AMENIA TOWN LANDFILL

TOWN OF AMENIA, DUTCHESS COUNTY, NEW YORK

Site Management Plan

NYSDEC Site Number: 314006

Prepared for:

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Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

MAY 26, 2015, REVISED JANUARY 14, 2016

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SITE MANAGEMENT PLAN

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

This Site Management Plan is required as an element of the remedial program ~~at~~ for the Amenia Town Landfill (hereinafter referred to as the "Site") under the New York State (NYS) Inactive Hazardous Waste Disposal Site Remedial Program, administered by New York State Department of Environmental Conservation (NYSDEC). The site was remediated substantially in accordance with State Assistance Contract (SAC) No. C303694 for Site No. 314006, which was executed on February 12, 2008 and last amended on November 6, 2013.

1.1.1 General

A Remedial Investigation/Feasibility Study (RI/FS) of the Amenia Town Landfill was completed between 2001 and 2005 by URS Corporation on behalf of the Amenia Landfill Group. The Amenia Landfill Group consists of municipal and non-municipal (industrial and/or corporate) Potentially Responsible Parties (PRPs). Based on the findings of the RI/FS, the NYSDEC in consultation with the NYSDOH selected a remedy to remediate the contaminated sediment in West Pond and close/cap the landfill as presented in the NYSDEC Record of Decision (ROD) dated March 2006 and executed by NYSDEC on March 31, 2006. On January 19, 2007 the Town of Amenia and the NYSDEC entered into an Order on Consent to implement the ROD [Remedial Design and Remedial Action (RD/RA)], and an Administrative Settlement was executed between the NYSDEC and the municipal and non-municipal respondents of the Amenia Landfill Group.

In accordance with the Order on Consent, the Town of Amenia applied for State financial assistance (75% grant for eligible costs) through Title 3 of the 1986 Environmental Quality Bond Act (EQBA), and negotiated a State Assistance Contract

(SAC) with NYSDEC. The SAC for the RD/RA phase of the project (SAC No. C303694) was executed by the Town and NYSDEC, and then approved by the New York State Comptroller on February 12, 2008. A SAC Amendment No. 1 to extend the term of the contract to December 31, 2013 was executed by the Town and NYSDEC, and then approved by the New York State Comptroller on September 2, 2010. A SAC Amendment No. 2 to extend the term of the contract to December 31, 2015 was executed by the Town and NYSDEC, and then approved by the New York State Comptroller on November 6, 2013.

A Site Location Map of the site is provided as Figure 1. The controlled property boundaries are shown on the Final Cover Topographic Survey and Record Drawing (C.T. Male Drawing No. 15-382) presented as Figure 2 in this Site Management Plan and encompasses approximately 10.21 acres. The boundaries of the site are more fully described in the Metes and Bounds Description that is part of the Environmental Easement (refer to Appendix A, Metes and Bounds Description).

After completion of the remedial work described in the Remedial Design Report, landfill waste and PCB contaminated soil remain beneath the low permeability cover system/cap at this site, which is hereafter referred to as 'remaining contamination." Additionally, remaining residual contamination is present in a former drum removal area southwest of the landfill per the ROD. This Site Management Plan (SMP) was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by C.T. Male Associates Engineering, Surveying, Architecture & Landscape Architecture, D.P.C. (C.T. Male), on behalf of the Town of Amenia, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May 3, 2010, and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the Environmental Easement for the site.

1.1.2 Purpose

The site contains landfill waste and PCB contaminated soil beneath the low permeability cover system/cap after completion of the remedial action. Additionally, remaining residual contamination is present in a former drum removal area southwest of the landfill per the ROD. Engineering Controls have been incorporated into the site remedy to control exposure to remaining contamination during the use of the site to ensure protection of public health and the environment. An Environmental Easement to be granted to the NYSDEC, and to be recorded with the Dutchess County Clerk, will require compliance with this SMP and all ECs and ICs placed on the site. The ICs place restrictions on site use, and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the Environmental Easement for contamination that remains at the site. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the site after completion of the Remedial Action, including: (1) implementation and management of all Engineering and Institutional Controls; (2) media monitoring; (3) operation and maintenance of the low permeability cover system/cap and stormwater management system; and (4) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports (i.e., Post-Closure Monitoring Reports).

To address these needs, this SMP includes four plans: (1) an Engineering and Institutional Control Plan (Section 2.0) for implementation and management of EC/ICs; (2) a Site Monitoring Plan (Section 3.0) for implementation of Site Monitoring (groundwater monitoring, explosive gas monitoring, site inspections, etc.); (3) an Operation and Maintenance Plan (Section 4.0) for maintaining the integrity of the site's landfill cover system/cap and stormwater management system; and (4) an Inspections, Reporting and Certifications Plan (Section 5.0).

This plan also includes a description of Periodic Review Reports (i.e., Post-Closure Monitoring Reports) for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the environmental easement, which is grounds for revocation of the Certificate of Completion (COC);
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the SAC (No. C303694) for the Site (No. 314006), and thereby subject to applicable penalties.

1.1.3 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's Project Manager. In accordance with the Environmental Easement for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 SITE BACKGROUND

1.2.1 Site Location and Description

The site is located south of the Hamlet of Amenia on the west site of New York State (NYS) Route 22 in the Town of Amenia, Dutchess County, New York. The property where the landfill is located is comprised of two parcels identified as 7066-00-882575 and 7066-00-885633 on the Town of Amenia Tax Map. The entire site encompasses approximately 29.86 acres, but this SMP only pertains to the controlled property which encompasses approximately 10.21 acres of which the low permeability cover system/cap encompasses approximately 7.49 acres.

A NYSDEC regulated fresh water wetland is located west and north of the landfill site. A golf course (Silo Ridge Resort) is located west of the landfill site and wetland on property owned by Higher Ground Country Club, LLC. The wetland/pond (referred to as

West Pond) on the west side of the site empties over a beaver dam into a stream to the north (tributary of Amenia Stream, referred to as West Pond Tributary) that flows north through the wetland, then turns east and flows through a culvert pipe that runs beneath NYS Route 22 and eventually joins Amenia Steam which flows south on the east side of NYS Route 22. Roxbury Sand and Gravel, LLC is located east of the landfill site on the east side of NYS Route 22. The closed Harlem Valley Landfill is located south of the landfill site. Refer to Figure 1, Site Location Map. The boundaries of the controlled portion of the site are more fully described in the Metes and Bounds Description in Appendix A.

1.2.2 Site History

The Amenia Town Landfill was in operation for approximately 36 years from 1940 to 1976. The site was operated as a municipal disposal area by the Town of Amenia on leased lands from approximately 1940 to 1968. Between 1969 and 1971, the landfill was owned and operated by Mr. Salvatore Surico; between 1971 and 1972, it was owned and operated by Tri-Town Landfill Corporation; and between 1972 and 1976, it was operated by the Town of Amenia under a succession of owners. Municipal and household waste was brought to the landfill throughout its operation from the Town of Amenia, New York and Sharon, Connecticut. Industrial waste was also reported to have been disposed of at the landfill. The landfill was closed in 1976 and reportedly covered with six inches to three feet of soil. The northern portion of the site functioned for a period of time as a propane storage facility operated by Sharon Oil after the landfill was closed.

In 1983, the NYSDEC listed the site as a Class 2a site in the Registry of Inactive Hazardous Waste Disposal Sites in New York. A Phase I investigation was performed for the site in 1986, followed by a Phase II investigation, completed in 1993. Based on the results of these investigations, the NYSDEC listed the site as a Class 2 Inactive Hazardous Waste Disposal Site in 1992 due to the presence of polychlorinated biphenyls (PCBs) in landfill soil and wetland/pond sediment. The NYSDEC then conducted a test pit investigation in September 1998. Based on the findings of the test pit investigation and at the request of the NYSDEC, the USEPA conducted a drum removal action in 1998

to 1999. From an area in the far southwestern corner of the landfill site, a total of 175 drums were removed, sampled, overpacked and secured, and approximately 150 cubic yards of contaminated soil was staged for removal from the site. The drums and contaminated soil were removed from the site in 1999 and disposed of at an approved off-site facility.

A Remedial Investigation/Feasibility Study (RI/FS) of the Amenia Town Landfill was completed between 2001 and 2005 by URS Corporation. A Remedial Investigation Report was prepared in November 2003 and the Feasibility Study Report was prepared in April 2005. A Pre-Design Investigation (PDI) of the Amenia Town Landfill was completed between March 2008 and November 2009 by C.T. Male.

1.2.3 Geologic Conditions

Native overburden material at the site consists of sand and gravel and varies from approximately 10 to 20 feet thick. A silt unit interbedded with clay lies beneath the sand and gravel and varies from approximately 10 to 20 feet thick. Another sand and gravel unit of varying thickness lies beneath the silt and clay across part of the site, but in some locations the silt/clay unit lies directly on bedrock. Total depth to bedrock, a gray marble, ranges from approximately 20 to 70 feet below ground surface.

Shallow groundwater is present in the overburden material between approximately 20 to 50 feet below ground surface. Data from water table elevations in overburden monitoring wells show that the groundwater beneath the site is recharged by the West Pond and discharges to the stream east of NYS Route 22. A geologic section and a groundwater flow figure are shown in Figure 3, Stratigraphic Cross Sections and Shallow Groundwater Contours (April 3, 2002, URS Drawing No. 14141005) from the RI Report.

Deep bedrock groundwater is confined by the overlying overburden soils and shows an upward gradient toward shallow groundwater.

1.3 SUMMARY OF REMEDIAL INVESTIGATION, PRE-DESIGN INVESTIGATION AND REMEDIAL ACTION INVESTIGATION FINDINGS

1.3.1 General

A Remedial Investigation (RI), Test Pit Investigation and Pre-Design Investigation (PDI) were performed to characterize the nature and extent of contamination at the site. The results of the RI, Test Pit Investigation and PDI are described in detail in the following reports:

- Final Remedial Investigation Report, Amenia Town Landfill, Amenia, New York, dated November 2003, by URS Corporation.
- Test Pit Investigation Report contained in Appendix A of the Feasibility Study Report, Amenia Town Landfill, Amenia, New York, dated April 2005, by URS Corporation.
- Final Remedial Design Report, Remediation, Closure and Capping of Amenia Town Landfill, Town of Amenia, Dutchess County, New York, dated June 15, 2011 and revised December 16, 2011 and January 19, 2012, by C.T. Male.

Additional investigations were carried out during the Remedial Action (RA) at the site and are discussed below following discussions of the RI and PDI.

Generally, the RI determined that the potential site related contaminants include select volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs) and metals in various media at the site. The PDI further defined the limits of the landfill waste, and further defined the areas impacted by the potential site related contaminants including PCBs and metals in select media at the site. The RA investigations included an explosive gas investigation, and further defined the area impacted by the potential site related contaminants including PCBs and metals in the sediment in the southern marsh area of West Pond at the site. The Sampling Locations Maps from the RI Report, presented as Figures 4 to 8 in this SMP, depict the RI sampling locations as discussed herein. The Existing Conditions Plan and Sampling Locations Map from the PDI, presented as Figures 9 and 10 in this SMP, depict the PDI

sampling locations as discusses herein. The Sampling Locations Maps from the RA investigations, presented as Figures 11 and 12 in this SMP, depict the sampling locations as discussed herein.

During the RI, the soil and sediment sampling results were compared to the soil cleanup objective values presented in the NYSDEC TAGM 4046, Determination of Soil Cleanup Objectives and Cleanup Levels (TAGM 4046). The sediment results were also compared to the sediment criteria presented in the NYSDEC Technical Guidance for Screening Contaminated Sediments. Groundwater sampling results were compared to the NYSDEC groundwater standards and guidance values presented in 6NYCRR Part 703, Surface Water and Groundwater Quality Standards and Groundwater Effluent Standards, and NYSDEC TOGS 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.

During the PDI, the sediment sampling results were compared to the sediment criteria presented in the NYSDEC Technical Guidance for Screening Contaminated Sediments, and the remediation criteria defined in the ROD. The PCB soil sampling results were compared to the Toxic Substance Control Act (TSCA) of 1976 requirements outlined in 40 CFR Part 761.

During the RA investigation the sediment sampling results were compared to the sediment criteria presented in the NYSDEC Technical Guidance for Screening Contaminated Sediments, and the remediation criteria defined in the ROD.

In the following subsections is a summary of site conditions when the RI was performed in 2001 to 2003, when the PDI was performed in 2008 to 2009, and when the RA investigation was performed in 2012 including a discussion of standards, criteria and guidance values (SCGs) that were exceeded in the various media sampled during the investigations.

1.3.2 Remedial Investigation

1.3.2.1 Surface and Subsurface Soil

Nine surface soil samples were collected from the top surface of the landfill during the RI at depths of zero to 2 inches, and were analyzed for Target Compound List

(TCL) SVOCs, PCBs and Target Analyte List (TAL) metals. Six of the samples contained PCBs and of those, two were at levels above the SCG of 1 mg/kg. Phenol was detected above its SCG of 30 ug/kg in one sample. One or more metals were detected at levels above SCGs/background levels in all the soil samples. Several of the surface soil samples had detections of metals at concentrations greater than double their SCGs/background levels, including calcium, magnesium and potassium.

Fifteen surface soil samples were collected from the west slope of the landfill at depths of zero to 6 inches, and were analyzed for TCL PCBs and TAL metals. Twelve of the samples contained PCBs and of those, eight were at levels above the SGC of 1 mg/kg. One surface soil sample at location SS-W4 had a PCB concentration of 63.6 mg/kg. One or more metals were detected at levels above SCGs/background levels in all the soil samples. Several of the metals detected were at concentrations greater than double their SCGs/background levels, including antimony, barium, cadmium, calcium, chromium, copper, iron, magnesium, mercury, nickel, potassium, sodium and zinc.

Six surface soil samples were collected from the north slope of the landfill at depths of zero to 6 inches, and were analyzed for TCL PCBs and TAL metals. All six samples contained PCBs, and one contained concentrations above the SCG of 1 mg/kg. One or more metals were detected at levels above SCGs/background levels in all the soil samples. Several of the metals detected were at concentrations greater than double their SCGs/background levels, including calcium and magnesium.

Nine subsurface post-excavation soil samples were collected in the EPA drum removal area, and were analyzed for TCL VOCs, SVOCs, PCBs, and pesticides, and TAL metals. No VOCS, PCBs or pesticides were detected above SCGs in any of the soil samples. Phenol was detected in one sample above its SCG. One or more metals were detected at levels above their SCGs in the subsurface soil samples including arsenic, calcium, copper, iron, manganese and nickel.

Figure 4, Summary of Soil Analytical Results (URS Drawing No. 14141002) shows the location of the surface and subsurface soil samples.

1.3.2.2 Groundwater

Twelve monitoring wells were installed during the RI (nine shallow overburden wells, and three deep bedrock wells) and two separate rounds of groundwater samples were collected and analyzed for TCL VOCs, SVOCs, PCBs and pesticides, and TAL metals. Five of the overburden wells had one or more VOC concentrations that exceeded SCGs in both rounds of sampling, concentrations being highest in the southwest corner of the landfill and decreasing in the downgradient groundwater flow direction. Most of the VOC exceedances were within one order of magnitude of the SCGs, except samples from MW-6 (SW) and MW-3 (NE). Four of the wells had one SVOC [bis(2-ethylhexyl)phthalate] exceed SCGs during the first round of sampling, but not the second round. In the second round of sampling one well (MW-2) exceeded SCGs for phenol. One pesticide was detected above SCGs in MW-4 during both rounds of sampling, but based on data validation, the exceedance in the second round was rejected. No PCBs were detected in any of the groundwater samples during either sampling event. All the monitoring wells had metals detected above SCGs. In general it appeared that monitoring wells that were also affected by organics had comparatively higher concentrations of some metals including arsenic, iron, magnesium, and sodium. Based on the groundwater sampling results and the absence of complete pathways to receptors, it was concluded in the Feasibility Study (FS) Report that active groundwater remediation was not warranted.

Figure 5, Summary of Groundwater Analytical Results (URS Drawing No. 14141003) shows the locations of the monitoring wells sampled during the RI.

1.3.2.3 Sediment

Three upstream sediment samples were collected from Amenia Stream on the east side of NYS Route 22. These sediment samples were analyzed for TCL VOCs, [bis(2-ethylhexyl) phthalate], PCBs and TAL metals. No VOCS, bis(2-ethylhexyl)phthalate or PCBs were detected in the samples. Several metals were detected at levels exceeding their SCGs including arsenic, copper, iron, manganese, and nickel.

Three upstream sediment samples were collected from the stream originating from the golf course to the west of West Pond. All three sediment samples were

analyzed for TCL PCBs and TAL metals, and one of the three was analyzed for TCL VOCs. No VOCs or PCBs were detected in the sediment samples. Several metals including arsenic, iron, manganese, nickel and zinc were detected above their SCGs.

Ten sediment samples were collected from the West Pond Tributary to the north of the landfill. The sediment samples were analyzed for TCL PCBs and TAL metals. PCBs were detected in eight of the ten samples at concentrations ranging from 0.029 to 1.193 mg/kg. Several metals including arsenic, iron, nickel, zinc and copper were detected above their SCGs, but at similar concentrations to upstream results, except that copper was detected at a higher concentration in the downstream sample.

Seven sediment samples were collected from the section of the West Pond Tributary that flows along the east side of NYS Route 22. These sediment samples were analyzed for TCL VOCs, bis(2-ethylhexyl)phthalate, PCBs and TAL metals. No VOCs or bis(2-ethylhexyl) phthalate were detected in the sediment samples. PCBs were detected in six of the samples at concentrations ranging from 0.087 to 0.815 mg/kg. Several metals were detected in the sediment at levels above their SCGs. In general arsenic, copper, lead and manganese were at levels higher than detected in the upstream samples, and iron, nickel and zinc were at levels similar to or lower than the upgradient results.

Forty-eight sediment samples were collected from West Pond, most from a depth of zero to 6 inches, with a few collected from 18 to 24 inches. The samples were collected in three separate rows approximately parallel to the west slope of the landfill. Samples from row 1 closest to the western slope of the landfill were analyzed for TCL PCBs and TAL metals. Where elevated results were noted, additional samples to the west were analyzed for the appropriate parameters. PCBs were detected in all but one sediment sample from the first row (SD-13A, 18 to 24 inch sample) at concentrations ranging from 0.0936 to 25.100 mg/kg. In the second row of samples the northern half of the row had PCB detections ranging from 0.403 to 4.930 mg/kg. Samples from the southern half of the second row had no PCB detections. In the samples that were analyzed for PCBs in the third row, all the results were non-detect. Several metals were detected above their SCGs in the sediment samples from West Pond including antimony,

arsenic, cadmium, iron, lead, manganese, mercury, nickel, silver, zinc. In general, concentrations were higher in row 1 closest to the landfill and decreased further west in rows 2 and 3. Based on the sediment sampling results, it was concluded in the FS Report that remediation of a portion of the sediment in West Pond along the east shoreline next to the landfill was necessary.

Figure 6, Summary of Sediment Analytical Results (URS Drawing No. 14141013) shows the location of the sediment samples.

1.3.2.4 Surface Water

Eight surface water samples were collected, two from upstream sources, one from West Pond, and five from downgradient streams. The surface water samples were analyzed for TCL VOCs, SVOCs, PCBs and pesticides, and TAL metals. No VOCs, SVOCs or PCBs were detected in any of the surface water samples. Three of the samples from the stream to the north of West Pond (West Pond Tributary) had detections of pesticides above SCGs, but identified as likely associated with other historic or existing land uses and not associated with the landfill. Aluminum and iron were the only metals detected above SCGs, and the highest concentrations were detected in the sample from Amenia Stream, upstream of the landfill.

Tables 5-23 and 5-24 from the RI Report in the Tables section of this SMP summarize the surface water sampling results from the RI. Figure 7, Surface Water Analytical Results (URS Drawing No. 14141011) shows the location of the surface water samples.

1.3.2.5 Soil Gas

Fifty-two soil gas samples were collected, and analyzed for VOCs. Benzene, toluene, ethylbenzene, xylenes, chlorobenzene, and vinyl chloride were the most commonly detected compounds. The highest concentrations of VOCs were noted along the south end of the landfill, along the southern fence line of the former propane storage area, and at the north end of the former propane storage area.

Figure 8, Soil Gas Data (URS Drawing No. 14141012) shows the location of the soil gas samples.

1.3.3 Pre-Design Investigation

1.3.3.1 Test Pits

Thirteen test pit trenches were advanced on the west and north side slopes of the landfill. The locations of the test pit trenches are shown on Figure 9, Existing Conditions Plan (C.T. Male Drawing No. 11-0390, Sheet 3 of 16). The Existing Conditions Plan also shows the approximate limit of landfill waste mass based on the findings of the test pit trenches advanced during the remedial investigation/feasibility study (RI/FS) and the pre-design investigation (PDI).

In general, the type of waste encountered within the test pit trenches advanced along the western slope of the landfill was intermingled glass, brick, car parts, steel, clothes and/or plastic with sand and silt and some gravel in some of the test pit trenches. The percentage of waste encountered ranged from approximately 20% to 30% at test pit trenches TP-PDI1 to TP-PDI3, ranged from approximately 10% to 40% at test pit trench TP-PDI4, and was approximately 5% at test pit trenches TP-PDI5, TP-PDI7 and TP-PDI10. At test pit trench TP-PDI6, at the southern end of the west side slope, approximately 60% waste was encountered intermingled with sand and silt at the top of the side slope. In general, the type of waste encountered within the test pit trenches advanced along the northern side slope was intermingled plastic, glass, steel and/or clothes with sand and silt and some gravel. The percentage of waste, where encountered, was less than 5% at test pit trench TP-PDI11, approximately 1% to 80-90% at TP-PDI12, with the higher percentage at the top of the side slope, and approximately 30% at test pit trench TP-PDI13 at the top of the side slope.

