Federal Disposal IAW NESHAP
020	< 1 % No Asbestos Detected	> 900 ft². Non-friable excellent condition flashing/ coping	South East (L) Rubber Roof	Non- Friable	General Construction Debris Handling and Disposal
021	< 1 % No Asbestos Detected	> 76 ft². Non-friable excellent condition coping/flashing	Coping/ Flashing (L.)	Non- Friable	General Construction Debris Handling and Disposal
022	ACM 2.0 % Positive Asbestos Containing Material	> 1,250 ft <sup>2</sup> . Non-friable excellent condition roofing	Flat Roof NW (M)	Non- Friable	RACM- Wetting Notifications- Local, State, Federal Disposal IAW NESHAP
023	ACM 1.8 % Positive Asbestos Containing Material	> 3, 00 ft2. Non-friable excellent condition coping/flashing	Flat Roof S W (N) Coping	Non- Friable	RACM- Wetting Notifications- Local, State, Federal Disposal IAW NESHAP

Area(s) Inspected: 441-442 Waverly Mamaroneck, NY Date / Time of Inspection: November 2, 2007 AM

Inspector and Title Wade Sikora, CIH, CP #5033

Date of Report December 17, 2007

SAMPLE NUMBER	Analytical Test Result Quantity and Condition	Quantity and Condition	Location	Hazard Classification Severity	Recommended Corrective Action
024	< 1 % No Asbestos Detected	2,790 ft². Non-friable excellent condition roofing	Flat Roof S W (N) Roofing	Non- Friable	General Construction Debris Handling and Disposal
025	ACM 5.2 % Positive Asbestos Containing Material	> 1,656 ft2. Non-friable excellent Flat Roof NW condition roofing (O)	Flat Roof NW (O)	Non- Friable	RACM- Wetting Notifications- Local, State, Federal Disposal IAW NESHAP
026	ACM 25.0 % Positive Asbestos Containing Material	<ul> <li>&lt; 60 linear feet 2 inch pipe</li> <li>Very friable and poor condition pipe insulation</li> </ul>	Pipe Insulation 1 <sup>st</sup> Floor	Friable	EPA RACM, Use NYS Qualified Licensed Abatement Contractor And ask vendor to dispose
027	< 1 % No Asbestos Detected	> 672 ft². Very -friable poor condition plaster	Ceiling on basement floor	Friable	General Construction Debris Handling and Disposal

#### **APPENDIX B**

LABORATORY REPORT

BUILDING MATERIAL ANALYTICAL RESULTS



NYSELAP#10917

NVLAP#200552-0 AIHA#100307

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# **Bulk Asbestos Report**

Middlegrove, NY 12850 Applied Envirometrics 7 Ashlor Drive

Project: 442-Waverly

ProjLocation:

Method References: 198.1 / 198.4

11/02/2007 Date Received:

11/02/2007

Date Sampled:

PLM Analyzed: 11/14/2007 by KB

TEM Analyzed: 11/14/2007 by TKH

ReportDate: 11/14/2007

Attn: Wade Sikora

WorkOrder: 071102048

001     1-A Roofing     No asbestos detected     <1	Lab y E	L a y Sample Identification e and Description	Materials Type	Non-asbestos Fibers (Percent and Type)	PLM Asbestos (Percent and Type)	PLM Result	TEM Result of Residue	Final Status
(3)		1.A Roofing ) Homogeneous, Black,Non-Friable Material	Tar/Roofing			<1 inconclusive**	30 %Asbestos Chrysotile	3.1 ACM
2-A Roofing (1) Homogeneous, Tar/Roofing clack, Non-Friable Material		10.3 Wt % Remaining	الله منافعة ( مناه الله الله الله الله الله الله الله ا	e de la production de la company de la compa		TERRETORNA STANTANDON POR PROPERTURS JOSEPH	and the second of the second o	And the Control of th
Inconclusive**	2	2-A Roofing ) Homogeneous, Black, Non-Friable	Tar/Roofing		No asbestos defected	₹		Not Analyzed
		Material				Inconclusive**		<b>s</b>