Based on the findings of the PDI test pits, the boundary survey and surveyed test pit trench locations, it was determined that approximately 0.09 acres of landfill waste mass extended onto the adjacent property to the north owned by Higher Ground Country Club, LLC.

1.3.3.2 Sediment

A field survey of the sediment in West Pond was completed on April 21, and 22, 2008. Additional sediment survey was completed during the sediment sampling activities on May 6, 7 and 8, 2008, April 20, 2009, August 13, 2009 and October 12, 2009.

Sediment thickness measured during the sediment survey and sediment sampling ranged from 0.35 feet to 3.31 feet. Water depth at the sediment survey and sediment sampling locations ranged from 0.3 feet to 3.32 feet of water.

Sediment samples were collected from West Pond at a total of seventy-five locations. Sediment sampling locations are shown on Figure 10, Sampling Locations Map Pre-Design Investigation (C.T. Male Drawing No. 11-0390, Sheet 4 of 16).

The sediment generally consisted of black and/or brown organic material and silt. Beneath the sediment was a brown fine sand and gravel.

The sediment samples were analyzed for the TCL PCBs by EPA Method 8082 and/or TAL metals by EPA Method 6010B/7000 and mercury by EPA Method 7471. Based on review of the Screening Level Ecological Risk Assessment in Attachment 1 of the RI Report, page 3-8 and Tables 3-1 and 3-2 of the FS Report, and pages 8 and 9 of the Record of Decision (ROD), the previously established sediment remediation criteria for PCBs is 1 mg/kg, and for inorganics is the severe effect level listed in the NYSDEC Technical Guidance for Screening Contaminated Sediments dated January 25, 1999 for the metals of concern including copper, lead, mercury and zinc, and potentially nickel. The NYSDEC severe effect level (SEL) for the metals of concern are 110 mg/kg for copper and lead, 1.3 mg/kg for mercury, 270 mg/kg for zinc and 50 mg/kg for nickel.

Using the analytical results collected from Pre-Design Investigation sampling events and the previously established remediation criteria for PCBs, the horizontal limits of PCB contaminated sediment to be remediated in West Pond were defined.

Two metals, nickel and/or zinc, were detected at concentrations above their NYSDEC SEL within the majority of the additional sampling locations during the August and October 2009 sampling events including those furthest north and west of the upper (southern) beaver dam. The nickel concentrations above the SEL north and west of the

upper (southern) beaver dam ranged from 60.8 mg/kg to 200 mg/kg, except there was one detection of 420 mg/kg at SED-61. The zinc concentrations above the SEL north and west of the upper (southern) beaver dam ranged from 276 mg/kg to 423 mg/kg, except there was one detection of 850 mg/kg at SED-61.

Based on the analytical results of the August 2009 and October 2009 sampling events, nickel and zinc levels in the sediment north and west of the beaver dams continued to exceed NYSDEC sediment remediation criteria. The lead level at one isolated location northwest of the upper (southern) beaver dam also exceeded its NYSDEC SEL. The concentrations of nickel and zinc in sediment samples were not decreasing as the sampling locations got further away from the landfill, concentrations of nickel and zinc generally appeared to be higher as the distance from the landfill increased. The landfill did not appear to be the source of elevated nickel and zinc or lead (at sampling location SED-55) in the sediment north and west of the upper (southern) beaver dam. Therefore, remediation of only PCB contaminated sediment north of the upper (southern) beaver dam was proposed as part of the remediation and capping of the Amenia Town Landfill. NYSDEC reviewed the information and concurred with the proposed sediment remediation limit. The approximate area of contaminated sediment to be remediated was defined as 1.77 acres and the estimated quantity of contaminated sediment as determined using AutoCAD was approximately 5,308 cubic yards.

1.3.3.3 Surface and Subsurface Soil

Soil samples were collected across a total of twenty-one locations centralized around RI surface soil sampling location SS-W4 to delineate the nature and extent of PCBs with concentrations at 50 mg/kg or greater. Soil samples were collected from 0-6", 6-12", 12-24", 30-36" and 42-48" as applicable. Soil sampling locations are shown on Figure 10, Sampling Locations Map Pre-Design Investigation (C.T. Male Drawing No. 11-0390, Sheet 4 of 16).

The concentration of PCBs detected in the surface soils (0-6") ranged from 3.3 mg/kg to 3,700 mg/kg, and in subsurface soils (>6") ranged from 0.24 mg/kg to 5,200 mg/kg. Based on the Pre-Design Investigation sampling results the estimated quantity of PCB contaminated soil at 50 mg/kg or greater, requiring excavation and transportation

off-site, was 368 cubic yards (encompassing approximately 2,789 square feet).

1.3.4 Remedial Action Investigation

1.3.4.1 Explosive Gas Investigation

Between March 22 and March 23, 2012, a C.T. Male representative performed an explosive gas investigation at the Site. The investigation included taking explosive gas readings at twenty-six (26) temporary subsurface points approximately 100 feet apart around the perimeter landfill just outside the approximate limit of waste, and twenty-seven (27) temporary subsurface points on an approximate 100-foot by 100-foot grid across the surface of the landfill. Explosive gas sampling locations and % lower explosive limit results are shown on Figure 11, Explosive Gas Temporary Subsurface Monitoring Points Sketch Map.

Readings for % lower explosive limit (LEL) around the perimeter of the landfill were less than 25%, except for two locations (EG-1 and EG-26) on the east side of the landfill in the area of well MW-4 which had readings of greater than 100% LEL, and three locations (EG-6, EG-7 and EG-8) on the south side of the landfill closest to NYS Route 22 which had readings of >100% LEL, 25% LEL and >100% LEL, respectively. Readings for % LEL across the surface of the landfill were varied. Fourteen locations exhibited readings greater that 100% LEL, two locations had readings greater than 25% LEL but less that 100% LEL, and the remaining eleven locations had readings less than 25% LEL.

1.3.4.2 Additional Sediment Sampling

During the installation of the inner and outer sediment barriers during the remedial action it was determined that the sediment depth/depth to competent bottom in the southern marsh area of West Pond was deeper than previously determined during the RI and PDI. Sediment samples were collected from a total of seventeen locations to determine if the vertical extent of contamination in this area was different than previously defined during the RI and PDI. Sediment sampling locations are shown on Figure 12, PCB Contaminated Soil and Contaminated Sediment Remediation Plan (C.T. Male Drawing No. 11-0390, Sheet 6 of 16, Revised 7/6/12).

The sediment generally consisted of black and/or brown organic material and silt above a light brown and/or tan silt. Beneath the sediment was a gray clay or gray sand and gravel.

The sediment samples were analyzed for the TCL PCBs by EPA Method 8082 and/or TAL metals by EPA Method 6010B/7000 and mercury by EPA Method 7471.

Using the analytical results collected from remedial action investigation sampling event and the previously established remediation criteria, the vertical limits of contaminated sediment to be remediated in the southern marsh area of West Pond was defined. The majority of the sediment samples collected showed that contamination did not extend vertically past the extent defined during the PDI, only two areas were found where contamination extended deeper. At sampling location SED-86 (2-6') PCBs were detected at 1.44 mg/kg compared to the remediation criteria of 1 mg/kg, and at sampling location SED-92 (2-6') zinc was detected at 319 mg/kg compared to the remediation criteria of 270 mg/kg. In these two areas, it was proposed to excavate an additional foot of sediment in a 30' x 30' area centered on the sampling locations. The approximate area of contaminated sediment to be remediated remained at 1.77 acres and the estimated quantity of contaminated sediment as determined using AutoCAD was revised to 5,308 cubic yards. NYSDEC reviewed the information and concurred with the proposed sediment remediation limit. Tables 1.3.4-1 and 1.3.4-2 at the end of the report text summarize the results of the additional sediment sampling.

1.4 SUMMARY OF REMEDIAL ACTION

1.4.1 Remedial Action Objectives

Based on the types and extent of contamination at the Amenia Town Landfill and the potential for exposure to the contaminants the remedial action objectives for the Amenia Town Landfill were as follows:

- Minimize the potential environmental exposures to humans, wildlife and biota from PCB and metals contamination in aquatic sediment;

- Remove the PCB impacted soil classified as a hazardous waste from a localized area on the western side slope of the landfill to prevent the spread of and potential leaching of contaminants from this area to surface water and groundwater;
- Prevent direct contact with the landfill contents and contaminated surface soil;
- Minimize stormwater/precipitation infiltration into the landfill waste mass and thereby reduce the potential for contaminants to leach to groundwater;
- Control surface water runoff and surface erosion and thereby reduce the potential for contaminants to leach to surface water; and
- Control landfill gas migration.

The selected remedial action as presented in the ROD of closing and capping the landfill with a low permeability cover system was selected to eliminate the potential exposure routes and pathways of dermal contact and/or ingestion of contaminated surface soil and potential leaching of contaminants with stormwater runoff, and to minimize stormwater/precipitation infiltration and potential leaching of contaminants from the waste mass and contaminated surface and subsurface soil that could be carried downward to, and migrate with, groundwater. The component of the selected remedial action as presented in the ROD to remove the contaminated sediment from the wetland/West Pond and place it on the surface of the landfill below the low permeability cap was selected to minimize the potential exposure routes and pathways for dermal contact and/or ingestion of contaminated sediment, the potential leaching of contaminants to surface water, and the potential impact on humans, wildlife and the aquatic community.

1.4.2 Major Components and Description of Remedial Action

The Site was remediated substantially in accordance with the NYSDEC-approved Final Remedial Design Report, Remediation, Closure and Capping of Amenia Town Landfill, Amenia, New York, dated June 15, 2011 and revised December 16, 2011 and January 19, 2012 by C.T. Male; the Final Stormwater Pollution Prevention Plan (SWPPP) For Construction Activities Remediation, Closure and Capping of Amenia Town Landfill Site, Town of Amenia, Dutchess County, New York, dated June 15, 2011

and revised December 16, 2011 and January 19, 2012 by C.T. Male; and the NYSDEC approved Contract Documents (Project Manual and Drawings), Amenia Town Landfill Remedial Construction, dated January 2012 by C.T. Male.

Based on the findings of the RI/FS and the criteria identified in the Feasibility Study for the evaluation of alternatives, the NYSDEC selected excavation of contaminated sediment from the wetland/West Pond west of the landfill, placement of the sediment on the landfill, and construction of a cap consistent with 6 NYCRR Part 360 over the landfill as the remedy to remediate, close and cap the Amenia Town Landfill. The remedial action construction was awarded to and implemented by Sevenson Environmental Services, Inc. The following is a summary of the components of the Remedial Action performed at the site and a description of the steps taken to accomplish the remedial action objectives:

- Placed and constructed temporary erosion and sediment control measures including, but not limited to a stabilized construction entrance; temporary drainage swales and check dams, a temporary riprap outlet and a floating turbidity curtain in the wetland/West Pond downslope of the riprap outlet; impermeable sediment barriers in the wetland/West Pond outside the limit of contaminated sediment; silt fence down slope of the PCB contaminated soil on the west side slope of landfill; silt fence on property down slope of the waste mass and in other critical areas around the landfill site during construction, and at completion of construction, in accordance with the requirements of the NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (General Permit No. GP-0-10-001, effective January 29, 2010), and the site specific SWPPP.
- Installed a temporary 6-foot high chain link fence at the entrance of the landfill and along a portion of the east side of the landfill to control access and keep out trespassers during the remedial construction.
- Removed the mud and drill cuttings from the drums of RI investigation derived wastes and placed the contents on the surface of the landfill waste

mass below the landfill cap, and properly disposed of the empty drums off--site; removed and properly disposed of the drums that contained decontamination water, and well development and purge water generated during the RI (these drums were found to be empty during the Remedial Action).

- Segregated and characterized drums and containers of waste, and above ground storage tanks found on the surface of the landfill in the former propane storage area and other various locations on the landfill surface and within the landfill waste mass during waste relocation activities and properly disposed of them off-site based on the sampling results (refer to Section 1.4.3).
- Removed trees and brush, cleared the landfill surface, and demolished utilities and structures associated with the former propane storage facility to facilitate the remedial construction.
- Excavated PCB contaminated soil at 50 mg/kg or greater in the area of RI surface soil sampling location SS-W4 near the toe of the west side slope of the landfill and properly disposed of the soil off-site (refer to Section 1.4.3).
- Excavated landfill waste that extended onto the adjacent property to the north and placed the material back onto the surface of the landfill within the Site's property boundaries, backfilled the excavation with clean imported material, and cut back the north side slope of the waste mass so that the landfill cap would not extend onto the property to the north.
- Excavated landfill waste on the west side of the landfill in close proximity to the wetland/West Pond and to facilitate the construction of an access road and drainage swale, transferred the waste back onto the surface of the landfill, and cut back the west side slope of the landfill so that the landfill cover system/cap did not extend into the wetland.
- Excavated landfill waste in the steep southwest portion of the landfill and placed the material on the surface of the landfill, and backfilled the excavated area with clean imported material.

- Excavated landfill waste that was encountered on the south and southeast sides of the Site and transferred the waste back onto the surface of the landfill within the planned footprint/limit of the low permeability cover system/cap.
- Regraded the landfill waste mass for erosion and drainage control and to meet the minimum (4%) and maximum (33%) 6 NYCRR Part 360 (Part 360) slope requirements.
- Treated and cut the invasive common reed from within a portion of the wetland/West Pond adjacent to the west side of the landfill prior to the removal of the contaminated sediment.
- Removed PCB and metals (copper, lead, mercury and zinc) contaminated sediment including the upper (southern) beaver dam from the wetland/West Pond adjacent to the west side of the landfill and placed the sediment on the surface of the landfill below the landfill cap.
- Restored the wetland/West Pond following completion of the removal of the contaminated sediment and waste excavation.
- Installed a Modified Part 360 low permeability cover system/cap over the landfill surface consisting of gas venting structures and underground gas collection laterals placed in non-woven geotextile wrapped crushed stone trenches, a geocomposite gas venting layer, a geomembrane low permeability barrier layer, a geocomposite drainage layer above the geomembrane low permeability barrier layer, an 18-inch thick barrier protection layer, and a 6-inch thick topsoil and vegetative cover layer that was hydroseeded to establish a vegetative cover.
- Installed a drainage swale and crushed stone underdrain below the drainage swale around the perimeter of the landfill (east, north and west sides) to minimize ponding; to provide an outlet for the landfill surface water runoff and water that is intercepted in the geocomposite drainage layer (that infiltrates the topsoil and barrier protection layers), and divert the water to West Pond; and to minimize the landfill surface water runoff and other

stormwater runoff from infiltrating the area around the perimeter of the landfill.

- Installed PVC drain basins in the drainage swale at the toe of the west slope of the landfill and south of the landfill, and roadway drain crossings (culvert pipes) below the perimeter access road on the west side of the landfill to carry stormwater runoff from the perimeter swale and underdrain on the west side of the landfill and south of the landfill to West Pond.
- Installed an access road over the top of the landfill (due to insufficient space for a perimeter access road on the east side of the landfill) and to the south of the landfill, and a perimeter access road on the southwest and west sides of the landfill to provide access for operation, maintenance and monitoring of the closed landfill at completion of construction.
- Installed a drainage swale and crushed stone underdrain at the toe of the steep slope south of the landfill and a drainage swale along the southwest access road for management of stormwater runoff in those areas.
- Installed a drainage swale on the east side of the access road south of the landfill, culvert pipe and level spreader on the west side of the access road south of the landfill to minimize stormwater runoff from infiltrating the area around the south perimeter of the landfill and to prevent erosion of the steep southwest slope south of the landfill.
- Installed a roadside drainage swale east of and adjacent to the southern portion of the access road over the top of the landfill and re-graded the access road in this area to pitch toward the roadside swale that extends south and ties into the existing swale on the east side of the south access road.
- Installed three turf reinforcement mat downchute channels on the north, west and southwest slopes of the landfill to provide additional protection from erosion during severe rain events.
- Installed a drain pipe below the access road near the top of the steep section of the southwest access road in the far southwest area of the site and a stone

lined entrance to the pipe to convey stormwater runoff from this area of the site into the drainage swale on the north side of the southwest access road.

- Installed a NYSDOT Type 2 stone subbase parking area on top of the northern portion of the landfill.
- Installed topsoil and re-seeded areas disturbed by the construction outside of the limit of the landfill cap.
- Modified the entrance road into the site from NYS Route 22 in order to accommodate the grading for the landfill cap materials, due to the close proximity of the landfill waste mass to the property line on the east side of the landfill.
- Installed a permanent fence on the Town's property at the entrance and along a portion of the east side of the landfill, and on a portion of the New York State Department of Transportation (NYSDOT) right-of-way to control access and to keep out off-road vehicles that could damage the integrity of the landfill cap.

These remedial activities were completed at the site between March 2012 and July 2015.

The execution and recording of an Environmental Easement to restrict land use, restrict the use of groundwater at the site, prevent future exposure to landfill waste and any contamination remaining below the landfill cover system/cap at the site, and to meet the deed restriction requirements of the EPA TSCA Self-Implementing Cleanup will be filed for the site.

The development and implementation of this Site Management Plan is for long term management of the remaining contamination (landfill waste mass and PCB contaminated soil) as required by the Environmental Easement, which includes plans for: (1) Engineering and Institutional Controls, (2) media monitoring, (3) operation and maintenance of the low permeability cover system/cap and stormwater management system, and (4) reporting.

1.4.3 Removal of Wastes and Contaminated Materials from the Site and Relocating Contaminated Material Beneath the Low Permeability Cover System/Cap

1.4.3.1 General

The wastes and contaminated materials that were removed from the site during the remedial action construction and properly disposed of off-site included non-hazardous industrial solid waste and metal drum fragments, scrap metal, abandoned drums and containers of non-hazardous and hazardous wastes, and hazardous (≥50 mg/kg or parts per million PCBs) and non-hazardous (<50 mg/kg or parts per million PCBs) PCB contaminated soil as discussed in the following subsections.

Wastes generated during the remedial action construction including non-hazardous solid waste (consisting of sediment barriers, straw waddles, silt fence, etc.) and decontamination water were properly disposed of off-site. Personal protective equipment (PPE) generated during the remedial action was buried within the landfill waste mass beneath the low permeability cover system/cap.

A summary of the contaminated materials and wastes that were removed from the site is presented in Table 1.4.3-1 at the end of the SMP text. The referenced table includes: the waste type, quantity, disposal classification, date removed from site, transporter name and permit number, and disposal facility name and permit number.

Contaminated materials that were excavated and placed beneath the low permeability cover system/cap included landfill waste outside the proposed limit of waste and limit of the planned low permeability cover system/cap, and contaminated sediment from West Pond as discussed in the following subsections.

The soil cleanup objectives (SCOs) used for the remedial action construction project are as follows:

During the excavation of hazardous PCB contaminated soil the SCO used was soil with less than 50 mg/kg total PCBs was to remain below the low permeability cover system/cap over the surface of the landfill in accordance with the EPA TSCA Self-Implementing Cleanup and NYSDEC requirements. Soil with a total PCB concentration

of 50 mg/kg or greater is a hazardous waste in New York State in accordance with 6NYCRR Part 371.4(e)(1), and was also determined to be an EPA TSCA PCB remediation waste and required off-site disposal.

During the excavation of waste outside the limit of the low permeability cover system/cap and for determinations regarding on site use of excavated stockpiles of soil the SCOs used were the unrestricted use SCOs presented in 6 NYCRR Part 375-6.8(a) for VOCs, SVOCs, PCBs, pesticides and metals.

During the excavation of contaminated sediment from West Pond the sediment cleanup objectives used were the remediation criteria established in the ROD including the severe effect level (SEL) for metals of concern as defined in the NYSDEC Technical Guidance for Screening Contaminated Sediments which is 110 mg/kg for copper and lead, 1.3 mg/kg for mercury and 270 mg/kg for zinc, and including 1 mg/kg for PCBs.

1.4.3.2 Non-Hazardous Industrial Solid Waste and Metal Drum Fragments

During the remedial action, solid waste materials found on the surface of the landfill during clearing and grubbing activities were disposed of off-site. Materials included PVC piping and hose from the former propane storage area, empty plastic 5 gallon pails, wooden pallets, etc. Also included with this waste were several empty metal 55-gallon drums from the RI and metal 5 gallon pails that were initially decontaminated but then came into contact with landfill soils after being crushed and could not be sufficiently decontaminated to go off-site as scrap metal. Refer to Table 1.4.3-1 at the end of the SMP text for transportation and disposal information.

1.4.3.3 Scrap Metal

During the remedial action, the drums of soil cuttings from the RI were emptied onto the surface of the landfill and the material placed within the landfill. The drums of decontamination water from the RI were found to be empty during the remedial action construction. The empty drums from the soil cuttings and decontamination water were decontaminated and recycled off-site as scrap metal, except as described in Section 1.4.3.2. Other miscellaneous metal including fence posts, empty above ground storage

tanks, tire rims, etc. were also decontaminated and recycled off-site as scrap metal. Refer to Table 1.4.3-1 at the end of the SMP text for transportation and disposal information.

1.4.3.4 Abandoned Containers of Waste

Several abandoned drums and miscellaneous product containers were identified across the landfill prior to the remedial action. During the remedial action construction, additional drums and miscellaneous containers of waste were encountered during clearing and grubbing of the site, and during landfill waste mass excavation and re-grading activities. In general the drums and containers were unmarked.

The drums of waste were sampled and characterized based on the laboratory analyses results, and properly disposed of off-site. The drums of waste disposed of off-site included: one abandoned drum characterized as a hazardous waste with the EPA waste code D029; two abandoned drums characterized as a hazardous waste with the EPA waste code F003; two lab packs characterized as hazardous waste (consisting of two 55-gallon drums and one 5-gallon pail) both with the EPA waste code D001; one lab pack characterized as non-hazardous waste (consisting of one 55-gallon drum); and four 55-gallon drums that were characterized as non-hazardous waste. Refer to Table 1.4.3-1 at the end of the SMP text for transportation and disposal information.

1.4.3.5 Hazardous PCB Contaminated Soil

As discussed in Sections 1.3.2.1 and 1.3.3.3, PCB contaminated soil at 50 mg/kg or greater was present on the west slope of the landfill in the area of RI surface soil sample SS-W4. Beginning on June 26, 2012 and finishing on June 27, 2012 the 50 mg/kg or greater PCB contaminated soil was excavated to various depths based on the PDI soil sampling results and temporarily staged on two layers of polyethylene sheeting and covered with two layers of polyethylene sheeting pending transportation and disposal off-site. Following the completion of the excavation on June 26, 2012 and June 27, 2012 a total of twenty-seven confirmatory post-excavation soil samples were collected and analyzed for PCBs to document the soil remaining in place. Soil samples collected of the excavation floor were identified as Soil-PCB-FL-1 to Soil-PCB-FL-9. Soil samples collected from the excavation sidewalls were identified as Soil-PCB-SW-1 to Soil-PCB-SW-18.

The PCB detections in the soil samples ranged from <0.056 mg/kg to 45 mg/kg, except at sample location Soil-PCB-SW-4, Soil-PCB-SW-6 and Soil-PCB-SW-15 where the total PCB detections were 145 mg/kg, 81 mg/kg and 217 mg/kg, respectively. Based on these initial post-excavation sampling results, additional PCB contaminated soil at 50 mg/kg or greater was excavated on July 9, 2012 and placed in the existing stockpile of PCB contaminated soil. Two additional post-excavation confirmatory soil samples were collected on July 9, 2012 identified as Soil-PCB-SW-19 and Soil-PCB-SW-20. The laboratory analysis results showed that PCB detections in these two soil samples ranged from 18.3 mg/kg to 34 mg/kg, which were below the PCB criteria of less than 50 mg/kg.

Since the PCB concentrations of the soil remaining in place on the excavation floor and side walls was less than 50 mg/kg, this soil remained on site below the low permeability cover system/cap.

On July 2, 9, 10, 17 and 18, 2012 the PCB contaminated soil at 50 mg/kg or greater was loaded into polyethylene lined dump trucks and disposed of off-site (744.24 tons) as a hazardous waste (NYS waste code B007). Refer to Table 1.4.3-1 at the end of the SMP text for transportation and disposal information.

The soil sampling results are summarized in Table 1.4.3-2 at the end of the SMP text. The soil sampling locations are shown on the PCB Soil Post-Excavation Sampling Locations Map presented as Figure 13 in this SMP.

1.4.3.6 Non-Hazardous PCB Contaminated Soil

During excavation for the anchor trench, perimeter swale and perimeter underdrain on the east side of the landfill, material was excavated that could not be incorporated beneath the landfill low permeability cover system/cap because the cap had already been completed. The material was stockpiled in two separate locations, one located in the southeast corner of the site off the landfill cap, and the other located in the far southwest area of the site in the vicinity of the former drum removal area. A representative composite sample of the stockpiles was collected on October 3, 2013 and analyzed for NYSDEC DER-10 Appendix 5 list of SVOCs, pesticides, herbicides, priority pollutant metals, hexavalent chromium and PCBs, and grab samples from each individual stockpile were collected on October 8, 2013 and analyzed for NYSDEC DER-

10 Appendix 5 list of VOCs to determine if the material could be utilized on site or if it needed to be properly disposed of off-site.

The laboratory analyses results showed that no VOCs, SVOCs or metals were detected in the soil samples above the NYSDEC DER-10 Appendix 5 and 6NYCRR Part 375-6.8(a) unrestricted use SCO values. One pesticide (dieldrin) was detected in the October 3, 2013 composite soil sample at 0.0064 mg/kg, which is slightly above the NYSDEC unrestricted use SCO of 0.005 mg/kg, but below the residential SCO of 0.039 mg/kg and protection of groundwater SCO of 0.1 mg/kg.

The laboratory analysis results also showed that PCBs were detected in the composite sample at 3 mg/kg. As a result of the initial sampling results, additional composite samples were collected from each of the two stockpiles separately on October 10, 2013 and analyzed for PCBs. The additional analysis showed that PCBs were detected in the soil from the stockpile in the southeast corner of the site at 1.3 mg/kg and in the soil from the stockpile in the far southwest corner of the site at 14 mg/kg.

The stockpile of soil with the PCB detection of 1.3 mg/kg, located in the southeast corner of the site off the landfill cap, was approved to remain on site by the NYSDEC in an email dated October 15, 2013. The stockpile was spread out in place and covered with 4 inches of topsoil and seeded. Four inches of topsoil was utilized instead of six inches since the area was off of the landfill cap.

On November 13 and 14, 2013 the PCB contaminated soil stockpile in the far southwest area of the site was loaded into polyethylene lined dump trucks and disposed of off-site (206.9 tons). Refer to Table 1.4.3-1 at the end of the SMP text for transportation and disposal information.

1.4.3.7 Landfill Waste Outside of Proposed Limit of Waste and the Planned Limit of Low Permeability Cover System/Cap

As discussed in Section 1.3.3.1, landfill waste extended onto HGCC property to the north. Between June 29, 2013 and July 18, 2013 the landfill waste that extended beyond the northern property line was excavated and placed back on the surface of the landfill. The excavation of landfill waste progressed horizontally and vertically until no additional waste was observed and no waste remained north of the property line. Post-

excavation soil sampling was conducted of the soil remaining in place prior to backfilling the excavation. Eleven confirmatory soil samples including seven excavation sidewall samples identified as HGCC-SW-1 to HGCC-SW-7 and four excavation floor samples identified as HGCC-FL-1 to HGCC-FL-4 were collected from the sidewalls and floor of the excavation on HGCC property over the course of four days on July 11, 12, 13 and 18, 2012 and analyzed for TCL VOCs and SVOCs, PCBs and TAL metals.

The laboratory analysis results showed that no VOCs or SVOCs were detected above laboratory method detection limits. The results for PCBs and metals were all below their unrestricted use SCOs, except that at HGCC-FD01 (the duplicate sample of HGCC-SW-2) manganese and nickel slightly exceeded their SCOs; at HGCC-FL-1 nickel slightly exceeded its SCO; and at HGCC-SW-7 (and its associated duplicate sample HGCC-FD-2) PCBs slightly exceeded its SCO of 0.1 mg/kg. The results were presented to the NYSDEC and in email responses dated July 25 and 31, 2012, the NYSDEC indicated that no additional excavation was needed pursuant to the provisions of NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation, Section 5.4(b)(2)(i). The soil sampling results are summarized in Table 1.4.3-3 at the end of the SMP text. The soil sampling locations are shown on the Higher Ground Country Club Post-Waste Excavation Sampling Locations Map presented as Figure 14 in this SMP.

As the landfill waste relocation and grading activities progressed around the landfill perimeter, waste was periodically encountered outside the proposed limit of waste and planned limit of the low permeability cover system/cap along the south side of the landfill and southeast area of the landfill. As the waste was encountered it was excavated and placed on the surface of the landfill. The waste excavation progressed horizontally and vertically until no additional waste was observed and no waste remained outside the planned limit of the landfill cap. Post-excavation soil sampling was conducted of the soil remaining in place prior to backfilling the excavation. Three confirmatory soil samples including one excavation sidewall sample identified as OLC-South-SW1 and two excavation floor samples identified as OLC-South-FL1 and OLC-South-FL2 were collected on August 8, 2012 and analyzed for TCL VOCs and SVOCs, PCBs and TAL metals.

The laboratory analysis results showed that no VOCs or SVOCs were detected above laboratory method detection limits. The laboratory analysis showed that no metals were detected above their unrestricted use SCOs. PCBs were not detected above the laboratory method detection limit in the soil samples except that at sample OLC-South-FL1 PCBs were detected slightly above their unrestricted use SCO. The results were presented to NYSDEC and in a response dated August 23, 2012 the NYSDEC indicated that pursuant to the provisions of NYSDEC DER-10 Section 5.4(b)(2)(i) no additional excavation was required at this location. The soil sampling results are summarized in Table 1.4.3-4 at the end of the SMP text. The soil sampling locations are shown on the South & West Post-Waste Excavation and Pre & Post Decon Water Frac Tank Soil Sampling Locations Map presented as Figure 15 in this SMP.

At the toe of the west side of the landfill where landfill waste was in close proximity to the wetland/West Pond, the landfill waste was excavated and relocated on the surface of the landfill to facilitate the construction of an access road and drainage swale at the toe of the west slope. The waste excavation progressed horizontally and vertically until no additional waste was observed and no waste remained outside of the planned limit of the landfill cap. Post-excavation soil sampling was conducted of the soil remaining in place prior to backfilling the excavation. Five confirmatory soil samples identified as OLC-West-FL1 to OLC-West-FL5 were collected of the excavation floor over two days on November 6 and 12, 2012 and analyzed for TCL VOCs and SVOCs, PCBs and TAL metals.

The laboratory analysis results showed that no VOCs, SVOCs or PCBs exceeded their unrestricted use SCOs. The laboratory analysis showed that in general metals results were below their unrestricted use SCOs, except that at OLC-West-FL1 nickel slightly exceeded its soil cleanup objective; at OLC-West-FL2 barium exceeded its soil cleanup objective; at OLC-West-FL4 copper and zinc exceeded their soil cleanup objectives; and at OLC-West-FL5 copper, lead, mercury and zinc exceeded their soil cleanup objectives, but in all instances the results were well below the SCOs for protection of groundwater. The results were presented to NYSDEC and in a response dated November 16, 2012 the NYSDEC indicated that pursuant to the provisions of NYSDEC DER-10 Section 5.4(b)(2)(i) no additional excavation was required at these

locations. The soil sampling results are summarized in Table 1.4.3-5 at the end of the SMP text. The soil sampling locations are shown on the South & West Post-Waste Excavation and Pre & Post Decon Water Frac Tank Soil Sampling Locations Map presented as Figure 15 in this SMP.

1.4.3.8 PCB and Metals Contaminated Sediment

As discussed in Sections 1.3.2.3, 1.3.3.2 and 1.3.4.2, PCB and metals contaminated sediment present within the wetland/West Pond was excavated and placed on the surface of the landfill below the low permeability cover system/cap. Sediment excavation was separated into two separate areas with excavation under wet conditions taking place in the southern portion of West Pond and excavation under near dry conditions taking place in the northern portion of West Pond.

Excavation under wet conditions began on September 11, 2012 and was completed on October 4, 2012 except for the area beneath the soil berm created as the southern separation between the wet and near dry removal excavation areas. The sediment beneath this berm was excavated under wet conditions on November 6, 2012. Post-excavation sediment samples were collected from the excavation floor after allowing sufficient time for any sediment suspended in the water during excavation so settle to the bottom of the excavation. Samples were collected at a frequency of one sample per approximately 900 square feet of excavation floor. Forty confirmatory post-excavation sediment samples identified as SED-W-FL-1 to SED-W-FL-40 were collected from the floor of the excavation over the course of the work on September 13, 19, 21, 22, 24, 25, 26 and 27, 2012, on October 2, 3, 4 and 5, 2012 and on November 6, 2012 and analyzed for TCL PCBs and copper, lead, mercury and zinc.

The laboratory analysis results showed that no metals or PCBs were detected above their remediation criteria, except at sample location SED-W-FL-1 where PCBs were detected at 1.3 mg/kg which is slightly above the remediation criteria of 1 mg/kg. The results were discussed with NYSDEC and the NYSDEC indicated that pursuant to the provisions of NYSDEC DER-10 Section 5.4(b)(2)(i) no additional excavation was required at this location. The sediment sampling results are summarized in Table 1.4.3-6

at the end of the SMP text. The sediment sampling locations are shown on the Sediment Post-Excavation Sampling Locations Map presented as Figure 16 in this SMP.

Excavation in near dry conditions began on October 17, 2012 and was completed on October 27, 2012. Post-excavation samples were collected of the sediment (soil in some areas) remaining in place prior to suspending dewatering activities within the excavation. Samples were collected at a frequency of one sample per approximately 2,500 square feet of excavation floor. Twenty-six confirmatory post-excavation sediment samples identified as SED-ND-FL1 to SED-ND-FL-3, SED-ND-FL4A and SED-ND-FL-4B, SED-ND-FL-5, SED-ND-FL-6A and SED-ND-FL-6B and SED-ND-FL-7 to SED ND-FL-24 were collected from the floor of the excavation over the course of the work on October 17, 22, 25, 26 and 27, 2012 and analyzed for TCL PCBs.

The laboratory analysis showed that no PCBs were detected above its remediation criteria except that at sample location SED-ND-FL-4A and SED-ND-FL-6A PCBs. These two samples were collected of loose sediment that had covered a portion of the bottom of the completed near dry removal excavation due to water flow from areas not yet remediated. Samples SED-ND-FL-4B and SED-ND-FL-6B were collected of the excavation floor beneath the loose sediment. The concentration of PCBs in samples SED-ND-FL-4B and SED-ND-FL-6B were below its remediation criteria. The loose sediment was excavated on October 27, 2012 and sample SED-ND-FL-24 was collected from the excavation floor after the loose sediment was excavated. The PCB concentration in sample SED-ND-FL-24 was below its remediation criteria. The sediment sampling results are summarized in Table 1.4.3-7 at the end of the SMP text. The sediment sampling locations are shown on the Sediment Post-Excavation Sampling Locations Map presented as Figure 16 in this SMP.

As sediment from the wet removal and near dry removal areas was excavated it was either stockpiled on shore to allow it to decant prior to loading it into off-road vehicles (end dumps), or if it was sufficiently dry it was loaded directly into off-road vehicles (end dumps) and placed on the surface of the landfill. Sediment was spread out as is on the surface of the landfill or mixed with sand and/or cement kiln dust (CKD) and

buried in trenches excavated within the landfill. Sediment was only placed on the top surface of the landfill, and not within at least twenty feet of the landfill side slopes.

On occasions during waste relocation and grading activities and during construction of the low permeability cover system/cap significant storm events caused material from the surface of the landfill to erode and wash out into West Pond. Because the low permeability cover system/cap was not complete and the potential existed that material that had washed into West Pond from the surface of the landfill was contaminated, the material was excavated and post-excavation sediment samples were collected of the material remaining in place. Excavations of material washed into West Pond took place on May 10, July 3 and July 16, 2013. All excavation of this material was completed under wet removal conditions. Post-excavation confirmatory sediment samples for the excavation activities took place on May 10, July 9 and July 17, 2013, respectively. The samples collected over these events were identified as SED-W-FL-41 to SED-W-FL-50 and SED-ND-FL-25 to SED-ND-FL-33, and the samples were analyzed for TCL PCBs and copper, lead, mercury and zinc since the excavation took place under wet removal conditions.

The laboratory analysis results showed that no PCBs or metals were detected above their remediation criteria in any of the sediment samples except at sample SED-ND-FL-33 where PCBs were detected slightly above its remediation criteria. Additional excavation took place in the area of sample SED-ND-FL-33 on July 24, 2013, and post-excavation samples SED-ND-FL-34 and SED-ND-FL-35 were collected from this area on July 25, 2013. The laboratory analysis showed that no PCBs or metals were detected above their remediation criteria in either of the sediment samples. The sediment sampling results are summarized in Table 1.4.3-8 at the end of the SMP text. The sediment sampling locations are shown on the Sediment Washouts Post-Excavation Sampling Locations Map presented as Figure 17 in this SMP.

On occasions after construction of the geosynthetics portion of the low permeability cover system/cap was completed significant storm events caused clean imported backfill materials from the surface of the landfill and drainage swales to erode and wash into West Pond. Because the geosynthetics portion of the low permeability

cover system/cap was complete the material was excavated from the pond, but no post-excavation samples were required by NYSDEC to be collected. Excavations of material took place on October 21 and 31, 2013. All excavations of this material were completed under wet conditions.

1.4.3.9 Pre and Post Decon Water Frac Tank Soil Samples

Prior to relocating the decontamination water frac tank from the drum storage area on the landfill surface to its temporary location off the landfill, two grab soil samples were collected on November 9, 2012 from the area where the frac tank was to be placed, one from the northern portion and one from the southern portion, since it was located off of the footprint of the landfill. After the frac tank was no longer needed and removed, two grab soil samples were collected on August 12, 2013 below where the frac tank had been located, one from the northern portion and one from the southern portion, approximately 1.2 feet northeast of the pre sampling locations. The samples identified as Pre OLDWFT-1, Pre OLDWFT-2, Post OLDWFT-1 and Post OLDWFT-2 were analyzed for TCL VOCs, SVOCs and PCBs, and TAL metals.

The laboratory analyses results showed that no metals were detected in the pre- or post- soil samples above the unrestricted use SCOs. Acetone was detected in the pre- samples at concentrations ranging from 0.076 mg/kg to 0.14 mg/kg, slightly above the unrestricted use SCO of 0.05 mg/kg. Bis(2-ethylhexyl)phthalate was detected in one of the post- samples at a concentration of 0.58 mg/kg, which is below the residential SCO of 50 mg/kg. There is no unrestricted use SCO for bis(2-ethylhexyl)phthalate. No other TCL VOCs or SVOCs were detected in the soil samples. PCBs were detected in both the pre- and post- samples above their unrestricted use SCO. The total PCB detections in the pre- soil samples ranged from 0.131 mg/kg to 0.34 mg/kg which is less than the residential use SCO of 1 mg/kg. Detections in the post- soil samples ranged from 0.154 mg/kg to 1.09 mg/kg, the latter of which is just slightly above the residential use SCO. The results of the pre- and post- soil sampling were presented to the NYSDEC in an email dated August 21, 2013, and in their response on August 21, 2013 the NYSDEC concurred that no further action was warranted regarding the detections.

The soil sampling results are summarized in Table 1.4.3-9 at the end of the SMP text. The soil sampling locations are shown on the South & West Post-Waste Excavation and Pre & Post Decon Water Frac Tank Soil Sampling Locations Map presented as Figure 15 in this SMP.

1.4.4 Site-Related Treatment Systems

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

1.4.5 Remaining Contamination

During the Remedial Action, non-hazardous industrial solid waste and metal drum fragments, scrap metal, abandoned containers of waste, hazardous PCB contaminated soil and non-hazardous PCB contaminated soil were removed from the Site as described above. The remainder of contaminants (non-hazardous PCB contaminated soil, PCB and metals contaminated sediment from wetland/West Pond and landfill waste mass) were left in place below the landfill low permeability cover system/cap.

The potential site related contaminants identified during the RI and PDI include VOCs, SVOCs, PCBs and metals in various media as further described in the following subsections.

1.4.5.1 Subsurface Soil and Relocated Sediment Below the Low Permeability Cover System/Cap

PCBs were detected in post-excavation soil samples collected on the west side of the landfill ranging from <0.056 mg/kg to 45 mg/kg (refer to Section 1.4.3.5), below the SCO of 50 mg/kg. This area is in the central portion of the west side of the landfill beneath the low permeability cover system/cap. Table 1.4.3-2 summarizes the results of the soil left in place below the landfill low permeability cover system/cap.

PCBs and metals (copper, lead, mercury, zinc) contaminated sediment excavated from West Pond was placed on the top surface of the landfill (not within 20 feet of the side slopes of the landfill) beneath the low permeability cover system/cap. Tables 1.3.4-1 and 1.3.4-2 summarize the results of the sediment samples collected of the sediment that was placed below the landfill cap. Tables 1.4.3-6, 1.4.3-7 and 1.4.3-8 summarize the

results of the sediment samples remaining in place in West Pond after completion of the Remedial Action.

1.4.5.2 Soil in Former Drum Removal Area and Far Southwest Area of Site

During the RI nine subsurface post-excavation soil samples were collected in the former drum removal area, and were analyzed for TCL VOCs, SVOCs, PCBs, and pesticides, and TAL metals. No VOCS, PCBs or pesticides were detected above SCOs in any of the soil samples. Phenol was detected in one sample above its SCO. One or more metals were detected at levels above their SCOs in the subsurface soil samples including arsenic, calcium, copper, iron, manganese and nickel. According to NYSDEC, the Drum Removal Report prepared by TAMS Consultants (1999) for the USEPA referred to a demarcation layer being installed over the excavation area. Figure 4, Summary of Soil Analytical Results (URS Drawing No. 14141002), at the end of the SMP summarizes the post-excavation soil sampling results in the Former Drum Removal Area collected during the RI.

During the Remedial Action, native soil excavated from the south anchor trench, west half, was stockpiled in the far southwest area of the site near the former drum removal area instead of incorporated into the landfill due to reported intermediate grading layer space concerns, and the presence of some large cobbles and small boulders in the material. The native material was sampled and analyzed for the NYSDEC DER-10 Appendix 5 list of VOCs, SVOCs, pesticides, herbicides, priority pollutant metals, hexavalent chromium and PCBs to determine if the material could be utilized on site or if it needed to be properly disposed of off-site.