14.5 Wt % Remaining

-B Roofing	Homogeneous,	Black, Non-Friable	Material
003	Ξ		

Tar/Roofing

Inconclusive\*\*

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No asbestos detected

Not Analyzed

15.8 Wt % Remaining

Lab	<b>ヹ゚ぉ゙゙゙゙゙゙ゕゔ゠</b>	Sample Identification and Description	Materials Type	Non-asbestos Fibers (Percent and Type)	PLM Asbestos (Percent and Type)	PLM Result	TEM Result of Residue	Final Status
004		4-B Roofing Homogeneous, Black,Non-Friable Material 35.9 Wt % Remaining	Tar/Roofing		5.3% Chrysotlie	1.9% ACM		1.9% ACM
0002	E	5-C Roofing Homogeneous, Black,Non-Friable Material 34.6 Wt % Remaining	Tar/Roofing		No asbestos detected	<1 Inconclusive**	No Asbestos Detected	V 2
900	3	6-C Roofing Homogeneous, Black, Non-Friable Material 30.5 Wt % Remaining	Tar/Roofing		No asbestos detected conclusiv	<1 Inconclusive**	No Asbestos Detected	<1%
200	$\varepsilon$	7-D Roofing Homogeneous, Black, Non-Friable Material 33.5 Wt % Remaining	Tar/Roofing		No asbestos detected	<1 Inconclusive**	No Asbestos Detected	<1%
800	£)	8-D Roofing Homogeneous, Black, Non-Friable Material 36.8 Wt % Remaining	Tar/Roofing		No asbestos detected	<1 Inconclusive**	No Asbestos Detected	<1% NAC
(1)	E		Tar/Roofing		<1 % Chrysotile	<1 inconclusive**	40 %Asbestos Chrysotile	16.6 ACM

Lab y	Sample Identification and Description	Materials Type	Non-asbestos Fibers (Percent and Type)	PLM Asbestos (Percent and Type)	PLM Result	TEM Result of Residue	Final Status
010	10-F Roofing Homogeneous, Black, Non-Friable	Tar/Roofing		No asbestos detected	٢	No Asbestos Detected	<1%
	Material 43.9 Wt % Remaining			2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Inconclusive**	pundje i gjerio i pako di ala kaj di mango nga ng	NAC
(1)	11-F Roofing Homogeneous, Black, Non-Friable Material	<u> 5</u>		No asbestos detected	<1 Inconclusive**	10 %Asbestos Chrysotile	<1%
	4.4 Wt % Remaining		en entre de la companya de la compan	dende de yest gebreist een de neer op op de	considerable for the second species of the second s	energy and the second of the s	A Company of the property of the second
(1)	12-H Roofing Homogeneous, Black, Non-Friable Material	Tar/Roofing		16% Chrysotile	2.7% ACM		2.7% AGM
	17 Wt % Remaining	e in each ann an ann an an an an an an an an ann a		The second secon		The section of the se	
(1)	13-H Roofing Homogeneous, Black, Non-Friable Material	Tar/Roofing			Not Analyzed		Not Analyzed
	5.6 Wt % Remaining		and the second s		And the second of the second o		A STATE OF THE STA
(1)	Hor Bla	Tar/Roofing		No asbestos detected	<1 Inconclusive**	30 %Asbestos Chrysotlle	2.8 ACM
	9.3 Wt 76 Kemaining	a galancia de la constitución de	the state of the s	Other States again and the ended for the States of the States of States	The second secon	to per annual property of the second	
(1)	15-J 15 Roofing Homogeneous, Black,Non-Friable Material	Tar/Roofing		No asbestos detected	<1 Inconclusive**	No Asbestos Detected	<1%
	14.4 Wt % Remaining						

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	TEM Result Final Final Of Residue Status	Amrayed by:
PLM	Asbestos (Percent and Type) PI.	
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	Materials Type	ial Aaterial
	Lab <sup>y</sup> Sample Identification ID <sup>e</sup> and Description	ACM:Asbestos Containing Material NAC:Non-Asbestos Containing Material
니 ベ	Lab y	ACM:

Approved by: Thomas K Hare

\*\*A negative result for an NOB sample is considered inconclusive. The following NYS ELAP disclaimer applies: "PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made using transmission electron microscopy(TEM)".

#### 07/102048

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#### TERMS, CONDITIONS & LIMITATIONS

All Services rendered by **Adirondack Environmental Services**, **Inc.** are undertaken and all rates are based upon the following terms:

- (a) Neither Adirondack Environmental Services, Inc., nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of Adirondack Environmental Services, Inc.'s performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against Adirondack Environmental Services, Inc. arising out of its work.
- (b) All claims made must be in writing within forty-five (45) days after delivery of the Adirondack Environmental Services, Inc. report regarding said work or such claim shall be deemed as irrevocably waived.
- (c) Adirondack Environmental Services, Inc. reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an Adirondack Environmental Services, Inc. report by other than our customer does not constitute a representation of Adirondack Environmental Services, Inc. as to the accuracy of the contents thereof.
- (d) In no event shall Adirondack Environmental Services, Inc., its employees agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.
- (e) No deviation from the terms set forth herein shall bind Adirondack Environmental Services, Inc. unless in writing and signed by a Director of Adirondack Environmental Services, Inc.
- (f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and Adirondack Environmental Services, Inc. is not responsible for the accuracy of this information.
- (g) Payments by credit card are subject to a 3% additional charge.