The results of the sample collected on August 15, 2013 showed that no VOCs, SVOCs or metals were detected in the soil sample above the NYSDEC DER-10 Appendix 5 unrestricted use SCOs. There were a few VOC detections and some metals detected, but below the NYSDEC unrestricted use SCOs. One pesticide (4,4'-DDT) was detected in the soil sample at 0.0061 mg/kg, which is slightly above the NYSDEC unrestricted use SCO of 0.0033 mg/kg, but below the residential SCO of 1.7 mg/kg and protection of groundwater SCO of 136 mg/kg. Total PCBs were detected in the soil sample at 0.89 mg/kg, which is slightly above the unrestricted use SCO of 0.10 mg/kg.

The total PCBs detection is below the NYSDEC residential and protection of ecological resources SCO values of 1 mg/kg, respectively, and below the protection of groundwater SCO value of 3.2 mg/kg.

Although the concentration of 4,4'-DDT and total PCBs detected in the soil sample slightly exceeded their unrestricted use SCOs, the detections were below the NYSDEC SCO values for the protection of public health and groundwater.

The laboratory analysis results of the sample of stockpiled native soil excavated from the south anchor trench, west half, were presented to the NYSDEC in an email dated August 26, 2013. The NYSDEC in their response on August 26, 2013 concurred that the stockpiled native material could be spread and graded in the open area encompassing a portion of the former drum removal area and to the south of the latter area in the far southwest area of the site. The native material encompassing approximately 100 cubic yards was spread out and graded within the latter area such that the area still drained and runoff from the hillside on the east side was not impeded. In general, the large cobbles and small boulders in the stockpile of native material were buried in the southern most portion of the open area outside of the former drum removal area, and some were placed on the completed vegetative cover layer around the perimeter of the parking area on the surface of the landfill.

During the remediation of the contaminated sediment in West Pond during the Remedial Action, a temporary access path was utilized north of the lower (northern) beaver dam, which was outside of the limit of remediation. HDPE mats underlain by imported stone were placed in the access path to minimize impact to the wetland and they (HDPE mats and imported stone) were removed at completion of the work. During removal of the imported stone some native sediment/soil that was mixed in with the imported stone was removed. The native sediment/soil was sampled and analyzed for the NYSDEC DER-10 Appendix 5 list of VOCs, SVOCs, pesticides, herbicides, priority pollutant metals, hexavalent chromium and PCBs to determine if the native material could be reused on-site.

The results of the sample collected on October 23, 2013 showed that no VOCs, SVOCs or pesticides were detected in the sediment/soil sample above the NYSDEC

DER-10 Appendix 5 unrestricted use SCOs. Total PCBs were detected in the sample at 0.12 mg/kg, which is only slightly above the unrestricted use SCO of 0.10 mg/kg. The total PCBs detection is below the NYSDEC residential and protection of ecological resources SCO values of 1 mg/kg, respectively, and below the protection of groundwater SCO value of 3.2 mg/kg. Some metals were detected in the sample and the concentrations of three metals exceeded their NYSDEC unrestricted use SCO values. Total chromium was detected at 42 mg/kg, which is slightly above its unrestricted use SCO of 30 mg/kg, residential use SCO of 36 mg/kg and protection of ecological resources SCO of 41 mg/kg, but below its restricted residential SCO of 180 mg/kg and no protection of groundwater SCO exists for total chromium. Lead was detected at 130 mg/kg, which is above its unrestricted use and protection of ecological resources SCO values of 63 mg/kg, but below its residential SCO of 400 mg/kg and protection of groundwater SCO of 450 mg/kg. Zinc was detected at 190 mg/kg, which is above its unrestricted use and protection of ecological resources SCO values of 109 mg/kg, but below its residential SCO of 2,200 mg/kg and protection of groundwater SCO of 2,480 mg/kg. It is noted that no selenium was detected, but the laboratory reporting limit of 14 mg/kg was elevated due to a high concentration of an interfering analyte and is above the unrestricted use SCO of 3.9 mg/kg, but below the residential use SCO of 36 mg/kg.

Although the concentration of total PCBs and three metals in the sediment/soil sample either slightly (PCBs and total chromium) or exceeded (lead and zinc) their unrestricted use SCO values, the detections are below the NYSDEC SCO values for the protection of public health and groundwater.

The laboratory analysis results of the sample of stockpiled native sediment/soil excavated along with imported stone from the wetland north of the lower (northern) beaver dam that was present below the former HDPE mats were presented to the NYSDEC in an email dated October 30, 2013. The NYSDEC in their response on October 30, 2013 concurred that the stockpiled imported stone and native sediment/soil could be spread and graded in the open area encompassing a portion of the former drum removal area and to the south of the latter area in the far southwest area of the site. The material estimated to encompass less than 100 cubic yards was spread out and graded

within the latter area such that the area still drained and runoff from the hillside on the east side was not impeded.

The former drum removal area and far southwest area of the site were further covered with imported sand/silt that washed into and was removed from West Pond, and 4 inches of topsoil and a vegetative cover, preventing direct contact with the area.

1.4.5.3 Groundwater

During the RI, select VOCs were detected at concentrations that exceeded groundwater standards in five of the overburden monitoring wells, the highest concentrations being in the southwest corner of the landfill and decreasing in the downgradient groundwater flow direction. Most of the VOC exceedances were within one order of magnitude of the groundwater standards, except samples from wells MW-6 (SW) and MW-3 (NE). One SVOC was detected at a concentration that exceeded the groundwater standard in four of the monitoring wells. Phenol was detected in one well (MW-2) at a concentration exceeding its groundwater standard. One pesticide was detected above its groundwater standard in well MW-4. No PCBs were detected in any of the groundwater samples. All the monitoring wells had metals detected above groundwater standards. In general it appeared that monitoring wells that were also affected by organics had comparatively higher concentrations of some metals including arsenic, iron, magnesium, and sodium. Tables 5-6 through 5-10 from the RI Report in the Tables section of this SMP, and Figure 5, Summary of Groundwater Analytical Results (URS Drawing No. 14141003), at the end of the SMP text summarize the groundwater sampling results from the RI.

1.4.5.4 Explosive Landfill Gasses and Soil Gas

During the RI several VOCs were detected in the soil gas samples. Benzene, toluene, ethylbenzene, xylenes, chlorobenzene, and vinyl chloride were the most commonly detected compounds. The highest concentrations of VOCs were noted along the south end of the landfill, along the southern fence line of the former propane storage area, and at the north end of the former propane storage area. Figure 8, Soil Gas Data (URS Drawing No. 14141012), at the end of the SMP text summarizes the RI soil gas sampling results.

During the Remedial Action (RA) explosive gas investigation several areas of elevated explosive gasses were detected below grade across the surface of the landfill. Figure11, Explosive Gas Temporary Subsurface Monitoring Points Sketch Map, at the end of the SMP text summarizes the RA explosive gas sampling results.

A geocomposite gas venting layer, underground landfill gas collection points, underground gas collection lateral pipes and gas venting structures have been installed to provide an outlet for the landfill gasses to be emitted to the air for dispersion instead of potentially traveling horizontally outside the limits of the landfill low permeability cover system/cap.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

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

2.1.2 Purpose

This plan provides:

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

2.2 ENGINEERING CONTROLS

2.2.1 Engineering Control Systems

2.2.1.1 Low Permeability Cover System/Cap

Exposure to remaining contamination in the landfill waste mass at the site is prevented by a low permeability cover system/cap placed over the landfill waste mass at the site. This cover system is comprised of a gas venting layer (biplanar geonet with thermally bonded 6-ounce non-woven geotextile filter fabric on each side), low permeability barrier layer (40-mil textured linear low density polyethylene geomembrane layer), geocomposite drainage layer (tri-planar geonet with thermally bonded 6-ounce non-woven geotextile filter fabric on each side), barrier protection layer (18-inch thick silty sand layer), and topsoil and vegetative cover layer (6-inch thick topsoil layer with grass cover). The low permeability cover system/cap is more thoroughly described below:

Gas Venting Layer

The top of the gas venting layer (GVL) consists of a double sided geocomposite comprised of a bi-planar geonet structure with thermally bonded 6-ounce non-woven filter fabric (geotextile) on both sides. The geocomposite product that was installed is 6-200-6 by Agru America, Inc. To prevent landfill waste from damaging the GVL geocomposite, the intermediate grade/top of refuse was covered with approximately 3 to 6 inches of sand, and the GVL geocomposite is installed on this sand surface.

The gas venting layer also includes underground landfill gas collection points, underground gas collection lateral pipes, and gas venting structures to provide an outlet for the landfill gasses to be emitted to the air for dispersion instead of potentially traveling horizontally outside the limits of the landfill. The underground gas collection points and gas venting structures consist of perforated vertical pipe extending from the GVL geocomposite 5 feet into the landfill waste mass. At the gas collection point locations the vertical pipe is connected to a solid riser pipe that extends to approximately 6 inches below the final cover grade elevation and is fitted with a bolt down cap that extends to approximately 2 inches below the final cover grade elevation. At the gas

venting structure locations the vertical pipe is connected to a solid riser pipe to at least 3 feet above the final cover grade elevation and fitted with a gooseneck cap and insect screen.

The underground gas collection points are 6-inch diameter and the gas venting structures are 8-inch diameter, and both constructed of Schedule 40 PVC. The perforated portion of the underground gas collection points and gas venting structures within the refuse are backfilled with a porous stone (crushed stone). Seven underground gas collection points with risers that extend through the landfill cap to just below grade and two gas venting structures with risers that extend through the landfill cap above grade are present. The underground gas collection points are divided into two groups and each group connects to separate lateral pipes that connect to one of the gas venting structures that extends above grade. The lateral pipes are constructed of 6-inch diameter perforated and flexible high density polyethylene (HDPE) and surrounded by a filter sock. The lateral pipes are located just beneath the GVL geocomposite at the top of a 2 foot deep and 2 foot wide trench within the refuse that is lined and covered with non-woven filter fabric and filled with crushed stone. The location of the underground gas collection points, lateral pipes and gas venting structures is shown on the Final Cover Topographic Survey and Record Drawing presented as Figure 2 in the SMP.

Low Permeability Barrier Layer

The low permeability barrier layer is present above the gas venting layer and consists of a microspike textured linear low density polyethylene (LLDPE) geomembrane liner manufactured by Agru America, Inc. that is 40 mil thick per 6 NYCRR Part 360-2.13(r) requirements, and is chemically and physically resistant to materials likely to contact it at the landfill (i.e., waste). A textured geomembrane was used in lieu of a smooth geomembrane to increase the interface friction angle and resulting slope stability between the geomembrane liner and cover materials underlying/overlying it. A pipe boot constructed of 40 mil textured LLDPE is present where the seven underground gas collection points and two gas venting structures penetrate through the 40 mil textured LLDPE geomembrane liner. The boot flange is extrusion welded to the top surface of the

geomembrane liner. The top of the boot is secured in place around the riser pipe with a gasket and stainless steel clamp.

Geocomposite Drainage Layer

The drainage layer is present above the geomembrane liner and consists of a double sided geocomposite comprised of a tri-planar geonet structure with thermally bonded 6-ounce non-woven filter fabric (geotextile) on both sides. The geocomposite product that was installed is Tenflow 770-2 supplied by Syntec, LLC. The drainage layer discharges into a perimeter underdrain below the perimeter drainage swale. The benefit of the drainage layer is to allow stormwater/precipitation that infiltrates through the topsoil layer and barrier protection layer to be drained from the surface of the geomembrane liner to eliminate the build up of water in the latter layers, to promote the flow of water into the perimeter drainage swale and underdrain below the drainage swale, to minimize the potential for erosion, and to provide greater slope stability.

Barrier Protection Layer

The barrier protection layer (BPL) is present above the geocomposite drainage layer. The BPL is 18 inches thick and consists of a silty sand of a gradation to prevent piping into the underlying geocomposite drainage layer.

Topsoil and Vegetative Cover Layer

The topsoil layer is 6 inches thick and hydroseeded and mulched to establish a grass vegetative cover.

Procedures for the inspection and monitoring of this low permeability cover system/cap are provided in the Site Monitoring Plan included in Section 34 of this SMP. The Site Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the site, occurs. Procedures for operating and maintaining the low permeability cover system/cap are documented in the Operation and Maintenance Plan (Section 4.0 of this SMP).

The Excavation Work Plan that appears in Section 2.3.2 and in Appendix B outlines the procedures required to be implemented in the event the low permeability

cover system/cap is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed.

2.2.1.2 Stormwater Management System

The stormwater management system for the site consists of drainage swales and underdrain below the drainage swales around the perimeter of the landfill on the east, north and west sides of the landfill; PVC drain basins which tie into the underdrain pipe below the perimeter drainage swale and roadway drain crossings (culvert pipes) on the west side of landfill; culvert pipes for conveyance of stormwater runoff at select locations; drainage swale along the east side of the access road south of the landfill, culvert pipe and a level spreader for the dissipation of stormwater runoff in this area; and culvert pipe and drainage swale along the north and east sides of the steep southwest access road to control and convey stormwater from the southwest portion of the site. The underdrain below the landfill perimeter drainage swales is necessary to provide an outlet for the water that is intercepted in the geocomposite drainage layer. On the east side of the landfill, the underdrain extends further south than the east perimeter drainage swale to accommodate the drainage geocomposite in this area.

The purpose of the perimeter drainage swales and underdrain below the drainage swale is to promote drainage of the drainage and barrier protection layers and topsoil layer and minimize ponding, to provide an outlet for the landfill surface water runoff and divert it to the wetland/West Pond on the west side of the landfill, to minimize the landfill surface water runoff and other stormwater run-on from infiltrating the area around the perimeter of the landfill, to mitigate potential stormwater quality impacts, and to minimize soil erosion and sedimentation resulting from stormwater runoff.

The drainage swales and associated underdrain along the east and north sides of the landfill discharges into West Pond at the northwest corner of the landfill in order to maintain the discharge location on the Town's property and maintain the existing drainage pattern. A 24-inch culvert pipe is installed below the entrance road to the site to convey the stormwater runoff from the east perimeter swale to the north perimeter swale. The east and north perimeter drainage swales are 3 feet wide on the bottom by 2 feet deep with 3H:1V side slopes. The perimeter underdrain below the drainage swales is

constructed of No. 2 crushed stone surrounded by a non-woven geotextile with a 6-inch (east side) and 8-inch (north and west sides) diameter perforated HDPE drain pipe at the bottom of the underdrain. At the south end of the HDPE drain pipe on the east side of the landfill and where the HDPE drain pipe transitions from 6-inch to 8-inch diameter on the northeast side of the landfill, a 15-inch diameter PVC drain basin with a solid cover is installed to provide future access to the drain pipe, should it be necessary (DB-31 and DB-30, respectively). The 24-inch diameter entrance road culvert pipe is constructed of HDPE with aluminum end sections, and turf reinforcement mat on the inlet of the culvert to provide long term erosion control.

The steeper portions of the east and northern drainage swales including at the outlet of the 24-inch culvert pipe, the northeast portion and the western portion of the north drainage swale have articulating concrete block installed at the surface that is underlain by a high strength woven geotextile to provide long term erosion control. Along the bottom of the swale the void spaces in the articulating concrete block are filled with flowable fill, and on the sides of the swale the void spaces are filled with topsoil and seeded to establish vegetative cover. A stone-lined channel consisting of a mixture of NYSDOT light and medium stone filling underlain by 6 inches of No. 2 crushed stone and a non-woven geotextile is installed on the lower portion of the west end of the north drainage swale at the outlet to West Pond.

The perimeter drainage swale and underdrain below the drainage swale along the west side of the landfill and continuing south along the east side of the west perimeter access road discharges stormwater runoff to West Pond through PVC drain basins and drain crossings (culvert pipes) below the access road. The west perimeter drainage swale is 2 feet wide at the bottom and 6 inches deep with 3H:1V side slope on the landfill side and 2H:1V side slope on the access road side, and constructed of NYSDOT fine stone filling. The stone filling allows surface water runoff from the west side of the landfill to drain through the stone into the crushed stone underdrain and perforated drain pipe below the swale, and be conveyed to the roadway drain crossings below the west perimeter access road which discharge into West Pond. The PVC drain basins are 15-inch diameter with cast-iron domed grates (identified as DB-1 to DB-29), and were installed to allow the surface water runoff in the west perimeter drainage swale to flow into the roadway

drain crossings more quickly. The roadway drain crossings are constructed of 8-inch solid HDPE pipe and generally spaced at approximately 35 feet on center, except in one area near the middle of the west side of the landfill where the spacing is reduced to approximately 17 feet on center and at the north end of the west side where the spacing is greater than 35 feet between drain basins DB-28 and DB-29.

A 24-inch diameter PVC drain basin (DB-1) and 12-inch diameter culvert pipe are present at the south end of the west perimeter access road beyond the limit of the landfill to capture and convey surface water runoff upslope of this portion of the access road below the road to the wetland/West Pond. The 12-inch diameter culvert pipe at the inlet to the PVC drain basin is constructed of HDPE with an aluminum end section on the inlet. Fine stone filling is installed at the inlet to the culvert pipe to provide long term erosion control. The 12-inch diameter culvert pipe below the southern portion of the west perimeter access road is constructed of HDPE with an aluminum end section on the outlet. An apron of NYSDOT light stone filling underlain by a non-woven geotextile is installed at the outlet of the 12-inch culvert to control erosion.

At the outlet of the roadway drain crossings (culvert pipes) on the east side of West Pond and along the entire east shoreline of West Pond there is a mixture of NYSDOT fine and light stone filling underlain with non-woven geotextile from the bottom eastern edge of the pond to the estimated high water level in the pond to provide for a stable slope and control erosion since the west side of the west perimeter access road/east side of the pond has a 2H:1V side slope. A geogrid (Tensar BX Type 1) is also present under the western half of the west access road and the upper portion of the 2H:1V side slope adjacent to West Pond for side slope stability. The area from the top of the stone filling to the western edge of the west perimeter access road is covered with 4 inches of topsoil and vegetative cover including plantings and shrubs.

A drainage swale on the east side of the access road south of the landfill, a 12-inch culvert pipe under the access road and a level spreader on the west side of the access road south of the landfill are installed to minimize stormwater runoff from infiltrating the area around the south perimeter of the landfill and to minimize erosion of the steep southwest slope south of the landfill. At the south end of the swale an apron of NYSDOT

fine stone filling underlain by a non-woven geotextile diverts runoff to the 12-inch diameter culvert that passes beneath the access road and discharges to an apron of fine stone filling underlain by a non-woven geotextile that conveys water to a level spreader to dissipate the runoff. The 12-inch diameter culvert pipe is constructed of solid HDPE. Turf reinforcement mat is installed over the level spreader to provide long term erosion control. A roadside drainage swale east of and adjacent to the southern portion of the access road over the top of the landfill is present to capture stormwater runoff in the top southern portion of the landfill and associated access road, and convey it to the drainage swale on the east side of the south access road.

An 8-inch drain pipe is installed below the access road near the top of the steep section of the southwest access road in the far southwest area of the site to convey stormwater runoff from this area of the site into the drainage swale on the north and east side of the southwest access road. An apron of NYSDOT fine stone filling underlain by a non-woven geotextile is present at the entrance to the drain pipe. The drain pipe is constructed of perforated HDPE. The drainage swale on the north and east side of the southwest access road conveys the stormwater to the 24-inch PVC drain basin (DB-1) and 12-inch culvert pipe under west access road to West Pond. The drainage swale is constructed of NYSDOT fine stone filling underlain with non-woven geotextile for long term erosion control.

Procedures for operating and maintaining the stormwater management system are documented in the Operation and Maintenance Plan (Section 4.0 of this SMP).

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

2.2.2.1 Low Permeability Cover System/Cap

The low permeability cover system/cap is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals until permission to discontinue is granted in writing by the NYSDEC.

2.2.2.2 Monitored Natural Attenuation

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

2.2.2.3 Explosive Gas Monitoring

Explosive gas monitoring activities will continue, as determined by the NYSDEC, until concentrations are found to be at an acceptable level over an extended period. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC. If explosive gas levels become elevated to a level that is not acceptable to the NYSDEC, additional control measures will be evaluated.

2.3 INSTITUTIONAL CONTROLS

2.3.1 Description of Institutional Controls

A series of Institutional Controls is required by the ROD to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the site. Adherence to these Institutional Controls on the site is required by the Environmental Easement (Appendix C) and will be implemented under this Site Management Plan. These Institutional Controls are:

- Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.

- Groundwater, explosive gas, surface water, sediment and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection and reporting of any mechanical or physical components of the remedy shall be performed as defined in this SMP;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement;
- The Controlled Property may not be used for a higher level of use, such as unrestricted use, residential use, or restricted residential use, or developed and/or used in a manner that could result in contact with the landfill waste mass or explosive landfill gasses, damage the integrity of the low permeability cover system/cap over the surface of the closed landfill, or damage and/or interfere with the operation of the stormwater management system for the closed and capped landfill;
- The Controlled Property may only be used for commercial, industrial or recreational use provided that the long-term Engineering and Institutional Controls included in this SMP are employed; and
- The Controlled Property may be used for its current use as a capped and closed landfill, and passive recreation use such as walking and hiking, which limits contact with the landfill waste mass and explosive gasses.

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

The site has a series of Institutional Controls in the form of site restrictions. Adherence to these Institutional Controls is required by the Environmental Easement. Site restrictions that apply to the Controlled Property as identified in the ROD are:

- The use of groundwater as a source of potable or process water is prohibited without necessary water quality treatment as determined by the NYSDOH and Dutchess County DOH.
- The property owner, or authorized representative, will provide a periodic certification prepared and submitted by a professional engineer or such other expert acceptable to the NYSDEC, until the NYSDEC notifies the property owner in writing that this certification is no longer needed. This submittal will contain certification that the engineering controls and institutional controls are still in place, will allow the NYSDEC access to the site, and will certify that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the Site Management Plan.

The site has a deed restriction as a result of the EPA TSCA Self-Implementing Cleanup. Adherence to the deed restriction is required by the Environmental Easement. The deed restriction requirements that apply to the Controlled Property as a result of the EPA TSCA Self-Implementing Cleanup in accordance with 40 CFR Part 761.61(a)(8)(i)(A) are as follows:

- Record a notation on the deed to the property, or on some other instrument which is normally examined during a title search, that will in perpetuity notify any potential purchaser of the property: 1) that the land has been used for PCB remediation waste disposal and is restricted to use as a low occupancy area, 2) of the existence of the low permeability cover system/cap and the requirement to maintain the cap, and 3) of the applicable soil cleanup level under the cap, which for this site is less than 50 mg/kg PCBs.
- The Controlled Property is restricted to use as a low occupancy area. A low occupancy area is defined in 40 CFR Part 761.3 as any area where PCB remediation waste has been disposed of on-site and where occupancy for any

individual not wearing dermal and respiratory protection for a calendar year is: less than 840 hours (an average of 16.8 hours per week) for non-porous surfaces and less than 335 hours (an average of 6.7 hours per week) for bulk PCB remediation waste. The PCB contaminated soil at less than 50 mg/kg at the site is below the low permeability cover system/cap and not accessible to visitors to the landfill for passive recreation use such as walking and hiking.

2.3.2 Excavation Work Plan

The Site has been remediated and shall be maintained as a closed and capped landfill with associated stormwater management system. Any future intrusive work that will penetrate the low permeability cover system/cap and/or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system, will be performed in compliance with the Excavation Work Plan (EWP) that is attached as Appendix B to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the site. A sample HASP with CAMP is attached as Appendix D to this SMP that is in current compliance with NYSDEC DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. Based on future changes to State and Federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section B-1 of the EWP. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Inspections, Reporting and Certifications Plan (See Section 5.0).

The site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The site owner will ensure that site development

activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

2.3.3 Soil Vapor Intrusion and Explosive Gas Evaluation

Prior to the construction of any enclosed structures located over areas that contain remaining contamination (landfill waste mass and PCB contaminated soil) and the potential for soil vapor intrusion (SVI) and/or explosive gasses, a SVI and explosive gas evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors/explosive gasses in the proposed structure. Alternatively, a SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

Prior to conducting a SVI/explosive gas investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH "Guidance for Evaluating Vapor Intrusion in the State of New York" and 6 NYCRR Part 360-2.17(f). Measures to be employed to mitigate potential vapor intrusion/explosive gasses will be evaluated, selected, designed, installed, and maintained based on the SVI/explosive gas evaluation, the NYSDOH guidance, and construction details of the proposed structure.

Preliminary (unvalidated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation. SVI/explosive gas sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report (i.e., Post-Closure Monitoring Report).

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of all remedial components installed at the site will be conducted at the frequency specified in the SMP Site Monitoring Plan schedule (Section 3.1.2). A comprehensive site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether Engineering Controls continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media during monitoring events;
- If site records are complete and up to date; and
- Changes, or needed changes, to the remedial or monitoring system;

Inspections will be conducted in accordance with the procedures set forth in the Site Monitoring Plan of this SMP (Section 3.0). The reporting requirements are outlined in the Periodic Review Reporting section of this SMP (Section 5.0).

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

2.4.2 Notifications

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

- At least 60-day advance notice of any proposed changes in site use that are required under the terms of the State Assistance Contract (SAC), 6 NYCRR Part 375, and/or Environmental Conservation Law.
- At least 7-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan.

- Notice within 48-hours of any damage or defect to the foundation, structures or engineering control that reduces or has the potential to reduce the effectiveness of an Engineering Control and likewise any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the Engineering Controls.

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

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

2.5 CONTINGENCY PLAN

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

2.5.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance the Owner or Owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted (refer to Table 2.5.1-1 below). Prompt contact should also be made to the Town Supervisor and to the Highway Superintendent at the

Town of Amenia (refer to Table 2.5.1-2 below). These emergency contact lists must be maintained in an easily accessible location at the offices of Town of Amenia Town Supervisor and Highway Superintendent.

Table 2.5.1-1: Emergency Contact Numbers

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

Table 2.5.1-2: Other Contact Numbers

Town Supervisor, Town of Amenia	(845) 373-8118 ext. 105
Highway Superintendent, Town of Amenia	(845) 373-9922
C.T. Male Associates Project Manager for the Amenia Town Landfill Project	(518) 786-7400 (office)

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

2.5.2 Map and Directions to Nearest Health Facility

Site Location: 4541 NYS Route 22, Amenia, New York 12501

Nearest Hospital Name: Sharon Hospital

Hospital Location: 50 Hospital Hill Road, Sharon, Connecticut 06069

Hospital Telephone: (860) 364-4000

Directions to the Hospital:

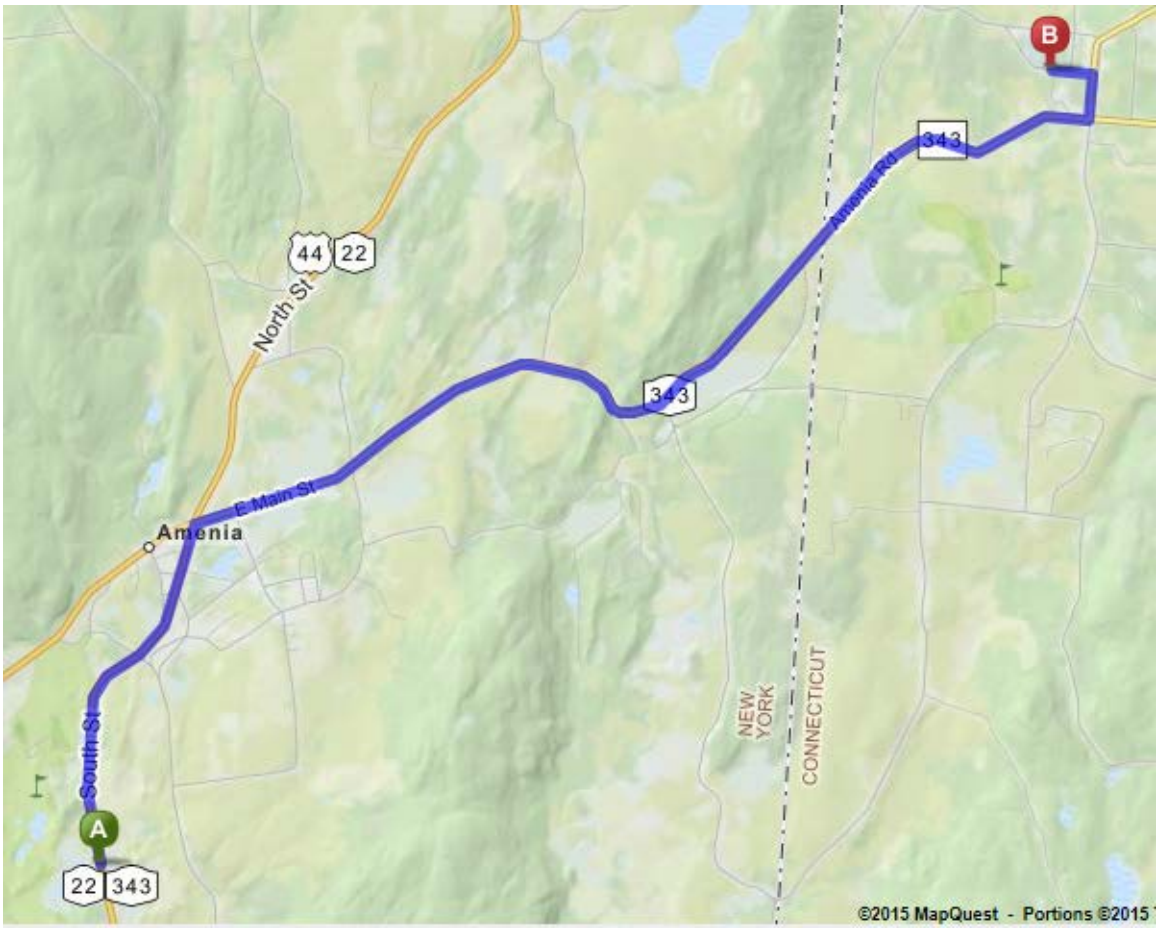
1. Head north on Route 22/Route 343 toward Dunn Road, go 1.4 miles.
2. Turn right at East Main Street/Route 343 (continue to follow Route 343), go 2.2 miles.

3. Turn left to stay on Route 343 (entering Connecticut), go 1.3 miles.
4. Continue on Amenia Road/CT-343, go 1.5 miles.
5. Turn left at CT-41/Main Street, go 0.2 miles.
6. Turn left at CT-361/West Main Street, go 0.1 miles.
7. Continue on Hospital Hill Road, go 499 feet.

Total Distance: 6.8 miles.

Total Estimated Time: 12 minutes.

Map Showing Route from the site to the Hospital:



2.5.3 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Table 2.5.1-1). The list will also be posted prominently at the offices of the Town of Amenia Town Supervisor and Highway Superintendent, and made readily available to all personnel at all times.

In the event of a spill, do not attempt to contain if spill cannot be contained safely. Immediately contact the NYSDEC spills hotline at (800) 457-7362.

In the event of an emergency evacuation, the site can be evacuated via NYS Route 22 to the east.

3.0 SITE MONITORING PLAN

3.1 INTRODUCTION

3.1.1 General

The Site Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the site, for monitoring the low permeability cover system/cap, and for monitoring all affected site media identified below. Monitoring of other Engineering Controls is described in Section 4.0, Operation and Maintenance Plan. This Site Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, landfill explosive gas, surface water, sediment etc.);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater and surface water standards and sediment severe effect level;
- Assessing achievement of the remedial performance criteria;
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

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

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;

- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Quarterly monitoring of the performance of the remedy and overall reduction in contamination on-site and off-site will be conducted for the first two years. The frequency thereafter will be determined by NYSDEC based on monitoring reduction requests submitted by the Town. Trends in contaminant levels in groundwater and/or explosive gasses in the affected areas will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in Table 3.1.2-1 and outlined in detail in Section 3.3.

The Part 360 regulations require that monitoring, operation and maintenance be performed for 30 years, unless specific approval is obtained from NYSDEC to reduce this requirement. For those landfills that closed prior to October 9, 1993 (which applies to the Amenia Town Landfill), the Post-Closure Monitoring II Specific Variance in the Local Government Regulatory Relief Initiative document dated February 26, 1993 allows the frequency of monitoring to be reduced after two baseline parameters sampling events. The frequency can be reduced from annually to once every three years for baseline parameters and from quarterly to twice per year for routine parameters as long as certain conditions are met. Therefore, the groundwater monitoring is anticipated to be able to be evaluated, including the number of monitoring wells that are sampled, after two baseline sampling events and reduced as approved by NYSDEC.

The ROD requires that annual monitoring of the surface water and sediment in the stream downgradient of the landfill, between NYS Route 22 and Amenia Stream, be performed for two years following completion of the remedial construction. Therefore, a total of two monitoring events of the stream between NYS Route 22 and Amenia Stream will be performed.

Table 3.1.2-1: Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Matrix	Analysis
Explosive Gas	Quarterly	Soil Gas and Ambient Air	% lower explosive limit (LEL) for methane and parts per million (ppm) of hydrogen sulfide
Landfill Water Quality	Quarterly	Groundwater	6 NYCRR Part 360 baseline parameters, bis(2-ethylhexyl)phthalate, and TCL PCBs annually; 6NYCRR Part 360 routine parameters during three quarters
Landfill Inspections	Quarterly	Infrastructure	Visual observation of landfill cover system/cap, vegetative cover, repairs completed since the last inspection (as applicable), gas venting structures, and monitoring wells.
Stormwater Management System	Two times per year and after major storm events	Stormwater Infrastructure	Visual observations of PVC drain basins, end sections, drainage swales and drainage culverts.
Surface Water (Stream Between NYS Route 22 and Amenia Stream)	Annually for two years (2 Events Total)	Surface Water	Metals (copper, lead, mercury, zinc) and TCL PCBs
Sediment (Stream Between NYS Route 22 and Amenia Stream)	Annually for two years (2 Events Total)	Sediment	Metals (copper, lead, mercury, zinc) and TCL PCBs
Former Drum Removal Area Water Quality	Annually for two years (2 Events Total)	Groundwater	6 NYCRR Part 360 baseline parameters and bis(2-ethylhexyl)phthalate

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

3.2 LOW PERMEABILITY COVER SYSTEM/CAP MONITORING

Inspections of the landfill will be initially conducted quarterly during water quality monitoring events. Inspection observations shall be recorded on the Site-Wide Inspection Form, and shall include the date, identity of inspector, status of landfill cover, description of vegetative cover condition, repairs needed and repairs completed since the last inspection. During the inspections, the landfill cover system/cap and vegetative cover shall be inspected for burrows created by animals, sparsely vegetated areas, ponding, depressions, leachate seeps, signs of erosion or any other notable damage. The gas venting structures shall be inspected for stability and insect screens shall be checked for blockages. The monitoring wells shall also be inspected for any damage and their condition recorded.

3.3 MEDIA MONITORING PROGRAM

3.3.1 Post-Closure Groundwater Monitoring

3.3.1.1 General, Monitoring Well Network and Laboratory Analysis

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

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

Monitoring wells MW-1, MW-2, MW-2B, MW-3, MW-4, MW-4B, MW-5, MW-6, MW-7, MW-8, MW-8B and MW-9 were installed during the RI. Monitoring wells MW-1, MW-2, MW-2B, MW-6, MW-7, MW-8 and MW-8B were abandoned as part of the remedial action construction (closure and capping of the landfill) due to their locations within the landfill footprint. Monitoring well MW-10 was installed as part of the remedial action. Well MW-3 is located in the northeast corner of the site between the northeast corner of the landfill and NYS Route 22. Wells MW-4 and MW-4B are located on the east side of the site between the landfill and NYS Route 22. Well MW-5 is located in the southeast corner of the site between the landfill and NYS Route 22. Well

MW-9 is located in the far southwest corner of the site in the area of the former drum removal area but is not likely influenced by the landfill due to inferred direction of groundwater flow and its distance away from the landfill waste mass. Well MW-5 is located in a down-gradient/cross-gradient position relative to the landfill waste mass. Wells MW-3, MW-4 and MW-4B are located in down-gradient positions relative to the landfill waste mass. Well MW-10 is located in west access road on the west side of the landfill approximately directly west of the location of abandoned well MW-7, to be in an upgradient position relative to the landfill waste mass.

The groundwater monitoring wells that will be sampled in connection with the landfill for the first two years following the completion of the remedial action construction include MW-3, MW-4, MW-5 and MW-10. Monitoring well MW-9 will be sampled annually for a two year period in connection with the former drum removal area. A summary of the monitoring wells and their surveyed elevations is presented in Table 3.3.1-1 at the end of the SMP text. The location of the monitoring wells is shown on the Groundwater Monitoring Well Network Map presented as Figure 19 in this SMP. Monitoring well construction logs for the monitoring wells are included in Appendix E.

The landfill groundwater samples will be analyzed for the Part 360 baseline parameters (including heavy metals and VOCs), for bis(2-ethylhexyl)phthalate (DEHP) and for TCL PCBs on an annual basis (during one quarter), and for the Part 360 routine parameters on a quarterly basis (during three quarters). The groundwater sample from well MW-9 will be sampled on an annual basis when the landfill groundwater samples are sampled/analyzed for the Part 360 baseline parameters, and also analyzed for the Part 360 baseline parameters and for bis(2-ethylhexyl)phthalate. The list of routine and baseline parameters are those in the Water Quality Analysis Table of the 6 NYCRR Part 360 regulations effective October 9, 1993 or subsequent revision. If the field-measured turbidity is greater than 50 NTUs, both filtered and unfiltered samples will collected and submitted to the laboratory for dissolved and total metals analyses.

The analyses will be performed in accordance with the NYSDEC Analytical Services Protocol (ASP, revised June 2000 or subsequent revision). The laboratory analyses will be performed by a NYSDOH Environmental Laboratory Approval Program

(ELAP) certified laboratory. The laboratory will prepare an ASP Category B data deliverable package for baseline parameters and TCL PCBs sampling events, and an ASP Category A data deliverable package for the routine parameters sampling events. Refer to Section 3.5, Monitoring Quality Assurance/Quality Control, for analytical methods, holding times and quality assurance/quality control procedures.

In accordance with the Post-Closure Monitoring II Specific Variance in the Local Government Regulatory Relief Initiative document dated February 26, 1993, the groundwater monitoring is anticipated to be able to be evaluated, including the number of monitoring wells that are sampled, after two baseline sampling events and reduced as approved by NYSDEC. The sampling frequency may be modified with the approval of the NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC.

3.3.1.2 Sampling Protocol

A. General Sampling Procedures

During groundwater sampling it is important to follow strict acceptable protocol during the collection and transportation of groundwater samples. This minimizes the potential for sample variation from well to well due to sampling and transportation techniques. Quality control measures will be instituted as discussed in Section 3.5 of this SMP as a check on the procedures being utilized so that the quality of the data can be assessed.

Prior to sampling the water level in the well will be measured, and the well will be purged and allowed to recover to at least 90% of static conditions. The wells will be purged with bailers, peristaltic pump or submersible pump depending on the depth of the monitoring well. Groundwater samples will be taken for field and laboratory analyses. The field parameters to be measured are pH, temperature, turbidity, oxidation-reduction potential, and specific conductance. All pertinent groundwater sampling information will be recorded on a Groundwater Services Field Log form (refer Appendix F for blank form). A separate log will be completed for each monitoring well sampled. The well sampling log will serve as the inspection form for the groundwater monitoring well

network. Logs will be dated and include the name of the person making the entries, and will be submitted to the project manager for inclusion in the project files.

The following information will be included on the log forms:

1. Project name and location.
2. Date and times.
3. Monitoring well identification number.
4. Bailer or pump type and identification number, if any.
5. Well purging procedure and data.
6. Physical characteristics of samples (i.e., color, odor, etc.).
7. Field analyses results.
8. Name of sampler(s).
9. Recovery times of wells.
10. Any additional pertinent observations/information including well integrity.

An Environmental Services Field Log will also be completed for the groundwater sampling event.

The sample containers and preservatives to be used for the sampling must conform to NYSDEC ASP (revised June 2000 or subsequent revision) requirements and analytical procedures. Only new pre-cleaned laboratory provided sample containers and caps will be used for sample collection/analyses. All sample containers required to be fixed with a preservative will be prepared by the laboratory before each sampling event. The container type, cap type and preservative requirements for the analytical parameters to be analyzed are summarized in Table 3.5.3-1 in Section 3.5.3 of this SMP.

Sample labels will be prepared prior to sampling and affixed to the sample containers. The client, project name, site location, matrix, sample type (grab/composite), preservative and laboratory analyses to be performed will be recorded on the sample labels prior to sampling. The sample location (i.e., monitoring well ID), date, sampler's initials and time will be filled out on the sample label at the time of sampling.

Upon arrival at the sampling location, the well will be observed for any damage. Clean polyethylene sheeting will be placed around the well to protect purging and sampling equipment from contamination, and a hole cut in the poly to access the well. The cover of the stick-up protective casing will be cleared of any debris/vegetation and unbolted or unlocked. The cap will be removed and a PID meter reading will be collected of the well head. This requirement may be omitted on a per well location basis if no measurable volatile organic vapors are detected at a well location during two previous groundwater sampling events. The water level in the well will then be measured.

B. Measuring the Water Level

Prior to sampling and purging, static water heights will be measured using a water level indicator to determine the standing water column height. When necessary for groundwater mapping purposes, a full round of water levels will be taken prior to initiating the water sampling. The water column height and depth of the well are used to calculate the well water volume. Non-vented well caps will be removed for a period of ten minutes to allow the water column to reach static conditions prior to taking the water level measurements.

Water levels will be measured in the monitoring wells using a water level indicator probe. The water levels will be measured from the surveyed reference point to the nearest 0.01 foot. Water levels will be measured progressively from up-gradient monitoring wells to down-gradient monitoring wells, attempting to measure water levels from the cleanest well to the dirtiest well, if known. The water depth levels and reference elevations determined from the monitoring well survey will be recorded on a Water Level Record form and the water table elevations calculated.

To avoid possible cross contamination of the wells, the water level indicator will be decontaminated prior to and following the water measurement of individual wells. The water level indicator will be decontaminated with a non-phosphate detergent wash and a tap water rinse, then rinsing it with deionized or distilled water.

C. Well Purging Procedures

Prior to sampling of the groundwater, it is necessary to purge the wells. Purging of the wells allows for a representative sample to be taken from the screened internal of the well by removing stagnant water from the well.

Three to five well volumes of the standing water will be removed from the well. The volume of standing water in the well is calculated by subtracting the water level height from the well depth measurement, and multiplying this value by a conversion factor. The conversion factor is based on the well casing diameter and converts linear feet of water into gallons. In cases where the water recharges at a slow rate, the well will be purged dry when possible.

New clean polyethylene bailers, a peristaltic pump with new clean disposable polyethylene tubing, or a field-cleaned submersible pump (i.e., Grundfos Redi-Flo2) with new clean disposable tubing will be used to purge the wells. The purging and sampling methods used will be documented on the Groundwater Services Field Log form. When purging and sampling with a bailer, a new clean piece of polypropylene rope will be used at each individual well. Physical observations of the purge water will be noted and recorded on the Groundwater Services Field Log form. The actual quantity of purge water removed from the well will be measured by using a bucket graduated in gallons, and the volume will be recorded. Once purging is complete, the bailer or tubing will be removed from the well and placed on the clean polyethylene sheeting adjacent to the well until completion of the groundwater sampling.

The purge water from the monitoring wells will be discharged to the ground surrounding the well and allowed to infiltrate the soil, unless a sheen or non-aqueous phase liquid is observed. If a sheen or non-aqueous phase liquid is observed, then the purge water will be collected and placed in NYSDOT approved 55-gallon drum(s) and managed as discussed in Section 3.3.1.6 of this SMP.

D. Sample Collection

Prior to sample collection, the wells will be allowed to recover to at least 90% of their initial static water level. Slow recharging wells will be allowed to recover for a

period of two hours and sampled within three hours of completing purging. Recovery times and water depths will be recorded on the Groundwater Services Field Log form.

The sample will be collected using a new clean disposable bailer or a low flow pump (inorganic parameters only) that was dedicated to the well for the sampling event. A new pair of clean disposable gloves will be used to handle the sampling equipment and containers, and collect the samples at each sampling location.

The disposable bailer will be lowered slowly into the well to minimize the aeration of the samples. Volatile samples will be collected first, followed by field parameters (refer to Section 3.3.1.2-E) and then in decreasing order of the volatility of the parameters being analyzed.

In order to insure the integrity of samples, sample containers must be filled properly. The following sections contain general procedures for sampling and specific procedures for sampling volatile organic compounds. Care shall be taken in sampling to assure that analytical results represent the actual sample composition.

General Sampling:

1. Don't remove caps until the actual sampling time and only long enough to fill the container.
2. Identify every container by filling out the label with all the required data.
3. Fill all containers completely without overfilling.
4. Some bottles may contain a fixative which should not be rinsed out of the bottle. Read the sample label treatment and fixative section to determine if a preservative/fixative has been added. Be careful not to contact fixatives with skin or clothing. If this should occur, rinse liberally with water and seek medical attention.
5. After the sample is taken and sealed, wipe the container with a paper towel and place the container in a cooler with ice packs or bagged ice, to maintain the cooler at 4°C.

6. Complete the Groundwater Services Field Log and Chain of Custody Record forms.

7. Deliver or ship samples to the laboratory within 24 hours or as soon as possible, but not exceeding 48 hours.

Sampling for Volatile Organic Compounds:

1. Samples are to be collected in glass containers having a total volume in excess of 40 ml with open-top screw caps with Teflon-faced silicone septa. Sample containers could have hydrochloric acid (HCL) added to them as a preservative. This preservative must not be rinsed out.

2. A transport blank will be prepared by the laboratory from organic-free water and carried through the sampling and handling procedure. It will serve as a check for transport and container contamination.

3. Fill sample container slowly to minimize aeration of the sample, until a curved meniscus is observed over the bottle rim.

4. Float the septa, Teflon™ side down on the liquid meniscus. The Teflon™ side is the thin layer observed when viewing the septum from the side horizontally.

5. Carefully set on septum, expelling excess sample and being careful to exclude air. Then screw open-top cap down. Using the index finger to push the center of the cap downward usually assists in expelling excess sample and air.

6. Check for a good seal by inverting bottle and tapping and checking for visible air bubbles. If air bubbles are visible or there is a bad seal, remove cap and add additional sample and repeat steps 4 to 6.

7. Groundwater samples for volatile analysis may be taken in duplicate, triplicate or as required by the analytical laboratory.

At completion of the sampling the well cap will be put in place, closed; and the cover to the protective stick-up casing will be bolted and/or locked in place. The rope, gloves, tubing and sheeting will be managed as solid waste as discussed in Section 3.3.1.6 of this SMP.

E. Field Analyses

The field analyses include pH, temperature, specific conductivity, turbidity, and oxidation-reduction potential. The field analyses will be measured in the field since these constituents change during storage. A minimum 40 ml sample will be collected and placed in clean polyethylene or glass containers for field analysis, or in a new clean disposable plastic cup. The containers will be covered if the measurements are not recorded immediately. All field analyses readings will be recorded on a Groundwater Services Field Log form.

The conductivity, pH and temperature of a sample are measured with a single portable unit capable of measuring all three parameters. The portable unit automatically adjusts to compensate for the temperature of the sample. The temperature, pH and conductivity are displayed on the unit and will be recorded when the instrument reading stabilizes for each parameter.

The turbidity of the field samples is measured with a turbidity meter. A portion of the sample will be poured into the instrument's dedicated VOA vial. The outside of the VOA vial is wiped with a paper towel and inserted in the instrument. The reading is recorded upon stabilization.

The oxidation-reduction potential (ORP) is measured on an instrument typically equipped to measure other field parameters. Regardless of the instrument, the method of sample analysis is similar and the reading is recorded after inserting a probe into the sample and recording the stabilized reading.

All of the field instrumentation will be calibrated to known standards prior to start of field activities in accordance with the manufacture's recommendations.

F. Sample Handling and Chain of Custody Procedure

A chain of custody record will be completed by the sampler in the field. The sampler will be responsible for retaining possession of the samples until they are delivered to the laboratory, to a courier or overnight common carrier for shipment to the laboratory. When the samples are released from the custody of the sampling personnel, the chain of custody will be signed by both relinquishing and receiving parties with the

date and time indicated. A copy of the chain of custody form will be retained by the sampler for inclusion in the project files and the original form will accompany the shipment. The chain of custody will then be signed by the relinquishing party and receiving laboratory personnel when the samples are received at the laboratory.

If samples are shipped, prior to shipment the chain of custody form will be placed in the cooler, a custody seal signed and dated by the sampler will be affixed to the cooler, and the cooler will be securely wrapped with clear tape and to protect it from tampering.

3.3.1.3 Decontamination Procedures

Well purging and sampling equipment including water level indicator, field parameter meters, submersible pump, etc. will be cleaned prior to use, in between each sample/measurement and at completion of the work using the following procedures:

1. Remove any excess material remaining on the equipment, as applicable.
2. Prepare a solution of tap water and non-phosphate detergent in a wash bucket, and scrub the equipment with a brush to remove any adhering particles.
3. Rinse the equipment with copious amounts of tap water.
4. Rinse the equipment with deionized or distilled water.
5. Place clean equipment on clean polyethylene sheeting, or wrap in aluminum foil if the equipment will not be immediately used for sampling.
6. New disposable gloves will be worn when cleaning and handling the equipment to avoid contamination.
7. The water in the wash and rinse buckets will be changed frequently to avoid cross contamination.

A minimum amount of decontamination liquid is anticipated to be generated during groundwater purging and sampling. The decontamination liquid will be discharged to the ground surrounding the well and allowed to infiltrate the soil.

3.3.1.4 Monitoring Well Repairs, Replacement And Decommissioning

If biofouling or silt accumulation occurs in the on monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per the Media Monitoring Program), if an event renders the wells unusable.

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

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with NYSDEC's CP-43: "Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

If new or replacement monitoring wells are necessary, the borehole will be advanced utilizing a drill-rig. The borehole will be advanced until groundwater is encountered and continued at least 5 feet into the water table, and converted to a monitoring well. During advancement of the boreholes, soil samples (either standard or continuous) will be collected with the split-spoon for soil classification purposes, if required by the NYSDEC. If soil sampling is conducted, the soils will be classified according to the Unified Soil Classification System. Observations will be recorded on Subsurface Exploration Logs.

The monitoring well will be constructed using 2-inch Schedule 40 PVC threaded pipe, with a 10-foot screen (0.010 slot size), a bottom plug and a push-on well cap. The bottom of the well screen will be placed at least five feet into the water table to allow for groundwater fluctuations. Any void space below the bottom of the screen will be filled with #1 silica-quartz sand. The sand pack around the screen will extend approximately two feet above the top of the screen, utilizing #0 silica-quartz sand. Above the #0 sand

pack an approximate 0.5 to 1-foot layer of #000 silica-quartz sand will be placed. Above the sand pack, a 3-foot bentonite seal will be placed. Above the bentonite seal up to the surface a 20:1 cement/bentonite grout mixture will be placed. The PVC stick-up above grade will be enclosed in a steel guard pipe set in concrete, and a lock placed on the guard pipe. Well construction details will be recorded on a Monitoring Well Construction Log.

All drilling equipment (i.e., augers, casing, tools, etc.) will be decontaminated prior to the commencement of drilling activities, between locations and at completion of work using a high pressure - high temperature washer (i.e., steam cleaner). The decontamination water will be containerized in NYSDOT approved 55-gallon drums and managed as discussed in Section 3.3.1.6 of this SMP.

3.3.1.5 Monitoring Well Development

Development of new monitoring wells will be necessary to remove sediments (silt, clay, and fine sand) from the well screen, well bottom, sand pack, and formation. This will increase the hydraulic conductivity immediately around the well, thus increasing the well yield for sampling. Just as importantly, it will decrease turbidity that could potentially interfere with chemical analysis of the groundwater samples. The wells will be developed by surging, bailing, and pumping. The back and forth flow created within the screened interval dislodges fine sediments in the formation, sand pack and screen, suspending fines so they can be removed.

Reasonable means will be taken to develop the wells to a turbidity of 50 NTUs or less, however, if the site soils are composed of a high percentage of silt and/or clay, a turbidity value of 50 NTU or less will not likely be achieved.

The wells will be surged using a new clean disposable polyethylene bailer attached to new polypropylene rope. The surging will be accomplished by rapidly raising and lowering the bailer within the screened interval, and then utilizing the bailer to remove sediment and silt within the water column. If the over pumping method is utilized, new clean polyethylene tubing attached to a peristaltic pump or a field-cleaned submersible pump (i.e., Grundfos Redi-Flo2) will be oscillated within the screened interval of the monitoring well while water is removed with the pump. The bailer and/or

peristaltic pump will be used to obtain an initial water sample to check the turbidity, pH, specific conductivity and temperature of the well water prior to the start of well development, and during well development to monitor whether the well is stabilizing or not. The color, odor, and sand and silt content of the removed water will also be noted. Silt and sediment will be removed from the bottom of the well utilizing the bailer and/or pump.

The rope, gloves, tubing and sheeting will be managed as solid waste as discussed in Section 3.3.1.6. The development water evacuated from the monitoring wells will be temporarily stored on-site in labeled 55 gallon drums. The drums will be managed as discussed in Section 3.3.1.6 of this SMP.

3.3.1.6 Disposal of Wastes

Wastes generated from work on the site will consist of decontamination water, evacuated soils for installation of monitoring wells, monitoring well development water, groundwater sampling purge water, disposable bailers, polypropylene rope, polyethylene tubing, polyethylene sheeting, and spent personal protective equipment. The wastes will be handled and disposed of as follows:

Decontamination water generated from cleaning of equipment that comes into contact with soil and groundwater during installation of new monitoring wells, and monitoring well development water for new monitoring wells that are installed will be collected and stored in NYSDOT approved 55-gallon drums unless approved otherwise by the NYSDEC. Each drum will be affixed with a non-hazardous waste label that will be completed with owner and site information, and the contents of the drum. The well(s) designation for the contained development water will also be clearly illustrated on the label.

Soils evacuated for the installation of new monitoring wells will be stored in NYSDOT approved 55-gallon drums and the drums labeled as described previously, unless approved otherwise by the NYSDEC.

The purge water from the monitoring wells during groundwater sampling will be discharged to the ground surrounding the well and allowed to infiltrate the soil, unless a

sheen or non-aqueous phase liquid is observed. If a sheen or non-aqueous phase liquid is observed, then the purge water will be collected and placed in NYSDOT approved 55-gallon drums, and the drums labeled as described previously.

Personal protective equipment (PPE) and expendable materials to be used during the completion of the field work tasks will likely include gloves, paper towels, plastic sheeting, and disposable sampling equipment (bailers, tubing, rope, etc.). These materials will be managed and properly disposed of off-site as solid waste.

Waste characterization profiles will be completed for the drummed wastes and submitted to the treatment, storage or disposal facility (TSDF), as applicable, for processing. A copy of the TSDFs operating permit and the transporters' 6 NYCRR Part 364 transporter permit will be obtained and reviewed prior to any shipments of waste from the site to document the appropriate permits are in place prior to waste being removed from the site.

The drummed wastes generated will be removed from the site, transported by a 6NYCRR Part 364 permitted waste transporter and disposed of at a treatment, storage or disposal facility permitted to accept the wastes being delivered. A waste manifest or bill of lading will be utilized for each shipment of waste.

3.3.2 Post-Closure Explosive Gas Monitoring

Post-closure explosive gas monitoring will be conducted as described in Part 360-2.15(a)(2) and 2.17(f), to determine if the level of explosive gasses is over 25% of the lower explosive limit (LEL) in any structure or over the LEL at the property boundary. Initially, post-closure explosive gas monitoring will be conducted on a quarterly basis in accordance with Part 360-2.15(k)(4).

Explosive gas monitoring will be performed with a Multi-Gas Monitor manufactured by RAE Systems, Inc. or equivalent. The unit shall be capable of measuring % lower explosive limit (LEL) for methane and parts per million (ppm) of hydrogen sulfide. Percent LEL for methane denotes the level of explosive gas present that is less than or equal to the equivalent amount of methane explosive potential. The multi-gas monitor shall be calibrated according to the manufacturer's recommendations

prior to use each day.

Explosive gas levels (% LEL) will be measured and recorded in the ambient air at the breathing zone around the perimeter of the landfill. In accordance with 6 NYCRR Part 360-2.15(a)(2), gas levels will also be measured below grade at points located approximately every 100 feet around the perimeter of the landfill if temporary points are used, and approximately every 400 feet around the perimeter of the landfill if permanent points are installed, just off the landfill final cover system. Permanent points are not present at the site. At each point, the levels of explosive gasses (% LEL) and hydrogen sulfide will be measured and recorded on an Explosive Gas Sampling Form (refer to Appendix F for blank form). The depth of the subsurface samples will be approximately 1.5 feet below grade.

If temporary points are used, sampling will be conducted by advancing a slam bar or equivalent to a depth of approximately 2 feet below grade. The slam bar or equivalent will be removed, and a hollow tube will be inserted into the void created, with the bottom of the tube at approximately 1.5 feet below grade. A surface seal will be created using surrounding soils. Readings will be taken by attaching the Multi-Gas Monitor to the tube inserted into the ground, and allowing the meter to pump for a few minutes to ensure the air being drawn through the meter is from the subsurface, and then the readings on the meter will be recorded. The tubing inserted in the ground will then be removed.

If permanent points are installed they will be completed by using a hand auger or equivalent method to remove soils down to approximately 1.5 feet below grade. An approximately 2.5-foot section of PVC pipe with a slotted/screened bottom end will be inserted into the ground down to approximately 1.5 feet below grade. Once the PVC is in place, any remaining void space around the PVC will be filled with soils removed during the installation of the point. A PVC slip cap will be placed on the top of the PVC pipe, to be removed when taking measurements. Readings will be taken by removing the PVC slip cap from the point, inserting the probe into the PVC pipe and recording the readings. The PVC cap will then be left off for approximately 30 minutes to vent the point, then placed back on the PVC pipe. The PVC cap will be left on for approximately 60 minutes, then removed, the probe inserted into the PVC pipe and the readings recorded. After the

monitoring is complete, the PVC cap will be placed back on the permanent point.

Readings will also be taken at all monitoring wells. Readings at the monitoring wells will be collected by removing the PVC slip cap from the well riser pipe, inserting the probe into the PVC pipe and recording the readings.

The results of the explosive gas monitoring will be recorded on an Explosive Gas Monitoring Form and reported to NYSDEC in the Periodic Review Report. In the event that levels over the LEL in the subsurface or ambient air at the property boundary, the results will be reported to the NYSDEC within seven days, along with a description of the steps to protect human health, and the results will be evaluated to determine what additional action is needed in accordance with 6 NYCRR Part 360-2.17(f)(3). Measures taken to address methane gas releases would depend on the location of releases, the extent of area affected and the local geological relief.

3.3.3 Surface Water

3.3.3.1 General, Sampling Locations and Laboratory Analysis

The ROD requires that annual monitoring of the surface water in the stream downgradient of the landfill, between NYS Route 22 and Amenia Stream, be performed for two years following completion of the remedial construction. Therefore, a total of two annual monitoring events of the stream between NYS Route 22 and Amenia Stream will be performed to assess the performance of the remedy.

The surface water sampling locations have been selected based on the requirements of the ROD as follows:

The stream downgradient of the landfill between NYS Route 22 and Amenia Stream to determine if the sediment in the wetland/West Pond that may have been re-suspended during construction activities results in increased downstream contaminants. The surface water will be sampled in the area between RI sampling locations SW-6 and SW-7.

The surface water samples will be analyzed for the metals of concern including copper, lead, mercury and zinc, and TCL PCBs. If the field-measured turbidity is greater

than 50 NTUs, both filtered and unfiltered samples will collected and submitted to the laboratory for dissolved and total metals analyses.

The analyses will be performed in accordance with the NYSDEC Analytical Services Protocol (ASP, revised June 2000 or subsequent revision). The laboratory analyses will be performed by a NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory. The laboratory will prepare an ASP Category B data deliverable package for the surface water samples. Refer to Section 3.5, Monitoring Quality Assurance/Quality Control, for analytical methods, holding times and quality assurance/quality control procedures.

3.3.3.2 Sampling Protocol

A. General Sampling Procedures

During surface water sampling it is important to follow strict acceptable protocol during the collection and transportation of surface water samples. This minimizes the potential for sample variation from location to location due to sampling and transportation techniques. Quality control measures will be instituted as discussed in Section 3.5 of this SMP as a check on the procedures being utilized so that the quality of the data can be assessed.

Surface water samples will be taken for field and laboratory analyses. The field parameters to be measured are pH, temperature, turbidity, oxidation-reduction potential, and specific conductance. All pertinent surface water sampling information will be recorded on a Stream Water Sampling Log (refer Appendix F for blank form). A separate log will be completed for each location sampled. Logs will be dated and include the name of the person making the entries, and will be submitted to the project manager for inclusion in the project files.

The following information will be included on the log forms:

1. Project name and location.
2. Date and times.
3. Surface water location identification.

4. Physical characteristics of samples (i.e., color, odor, etc.).

5. Field analyses results.

6. Name of sampler(s).

7. Any additional pertinent observations/information.

An Environmental Services Field Log will also be completed for the surface water sampling event.

The sample containers and preservatives to be used for the sampling must conform to NYSDEC ASP (revised June 2000 or subsequent revision) requirements and analytical procedures. Only new pre-cleaned laboratory provided sample containers and caps will be used for sample collection/analyses. All sample containers required to be fixed with a preservative will be prepared by the laboratory before each sampling event. The container type, cap type and preservative requirements for the analytical parameters to be analyzed are summarized in Table 3.5.3-1 in Section 3.5.3 of this SMP.

Sample labels will be prepared prior to sampling and affixed to the sample containers. The client, project name, site location, matrix, sample type (grab/composite), preservative and laboratory analyses to be performed will be recorded on the sample labels prior to sampling. The sample location, date, sampler's initials and time will be filled out on the sample label at the time of sampling.

B. Sample Collection

A new pair of clean disposable gloves will be used to handle the sampling equipment and containers, and collect the samples at each sampling location.

An unpreserved container will be lowered slowly into the water to minimize the aeration of the samples. The field parameters (refer to Section 3.3.3.2-C) will be collected first and then in decreasing order of the volatility of the parameters being analyzed.

In order to insure the integrity of samples, sample containers must be filled properly. The following sections contain general procedures for sampling and specific

procedures for sampling volatile organic compounds. Care shall be taken in sampling to assure that analytical results represent the actual sample composition.

General Sampling:

1. Don't remove caps until the actual sampling time and only long enough to fill the container.
2. Identify every container by filling out the label with all the required data.
3. Fill all containers completely without overfilling.
4. Some bottles may contain a fixative which should not be rinsed out of the bottle. Read the sample label treatment and fixative section to determine if a preservative/fixative has been added. Be careful not to contact fixatives with skin or clothing. If this should occur, rinse liberally with water and seek medical attention.
5. After the sample is taken and sealed, wipe the container with a paper towel and place the container in a cooler with ice packs or bagged ice, to maintain the cooler at 4°C.
6. Complete the Stream Water Sampling Log and Chain of Custody Record forms.
7. Deliver or ship samples to the laboratory within 24 hours or as soon as possible, but not exceeding 48 hours.

The gloves will be managed as solid waste as discussed in Section 3.3.3.4 of this SMP.

C. Field Analyses

The field analyses include pH, temperature, specific conductivity, turbidity, and oxidation-reduction potential. The field analyses will be measured in the field since these constituents change during storage. A minimum 40 ml sample will be collected and placed in clean polyethylene or glass containers for field analysis, or in a new clean disposable plastic cup. The containers will be covered if the measurements are not recorded immediately. All field analyses readings will be recorded on a Stream Water Sampling Log.

The conductivity, pH and temperature of a sample are measured with a single portable unit capable of measuring all three parameters. The portable unit automatically adjusts to compensate for the temperature of the sample. The temperature, pH and conductivity are displayed on the unit and will be recorded when the instrument reading stabilizes for each parameter.

The turbidity of the field samples is measured with a turbidity meter. A portion of the sample will be poured into the instrument's dedicated VOA vial. The outside of the VOA vial is wiped with a paper towel and inserted in the instrument. The reading is recorded upon stabilization.

The oxidation-reduction potential (ORP) is measured on an instrument typically equipped to measure other field parameters. Regardless of the instrument, the method of sample analysis is similar and the reading is recorded after inserting a probe into the sample and recording the stabilized reading.

All of the field instrumentation will be calibrated to known standards prior to start of field activities in accordance with the manufacture's recommendations.

D. Sample Handling and Chain of Custody Procedure

A chain of custody record will be completed by the sampler in the field. The sampler will be responsible for retaining possession of the samples until they are delivered to the laboratory, to a courier or overnight common carrier for shipment to the laboratory. When the samples are released from the custody of the sampling personnel, the chain of custody will be signed by both relinquishing and receiving parties with the date and time indicated. A copy of the chain of custody form will be retained by the sampler for inclusion in the project files and the original form will accompany the shipment. The chain of custody will then be signed by the relinquishing party and receiving laboratory personnel when the samples are received at the laboratory.

If samples are shipped, prior to shipment the chain of custody form will be placed in the cooler, a custody seal signed and dated by the sampler will be affixed to the cooler, and the cooler will be securely wrapped with clear tape and to protect it from tampering.

3.3.3.3 Decontamination Procedures

Surface water sampling equipment including field parameter meters will be cleaned prior to use, in between each sample/measurement and at completion of the work using the following procedures:

1. Remove any excess material remaining on the equipment, as applicable.
2. Prepare a solution of tap water and non-phosphate detergent in a wash bucket, and scrub the equipment with a brush to remove any adhering particles.
3. Rinse the equipment with copious amounts of tap water.
4. Rinse the equipment with deionized or distilled water.
5. Place clean equipment on clean polyethylene sheeting, or wrap in aluminum foil if the equipment will not be immediately used for sampling.
6. New disposable gloves will be worn when cleaning and handling the equipment to avoid contamination.
7. The water in the wash and rinse buckets will be changed frequently to avoid cross contamination.

A minimum amount of decontamination liquid is anticipated to be generated during surface water sampling. The decontamination liquid will be discharged to the ground and allowed to infiltrate the soil.

3.3.3.4 Disposal of Wastes

Wastes generated from work on the site will consist of decontamination water, and spent personal protective equipment. The wastes will be handled and disposed of as follows:

Decontamination water will be discharged to the ground and allowed to infiltrate the soil, unless a sheen or non-aqueous phase liquid is observed. If a sheen or non-aqueous phase liquid is observed, then the purge water will be collected and placed in NYSDOT approved 55-gallon drums, and the drums labeled as described previously.

Personal protective equipment (PPE) and expendable materials to be used during the completion of the field work tasks will likely include gloves, paper towels, etc. These materials will be managed and properly disposed of off-site as solid waste.

Waste characterization profiles will be completed for the drummed wastes and submitted to the treatment, storage or disposal facility (TSDF), as applicable, for processing. A copy of the TSDFs operating permit and the transporters' 6 NYCRR Part 364 transporter permit will be obtained and reviewed prior to any shipments of waste from the site to document the appropriate permits are in place prior to waste being removed from the site.

The drummed wastes generated will be removed from the site, transported by a 6 NYCRR Part 364 permitted waste transporter and disposed of at a treatment, storage or disposal facility permitted to accept the wastes being delivered. A waste manifest or bill of lading will be utilized for each shipment of waste.

3.3.4 Sediment

3.3.4.1 General, Sampling Locations and Laboratory Analysis

The ROD requires that annual monitoring of the sediment in the stream downgradient of the landfill, between NYS Route 22 and Amenia Stream, be performed for two years following completion of the remedial construction. Therefore, a total of two annual sediment sampling events of the stream between NYS Route 22 and Amenia Stream will be performed to assess the performance of the remedy.

The sediment sampling locations have been selected based on the requirements of the ROD as follows:

The sediment in the stream downgradient of the landfill between NYS Route 22 and Amenia Stream to determine if the sediment in the wetland/West Pond that may have been re-suspended during construction activities results in increased downstream contaminants. Two sediment samples will be collected during each annual sampling event in the general area of RI sampling locations SD-OF3 and SD-OF5.

The sediment samples will be analyzed for the metals of concern including copper, lead, mercury and zinc, and TCL PCBs.

The analyses will be performed in accordance with the NYSDEC Analytical Services Protocol (ASP, revised June 2000 or subsequent revision). The laboratory analyses will be performed by a NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory. The laboratory will prepare an ASP Category B data deliverable package for the sediment samples. Refer to Section 3.5, Monitoring Quality Assurance/Quality Control, for analytical methods, holding times and quality assurance/quality control procedures.

3.3.4.2 Sampling Protocol

A. General Sampling Procedures

During sediment sampling it is important to follow strict acceptable protocol during the collection and transportation of sediment samples. This minimizes the potential for sample variation from location to location due to sampling and transportation techniques. Quality control measures will be instituted as discussed in Section 3.5 of this SMP as a check on the procedures being utilized so that the quality of the data can be assessed.

An Environmental Services Field Log will also be completed for the sediment sampling event.

The sample containers and preservatives to be used for the sampling must conform to NYSDEC ASP (revised June 2000 or subsequent revision) requirements and analytical procedures. Only new pre-cleaned laboratory provided sample containers and caps will be used for sample collection/analyses. All sample containers required to be fixed with a preservative will be prepared by the laboratory before each sampling event. The container type, cap type and preservative requirements for the analytical parameters to be analyzed are summarized in Table 3.5.3-2 in Section 3.5.3 of this SMP.

Sample labels will be prepared prior to sampling and affixed to the sample containers. The client, project name, site location, matrix, sample type (grab/composite), preservative and laboratory analyses to be performed will be recorded on the sample labels prior to sampling. The sample location, date, sampler's initials and time will be filled out on the sample label at the time of sampling.

B. Sample Collection

The sediment samples will be collected using a new clean macro-core acetate liner or equal method, depending on the depth of water in the stream, using the following procedures:

1. Identify every container by filling out the label with all the required data.
2. Put on a new clean pair of nitrile gloves.
3. Push the liner into the surface of the sediment taking care not to stir up the sediments while advancing the sampler.
4. Extract the liner in a manner to minimize the amount of sediment sample loss by placing either a gloved hand or silicone cap over the top of the liner.
5. Measure sample recovery, and if recovery is poor, repeat the sample collection from Step 3.
6. Place silicone caps at each end of the liner, and allow sediment to settle.
7. Cut the liner above the surface of the sediment to allow excess water to drain off, as applicable, without disturbing the sediment.
8. Once any excess water has drained cut the liner open completely and using a clean gloved hand or decontaminated trowel, transfer the sediment into a new clean zip-top bag for homogenization.
9. With a clean gloved hand or decontaminated trowel, transfer the sample to laboratory-supplied containers and label accordingly. New clean glass containers with Teflon lined tops will be used.
10. After the sample is taken and sealed, wipe the container with a paper towel and place the container in a cooler with ice packs or bagged ice, to maintain the cooler at 4°C, and complete the chain of custody paperwork.
11. Decontaminate any sampling equipment prior to reuse and repeat the procedure at the next sampling location.

12. Deliver or ship samples to the laboratory within 24 hours or as soon as possible, but not exceeding 48 hours.

Care shall be taken in sampling to assure that analytical results represent the actual sample composition.

C. Sample Handling and Chain of Custody Procedure

A chain of custody record will be completed by the sampler in the field. The sampler will be responsible for retaining possession of the samples until they are delivered to the laboratory, to a courier or overnight common carrier for shipment to the laboratory. When the samples are released from the custody of the sampling personnel, the chain of custody will be signed by both relinquishing and receiving parties with the date and time indicated. A copy of the chain of custody form will be retained by the sampler for inclusion in the project files and the original form will accompany the shipment. The chain of custody will then be signed by the relinquishing party and receiving laboratory personnel when the samples are received at the laboratory.

If samples are shipped, prior to shipment the chain of custody form will be placed in the cooler, a custody seal signed and dated by the sampler will be affixed to the cooler, and the cooler will be securely wrapped with clear tape and to protect it from tampering.

3.3.4.3 Decontamination Procedures

Sediment sampling equipment including stainless steel trowels will be cleaned prior to use, in between each location and at completion of the work using the following procedures:

1. Remove any excess material remaining on the equipment, as applicable.
2. Prepare a solution of tap water and non-phosphate detergent in a wash bucket, and scrub the equipment with a brush to remove any adhering particles.
3. Rinse the equipment with copious amounts of tap water.
4. Rinse the equipment with deionized or distilled water.
5. Place clean equipment on clean polyethylene sheeting, or wrap in aluminum foil if the equipment will not be immediately used for sampling.

6. New disposable gloves will be worn when cleaning and handling the equipment to avoid contamination.

7. The water in the wash and rinse buckets will be changed frequently to avoid cross contamination.

A minimum amount of decontamination liquid is anticipated to be generated during sediment sampling. The decontamination liquid will be discharged to the ground and allowed to infiltrate the soil.

3.3.4.4 Disposal of Wastes

Wastes generated from work on the site will consist of decontamination water, acetate liners, and spent personal protective equipment. The wastes will be handled and disposed of as follows:

Decontamination water will be discharged to the ground and allowed to infiltrate the soil, unless a sheen or non-aqueous phase liquid is observed. If a sheen or non-aqueous phase liquid is observed, then the purge water will be collected and placed in NYSDOT approved 55-gallon drums, and the drums labeled as described previously.

Personal protective equipment (PPE) and expendable materials to be used during the completion of the field work tasks will likely include gloves, acetate liners, etc. These materials will be managed and properly disposed of off-site as solid waste.

Waste characterization profiles will be completed for the drummed wastes and submitted to the treatment, storage or disposal facility (TSDF), as applicable, for processing. A copy of the TSDFs operating permit and the transporters' 6 NYCRR Part 364 transporter permit will be obtained and reviewed prior to any shipments of waste from the site to document the appropriate permits are in place prior to waste being removed from the site.

The drummed wastes generated will be removed from the site, transported by a 6 NYCRR Part 364 permitted waste transporter and disposed of at a treatment, storage or disposal facility permitted to accept the wastes being delivered. A waste manifest or bill of lading will be utilized for each shipment of waste.

3.4 SITE-WIDE INSPECTION

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, a Site-Wide Inspection Form will be completed (refer to Appendix F for blank form). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules included in the Operation and Maintenance Plan (Section 4.0); and
- Confirm that site records are up to date.

3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

3.5.1 General

All sampling and analyses will be performed following the quality assurance/quality control procedures described in this Section 3.5 which include:

- Quality Control Checks:
    - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
    - Laboratory QC and checks.
- Sampling Program:
    - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by

the analytical laboratory. Containers with preservative will be tagged as such.

- Quality Control Sample Collection Procedures.
- Calibration Procedures:
    - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
    - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures:
    - Sample holding times will be in accordance with the NYSDEC ASP requirements.
    - Laboratory reporting will be in accordance with Part 360 and NYSDEC ASP requirements.
- Preparation of a Data Usability Summary Report (DUSR), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.

The overall quality assurance/quality control of the sampling activities will include project management, coordination, and scheduling of in-house activities and subcontractors. The laboratory will be certified by the NYSDOH Environmental Laboratory Approval Program (ELAP).

3.5.2 Quality Control Checks

To monitor and document the integrity of such factors as sample variability, sampling equipment cleanliness, sampling technique, analytical reproducibility and sample handling which can affect data quality, several field quality control checks will be implemented. These will include taking equipment blanks after the sampling equipment has been decontaminated to check for cross contamination and equipment cleanliness;

taking field duplicate samples to monitor analytical precision/reproducibility and sampling technique; and using site specific samples for matrix spike/matrix spike (MS/MSD) duplicate analysis by the laboratory. The MS/MSD samples are used to measure percent recoveries and the relative percent difference, and used to determine if matrix interference affected the method. Transport blanks will also be prepared when VOCs analysis is to be performed. The transport blanks are taken to monitor whether the samples have been contaminated during transport, as a result of handling in the field, during shipment or during storage in the laboratory.

For this project the field Quality Control (QC) checks during groundwater, surface water and sediment sampling will consist of one equipment blank (only if new disposable sampling equipment in not utilized), one field duplicate sample, and one matrix spike/matrix spike duplicate (except MS/MSD is not required for the Part 360 routine parameters sampling events) during sampling activities for every twenty samples. A transport blank will also be prepared for each sample set to be submitted for volatile analyses. The QC sample collection procedures are described in Section 3.5.4.

Laboratory quality control checks will be those specified in EPA Methods or in the NYSDEC ASP (revised June 2000 or subsequent revision) for the analytical method performed and could consist of some of the following:

- Blanks (method, preparation),
- initial and continuing calibrations,
- surrogate spikes,
- matrix spikes/matrix spike duplicates,
- duplicate samples, and
- control samples/matrix spike blanks.

The laboratory will be responsible for complying with appropriate standards and certifications of the selected EPA method and ASP requirements. The laboratory quality control acceptance criteria are method specific and it will be the laboratory's responsibility to meet ASP criteria.

3.5.3 Sample Containers

Only new pre-cleaned laboratory provided sample containers and caps will be used for sample collection/analyses. The container type, cap type and preservative requirements for the analytical parameters for groundwater, surface water and equipment blank water sample (when applicable) to be analyzed are summarized in Table 3.5.3-1.

Table 3.5.3-1
Analytical Requirements for Containers and Preservatives
for Groundwater and Surface Water Samples

PARAMETER	CONTAINER	TOP	PRESERVATIVE	COMMENTS
Part 360 Baseline VOCs EPA 8260C	2-40 ml Glass Vials	Teflon Lined Septum	Cool, 4°C HCL to pH <2 (Preserved)	None
Bis(2-Ethylhexyl)Phthalate EPA 8270D	2-1L Amber Glass	Teflon Lined	Cool, 4°C	None
TCL PCBs EPA 8082A	2-1L Amber Glass	Teflon Lined	Cool, 4°C	None
Part 360 Metals, Except Mercury EPA 6010C	250 ml or 500 ml Plastic or Glass	Poly	HNO_3 to pH <2	None
Mercury EPA 7470A	250 ml or 500 ml Plastic or Glass	Poly	HNO_3 to pH <2	None
Total Cyanide	250 or 500 ml Plastic or Glass	Poly	NaOH to pH >12	Ascorbic, 0.6g
Alkalinity	250 ml or 500 ml Plastic or Glass	Poly	Cool, 4°C	Fill Completely
Ammonia	500 ml Plastic or Glass	Poly	H_2SO_4 to pH <2	None
Biochemical Oxygen Demand	500 ml Plastic or Glass	Poly	Cool, 4°C	None
Boron	250 ml or 500 ml Plastic or Glass	Poly	HNO_3 to pH <2	None
Bromide	500 ml Plastic or Glass	Poly	Cool, 4°C	None
Chloride	500 ml Plastic or Glass	Poly	Cool, 4°C	None
Color	500 ml Plastic or Glass	Poly	Cool, 4°C	None
Chemical Oxygen Demand	2-40 ml Glass Vials	Teflon Lined	H_2SO_4 to pH <2, Cool	None

PARAMETER	CONTAINER	TOP	PRESERVATIVE	COMMENTS
Total Dissolved Solids	500 ml Plastic	Poly	Cool, 4°C	None
Hardness	250 ml or 500 ml Plastic or Glass	Poly	HNO_3 to pH <2	None
Hexavalent Chromium	250 ml Plastic or Glass	Poly	Cool, 4°C	None
Nitrate	250 ml Plastic or Glass	Poly	Cool, 4°C H_2SO_4 to pH <2	Chlorinated Non-Chlorinated
Phenols	1L Glass	Poly	Cool, 4°C H_2SO_4 to pH <2	None
Sulfate	250 ml Plastic or Glass	Poly	Cool, 4°C	None
Total Kjeldahl Nitrogen	500 ml Plastic or Glass	Poly	H_2SO_4 to pH <2	None
Total Organic Carbon	2-40 ml Glass Vials	Teflon Lined	H_3PO_4 to pH <2	None
Turbidity	250 ml Plastic or Glass	Poly	Cool, 4°C	None

The container type, cap type and preservative requirements for the analytical parameters for sediment samples to be analyzed are summarized in Table 3.5.3-2.

Table 3.5.3-2
Analytical Requirements for Containers and Preservatives for Sediment Samples

PARAMETER	CONTAINER	TOP	PRESERVATIVE	COMMENTS
TCL PCBs EPA 8082A	4 oz Glass	Teflon Lined	Cool, 4°C	None
Metals (copper, lead, mercury and zinc)	4 oz Glass	Teflon Lined	Cool, 4°C	None

Sample labels will be prepared prior to sampling and affixed to the sample containers. The client, project name, site location, matrix, sample type (grab/composite), preservative and laboratory analyses to be performed will be recorded on the sample labels prior to sampling. The sample location, date, sampler's initials and time will be filled out on the sample label at the time of sampling.

3.5.4 Quality Control Sample Collection Procedures

Quality control samples include equipment blanks (only if new disposable sampling equipment is not utilized), field duplicate samples, matrix spike/matrix spike duplicate samples and transport blank for the groundwater and surface water samples. The following paragraphs describe how these samples are prepared and collected.

Equipment Blank: After the equipment has been decontaminated and is ready for sampling, pour laboratory provided deionized or distilled water over the equipment and then into the sample container(s). The equipment blank will be analyzed for the same parameters as the project samples.

Field Duplicate: A field duplicate sample is an additional sample collected from the same location as the original sample. Duplicate samples are collected simultaneously using identical procedures, but placing the samples in separate containers. The groundwater or surface water field duplicate samples for analytes other than volatile organic compounds will be taken by splitting each bailer of water between both sets of containers (sample and duplicate containers) until the containers are filled. The duplicate groundwater sample for VOCs analysis is typically collected in duplicate or triplicate, so this procedure will be repeated two or three times using a new full bailer of water each time.

The sediment field duplicates will be taken by splitting the volume of sediment between both sets of containers (sample and duplicate containers) until the containers are filled.

The field duplicates will be analyzed for the same parameters as the original sample, yet the sample designation is “blind” so that the laboratory can’t determine which sample it is a duplicate of.

Matrix Spike/Matrix Spike Duplicate: These samples are designated from site specific groundwater, surface water or sediment samples collected whereby the laboratory spikes the sample with a known concentration. The MS/MSD samples will be collected following the same procedures as the field duplicate samples.

Transport Blank: The transport blanks for the groundwater or surface samples are prepared in the laboratory when the sample containers are prepared. Transport blanks will be prepared by filling 40 ml glass containers (with Teflon™ lined septum) with organic-free water. These containers will travel unopened with the sample containers and be analyzed for the same volatile constituents as the samples being submitted.

The groundwater field duplicate sample will be identified as GWFD01. The groundwater equipment blank will be identified as GWEB01. The surface water field duplicate sample will be identified as SWFD01. The surface water equipment blank will be identified as SWEB01. The sediment field duplicate sample will be identified as SEDFD01. The surface water equipment blank will be identified as SEDEB01. The sampling interval and location where the field duplicates are collected and where the equipment blank is collected before will be identified in the sampling log. The MS/MSD samples will be labeled as required for the sample location except that in the comment section of the chain of custody record shall read "use this sample for the MS/MSD" or equal. The transport blank will be identified as Transport Blank followed by the month/day/year.

3.5.5 Sample Preparation and Analytical Procedures

The analytical parameters, analysis methods, acceptable holding times and required method detection limits are presented in Table 3.5.5-1. The analytical methods specified reflect the requirements of the NYSDEC ASP (revised June 2000) and Part 360.

Table 3.5.5-1
Analytical Methods and Requirements

ANALYTICAL PARAMETERS	SAMPLE ANALYSIS METHOD	HOLDING TIMES (1)	PRACTICAL QUANTITATION LIMIT (2)
Part 360 Baseline Parameters (Water):			
Baseline VOCs:			
Acetone	EPA 8260C	10 Days Preserved (HCL to pH <2)	10.0 ug/l
Acrylonitrile			5.0 ug/l
Benzene			1.0 ug/l
2-Butanone (MEK)			10.0 ug/l
Bromochloromethane			1.0 ug/l

ANALYTICAL PARAMETERS	SAMPLE ANALYSIS METHOD	HOLDING TIMES [1]	PRACTICAL QUANTITATION LIMIT [2]
Bromodichloromethane	EPA 8260C	10 Days Preserved (HCL to pH <2)	1.0 ug/l
Bromoform			1.0 ug/l
Bromomethane			1.0 ug/l
Carbon Disulfide			1.0 ug/l
Carbon Tetrachloride			1.0 ug/l
Chlorobenzene			1.0 ug/l
Chloroethane			1.0 ug/l
Chloroform			1.0 ug/l
Chloromethane			1.0 ug/l
Dibromochloromethane			1.0 ug/l
Dibromomethane			1.0 ug/l
1,2-Dibromo-3-Chloropropane			1.0 ug/l
1,2-Dibromoethane (EDB)			1.0 ug/l
1,2-Dichlorobenzene			1.0 ug/l
1,4-Dichlorobenzene			1.0 ug/l
1,1-Dichloroethane			1.0 ug/l
1,2-Dichloroethane			1.0 ug/l
1,1-Dichloroethene			1.0 ug/l
cis-1,2-Dichloroethene			1.0 ug/l
trans-1,2-Dichloroethene			1.0 ug/l
1,2-Dichloropropane			1.0 ug/l
cis-1,3-Dichloropropene			1.0 ug/l
trans-1,3-Dichloropropene			1.0 ug/l
Trans-1,4-Dichloro-2-Butene			1.0 ug/l
Ethylbenzene			1.0 ug/l
2-Hexanone			5.0 ug/l
Iodomethane			1.0 ug/l
Methylene Chloride			1.0 ug/l
4-Methyl-2-Pentanone (MIBK)			5.0 ug/l
Styrene			1.0 ug/l
1,1,1,2-Tetrachloroethane			1.0 ug/l
1,1,2,2-Tetrachloroethane			1.0 ug/l

ANALYTICAL PARAMETERS	SAMPLE ANALYSIS METHOD	HOLDING TIMES [1]	PRACTICAL QUANTITATION LIMIT [2]
Tetrachloroethene	EPA 8260C	10 Days Preserved (HCL to pH <2)	1.0 ug/l
Toluene			1.0 ug/l
1,1,1-Trichloroethane			1.0 ug/l
1,1,2-Trichloroethane			1.0 ug/l
Trichloroethene			1.0 ug/l
Trichlorofluoromethane			1.0 ug/l
1,2,3-Trichloropropane			1.0 ug/l
Vinyl Acetate			5.0 ug/l
Vinyl Chloride			1.0 ug/l
Xylenes (Total)			2.0 ug/l
Baseline Metals:			
Aluminum	EPA 200.7/EPA 6010C	180 Days	10.0 ug/l
Antimony			20.0 ug/l
Arsenic			15.0 ug/l
Barium			2.0 ug/l
Beryllium			2.0 ug/l
Boron			20 ug/l
Cadmium			2.0 ug/l
Calcium			500 ug/l
Chromium			4.0 ug/l
Cobalt			4.0 ug/l
Copper			10 ug/l
Cyanide	EPA 335.4/EPA 9012B	12 Days	10 ug/l
Hexavalent Chromium	EPA 7196A	24 Hours	10 ug/l
Iron	EPA 200.7/EPA 6010C	180 Days	50.0 ug/l
Lead			10.0 ug/l
Magnesium			200 ug/l
Manganese			3.0 ug/l
Mercury	EPA 245.1/EPA 7470A	26 Days	0.2 ug/l
Nickel	EPA 200.7/EPA 6010C	180 Days	10.0 ug/l
Potassium			500 ug/l
Selenium			25.0 ug/l
Silver			6.0 ug/l
Sodium			1000 ug/l

ANALYTICAL PARAMETERS	SAMPLE ANALYSIS METHOD	HOLDING TIMES [1]	PRACTICAL QUANTITATION LIMIT [2]
Thallium	EPA 200.7/EPA 6010C	180 Days	20.0 ug/l
Vanadium			5.0 ug/l
Zinc			10.0 ug/l
Baseline Leachate Indicators:			
Total Kjeldahl Nitrogen	EPA 351.3/351.2	26 Days	0.5 mg/l
Ammonia	EPA 350.1/SM 4500	26 Days	0.1 mg/l
Bromide	EPA 300.0/EPA 9056A	26 Days	0.1 mg/l
Nitrate	EPA 353.2/300.0	24 Hours	0.1 mg/l
Chemical Oxygen Demand	EPA 410.1/410.4/ SM5220	26 Days	10 mg/l
Biochemical Oxygen Demand	EPA 405.1/SM5210B	24 Hours	2 mg/l
Total Organic Carbon	EPA 415.1/9060/ SM5310D	26 Days	1 mg/l
Total Dissolved Solids	EPA 160.1/SM2540C	7 Days	10 mg/l
Sulfate	EPA 375.4/300.0/ EPA 9056A	26 Days	1 mg/l
Alkalinity	EPA 310.1/SM2320B	12 Days	2 mg/l
Phenols	EPA 420.1/420.4	26 Days	0.005 mg/l
Chloride	EPA 325.3/300.0	26 Days	5 mg/l
Total Hardness as $CaCO_3$	EPA 130.2/SM2340C	6 Months	0.5 mg/l
Color	EPA 110.2/SM2120B	24 Hours	5 CPU
Turbidity	EPA 180.1	24 Hours	0.05 NTU
Select Part 360 Expanded Parameter (Water):			
Bis(2-Ethylhexyl)Phthalate	EPA Method 8270D	7 Days	5 ug/l
TCL PCBs (Water):			
TCL PCBs (Water)	EPA 8082A	5 Days to Extraction, 40 Days to Analyze	0.5 ug/l except for Aroclor 1221 which is 1 ug/l
Part 360 Routine Parameters (Water):			
Routine Metals:			
Cadmium	EPA 200.7/EPA 6010C	180 Days	2.0 ug/l
Calcium			500 ug/l
Iron			50.0 ug/l
Lead			10.0 ug/l
Magnesium			200 ug/l

ANALYTICAL PARAMETERS	SAMPLE ANALYSIS METHOD	HOLDING TIMES [1]	PRACTICAL QUANTITATION LIMIT [2]
Manganese	EPA 200.7/EPA 6010C	180 Days	3.0 ug/l
Potassium			500 ug/l
Sodium			1000 ug/l
Routine Leachate Indicators:			
Total Kjeldahl Nitrogen	EPA 351.3/351.2	26 Days	0.5 mg/l
Ammonia	EPA 350.1/SM 4500	26 Days	0.1 mg/l
Bromide	EPA 300.0/EPA 9056A	26 Days	0.1 mg/l
Nitrate	EPA 353.2/300.0	24 Hours	0.1 mg/l
Chemical Oxygen Demand	EPA 410.1/410.4/ SM5220	26 Days	10 mg/l
Biochemical Oxygen Demand	EPA 405.1/SM5210B	24 Hours	2 mg/l
Total Organic Carbon	EPA 415.1/9060/SM5310D	26 Days	1 mg/l
Total Dissolved Solids	EPA 160.1/SM2540C	7 Days	10 mg/l
Sulfate	EPA 375.4/300.0/ EPA 9056A	26 Days	1 mg/l
Alkalinity	EPA 310.1/SM2820B	12 Days	2 mg/l
Phenols	EPA 420.1/420.4	26 Days	0.005 mg/l
Chloride	EPA 325.3/300.0	26 Days	5 mg/l
Total Hardness as $CaCO_3$	EPA 130.2/SM2340C	6 Months	0.5 mg/l
Turbidity	EPA 180.1	24 Hours	0.05 NTU
TCL PCBs (Sediment):			
TCL PCBs (Sediment)	EPA 8082A	5 Days to Extraction, 40 Days to Analyze	33 ug/kg except for Aroclor 1221 which is 67 ug/kg
Metals (Sediment):			
Metals (Sediment) Except Mercury	EPA Method 6010C	180 Days	Copper: 2.5 mg/kg Lead: 1 mg/kg Zinc: 6 mg/kg
Mercury	EPA Method 7471B	26 Days	Mercury: 0.1 mg/kg

[1] Holding times are in accordance with NYSDEC ASP (revised June 2000) requirements. Holding times are relative to the verifiable time of receipt at the laboratory.

[2] The listed detection limits are Practical Quantitation Limits (PQLs). The Method Detection Limit (MDL) is the best possible detection. Laboratories report the Practical Quantitation Limit, which is generally 4 times the MDL. The PQL is the lowest concentration analytes

can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. Efforts should be made to obtain the best detection possible when selecting a laboratory. When the guidance value or standard is below the detection limit, achieving the detection limit will be considered acceptable for meeting the guidance value or standard.

Where matrix interference is noted, analytical clean-ups will be required to be performed by the laboratory following the procedures specified in SW-846 or the NYSDEC ASP, as applicable. In general, samples shall not be diluted more than 1 to 5.

3.5.6 Laboratory Reporting and Data Validation

The laboratory will prepare ASP Category B data deliverable packages for the laboratory analyses of the groundwater samples collected during the sampling events for the Part 360 baseline parameters and during the sampling events for the TCL PCBs. The laboratory will prepare ASP Category B data deliverable packages for the laboratory analysis of the surface water and sediment samples. The laboratory will prepare ASP Category A data deliverable packages for the laboratory analyses of the groundwater collected during the sampling events for the Part 360 routine parameters. They will include Sample Data Summary Package, sample preparation and analysis forms, analytical results and quality control data deliverables as required by NYSDEC ASP (revised June 2000 or subsequent revision).

The analytical laboratory will also provide the analytical results in an Electronic Data Deliverable (EDD) formatted to meet the most current requirements of the NYSDEC Environmental Information Management System (EIMS) which uses the database software application EQuIS™ from EarthSoft® Inc.

Data validation of the ASP Category B data deliverable package(s) will be performed by an independent data validator. In accordance with 6 NYCRR Part 360-2.11(d)(5)(i)(c), the data validation will be performed on at least 5% of the samples. The data validation will be performed in accordance with the USEPA National and Regional Validation Guidelines/Procedures and the NYSDEC Guidance for the Development of Data Usability Summary Reports to determine the applicable qualifications of the data. The data validator will then prepare a NYSDEC Data Usability Summary Report (DUSR) in accordance with NYSDEC guidelines. The data validator will not be involved in any other portions of the project.

Internal data validation will be performed by the laboratory QA officer for ASP Category B data deliverable packages to document that the data package is complete and meets the criteria of this Section 3.5. Any problems encountered in performing the analyses by the laboratory such as out of limits surrogate recoveries, comments on the quality and limitations of specific data, and the validity of the data will be described in the case narrative of the data deliverable package.

3.6 MONITORING REPORTING REQUIREMENTS

Forms and any other information generated during regular monitoring events and inspections will be kept on file at the Town of Amenia Supervisor's Office. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Inspections, Reporting and Certifications Plan (Section 5.0) of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report (i.e. Post-Closure Monitoring Report). A letter report will also be prepared, if required by NYSDEC, subsequent to each sampling event. The Periodic Review Report will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., outdoor air, groundwater, surface water, sediment, explosive gas, etc);
- Copies of all field forms completed (e.g., well sampling logs, surface water sampling logs, chain-of-custody documentation, explosive gas sampling form, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;

- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether groundwater conditions have changed since the last reporting event.

The letter reports will include, at a minimum:

- Date of event;
- Description of the activities performed;
- Type of samples collected (e.g. groundwater, surface water, sediment, explosive gas, etc.); and
- Tabulated results or a copy of laboratory analysis report and chain of custody record.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized in Table 3.6-1 below.

Table 3.6-1: Schedule of Monitoring/Inspection Reports

Task	**Reporting Frequency***
Groundwater Sampling	Three quarterly monitoring letter reports and one annual Periodic Review Report (i.e., Post-Closure Monitoring Report)
Landfill Inspection	
Explosive Gas Monitoring	
Site-Wide Inspections	Annual in Periodic Review Report
Surface Water Sampling	Two Annual Events
Sediment Sampling	Two Annual Events

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

4.0 OPERATION AND MAINTENANCE PLAN

4.1 INTRODUCTION

This Operation and Maintenance Plan describes the measures necessary to operate, monitor and maintain the components of the remedy selected for the site. This Operation and Maintenance Plan:

- Includes the steps necessary to allow individuals unfamiliar with the site to operate and maintain the low permeability soil cover/cap and stormwater management systems;
- Will be updated periodically to reflect changes in site conditions or the manner in which the low permeability cover system/cap and stormwater management system are operated and maintained.

A copy of this Operation and Maintenance Plan, along with the complete SMP, will be kept at the offices of the Town of Amenia Town Supervisor. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of the SMP.

4.2 ENGINEERING CONTROL SYSTEM OPERATION AND MAINTENANCE

4.2.1 Low Permeability Cover System/Cap Description

The Amenia Town Landfill cover system consists of a gas venting layer (bi-planar geonet with thermally bonded 6-ounce non-woven geotextile filter fabric on each side), low permeability barrier layer (40-mil textured linear low density polyethylene geomembrane liner), geocomposite drainage layer (tri-planar geonet with thermally bonded 6-ounce non-woven geotextile filter fabric on each side), barrier protection layer (18-inch thick silty sand layer) and topsoil and vegetative cover layer (6-inch thick topsoil layer with grass vegetative cover). The low permeability cover system/cap is more thoroughly described in Section 2.2.1.1.

4.2.2 Stormwater Management System Description

The primary stormwater management system for the Amenia Town Landfill consists of drainage swales and an underdrain below the drainage swales around the perimeter of the landfill on the east, north and west sides of the landfill; PVC drain basins which tie into the underdrain pipe below the perimeter drainage swale and roadway drain crossings (culvert pipes) on the west side of landfill; drainage swales at select other locations at the site; and culvert pipes for conveyance of stormwater runoff at select locations. The stormwater management system is more thoroughly described in Section 2.2.1.2.

4.2.3 System Operation and Routine Maintenance

4.2.3.1 Low Permeability Cover System/Cap

The integrity of the Amenia Town Landfill's final cover (low permeability cover system/cap), including cover materials, vegetative cover, slopes, drainage swales, groundwater monitoring wells, and gas venting structures shall be maintained for a minimum period of thirty (30) years after the landfill closes unless approval is given by NYSDEC to eliminate some or all of the post closure maintenance requirements.

The vegetative cover shall be mowed on a regular basis to facilitate inspection, to prevent the growth of rooty plants, and to minimize habitation by animals. Areas that do not have a good vegetative cover shall be seeded and mulched. When necessary, due to high or dense vegetative growth, the cover shall be mowed before the landfill inspections. At a minimum, the vegetative cover shall be mowed twice a year. **NOTE:** No weed wacking of the vegetation, plantings and shrubs along the east shoreline of West Pond on the west side of the west access road shall occur.

Any repairs needed should be completed within three months following the inspection of the landfill. Areas where erosion has occurred shall be re-graded to restore the full final cover depth and shall be seeded and mulched. Animal burrows shall be backfilled with sand and topsoil at the surface, as applicable depending on the depth of the burrow, and the area seeded and mulched. If persistent animal damage is noted (burrows), a licensed pest control company should be contacted to remove the nuisance

animal. Any obstructions found within the surface water drainage swales shall be removed. Any obstruction or damage to surface water drainage swales shall be repaired. Any damage to a monitoring well, gas venting structure, fence or other structure shall be repaired, or the structure replaced.

4.2.3.2 Stormwater Management System

The stormwater management system needs to undergo regular inspection and maintenance in order to function properly and at design capacity. Maintenance needs may include: removal of silt/sediment, litter and other debris from drainage swales; mowing of the grass/vegetative cover; and re-seeding of areas that do not have a good vegetative cover.

A Maintenance Inspection Form Stormwater Management System, (refer to Appendix F for blank form) shall be completed to document inspection and maintenance of the stormwater management system performed at the Amenia Town Landfill. This form provides a summary of the inspection requirements for each stormwater facility component, a frequency of inspection and a description of the anticipated routine maintenance that is required. A new form shall be filled out during each inspection. Observations made during the inspection should be written in the "Inspection Comments" field. If it is determined that maintenance is required, a description of the maintenance conducted and the date of the maintenance should be written in the "Maintenance Comments" field. Copies of completed Maintenance Inspection Forms shall be maintained.

The following sections outline the procedures and schedule to be followed to perform routine inspection and maintenance activities associated with the stormwater management system.

A. PVC Drain Basins

PVC drain basins are structures that convey storm water from the west perimeter underdrain and drainage swale to roadway drain crossings (culvert pipes) beneath the west access road.

PVC drain basins should be visually inspected for trash and sediment at least twice a year and after major storm events. If trash is observed, it should be removed and disposed of properly. If excessive sediment deposition is observed measures should be taken to remove the sediment.

B. End Sections

End sections are found at the end of culvert pipes, and in some cases include rock protection such as stone filling aprons. The purpose of stone filling aprons placed at the end of pipes is to reduce the velocity, depth and energy of water, such that the flow will not erode downstream areas.

The end section of pipes, including stone filling aprons, should be visually inspected for trash and sediment at least twice a year and after major storm events. If trash is observed, it should be removed and disposed of properly. If excessive sediment deposition is observed on the stone fill apron, measures should be taken to remove the sediment. Excessive sedimentation occurs when the stones on the bottom of the apron are no longer visible due to sediment deposition. It is recommended that accumulated sediments be removed with a hand shovel and disposed of off-site at an approved or otherwise authorized solid waste disposal facility.

C. Drainage Culverts

Drainage culverts are pipes that convey stormwater flows from one location to another. At the site, drainage culverts convey flow from the east drainage swale to the north drainage swale, from the PVC drain basins in the west drainage swale to West Pond, from the drainage swale on the east side of the access road south of the landfill to the level spreader on the west side of the south access road, and from the far southwestern area of the site to the drainage swale on the north and east side of the steep southwest access road.

Drainage culvert pipes should be inspected at least twice a year and after major storm events to determine if any debris, obstructions or floatables are present. If the flow in the culverts appears confined (i.e., drain basins are full of water or slow draining, or the flow from the end section is low), then a constriction may be present. If a

constriction is probable or if debris or obstructions are present, they should be removed by mechanical means or flushing the pipes with water using a high-powered hose, depending on the location (debris and/or sediment are not to be discharged to West Pond).

D. Level Spreader

A level spreader is a feature with the purpose of reducing the velocity, depth and energy of water, such that the flow will not erode downstream areas.

The level spreader should be visually inspected for trash and sediment at least twice a year and after major storm events. If trash is observed, it should be removed and disposed of properly. If excessive sediment deposition is observed measures should be taken to remove the sediment.

E. Debris Removal From Drainage Swales

All debris (downed branches, rooty vegetation, silt/sediment, trash, etc.) and obstructions shall be removed from the drainage swales. Debris and obstructions shall be removed as part of the regular maintenance of the site and after major storm events. Debris in the drainage swales can obstruct the flow of surface water runoff. Vegetation in the stone lined drainage swales shall be cut and removed as part of the regular maintenance of the site so as not to obstruct the flow of surface water runoff. All debris and vegetation shall be disposed of off-site at an approved or otherwise authorized solid waste disposal facility.

A blank Maintenance Inspection Form for Stormwater Management System is included in Appendix F.

4.3 MONITORING SCHEDULE

Inspection frequency is subject to change with the approval of the NYSDEC. Unscheduled inspections and/or sampling may take place when a suspected failure of a component of the low permeability cover system/cap or stormwater management system has been reported or an emergency occurs that is deemed likely to affect the operation of the systems.

Monitoring deliverables for the low permeability cover system/cap and stormwater management system are specified later in this SMP.

4.3.1 Monitoring Schedule For Low Permeability Cover System/Cap

Inspections of the landfill cover system will initially be conducted quarterly during water quality monitoring events. Inspection observations shall be recorded on the Site-Wide Inspection Form (refer to Appendix F for blank form), and shall include the date, identity of inspector, status of landfill cover, description of vegetative cover condition, repairs needed and repairs completed since the last inspection. During the inspections, the vegetative cover shall be inspected for burrows created by animals, sparsely vegetated areas, ponding, depressions, leachate seeps, signs of erosion or any other notable damage. The gas venting structures shall be inspected for stability and insect screens shall be checked for blockages. The monitoring wells shall also be inspected for any damage and their condition recorded.

4.3.2 Monitoring Schedule For Stormwater Management

In general, the frequency of inspection of each stormwater management system component should be at least twice a year (spring and fall) and after a major storm event, unless otherwise noted. Major storm events are considered to be those that result in more than 2.3 inches of rain falling within a single 24-hour period (a 1-year storm event).

4.4 MAINTENANCE AND PERFORMANCE MONITORING REPORTING REQUIREMENTS

Maintenance reports and any other information generated during regular operations at the site will be kept on-file at the Town of Amenia Town Supervisor's Office. All reports, forms, and other relevant information generated will be available upon request to the NYSDEC and submitted as part of the Periodic Review Report, as specified in the Section 5.0 of this SMP.

4.4.1 Routine Maintenance Reports

Checklists or forms will be completed during each routine maintenance event. Checklists/forms will include, but not be limited to the following information:

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

4.4.2 Non-Routine Maintenance Reports

During each non-routine maintenance event, a form will be completed which will include, but not be limited to, the following information:

- Date;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Presence of leaks;
- Date of leak repair;
- Other repairs or adjustments made to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

5.0 INSPECTIONS, REPORTING AND CERTIFICATIONS PLAN

5.1 SITE INSPECTIONS

5.1.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3.0 Site Monitoring Plan and Section 4.0 Operation and Maintenance Plan of this SMP. At a minimum, a site-wide inspection (Section 3.4) will be conducted annually. Inspections of remedial components will also be conducted whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate forms for their respective system (refer to Appendix F for blank Maintenance Inspection Form Stormwater Management System. Additionally, a general site-wide inspection form will be completed during the site-wide inspection (refer to Appendix F for blank Site-Wide Inspection Form). These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format in the Periodic Review Report (i.e., Post-Closure Monitoring Report).

5.1.3 Evaluation of Records and Reporting

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

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

- The site remedy continues to be protective of public health and the environment and is performing as designed in the Remedial Design Report and FER.

5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

After the last inspection of the reporting period, a Professional Engineer licensed to practice in New York State will prepare the following certification:

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

- The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;
- Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the site is compliant with the environmental easement;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and

- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true to the best of my knowledge. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, _____, of _____, am certifying as Owner's Designated Site Representative for the site.

The signed certification will be included in the Periodic Review Report (i.e., Post-Closure Monitoring Report) described below.

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

- The institutional control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;
- Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the site is compliant with the environmental easement.
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, _____, of _____ am certifying as Owner's Designated Site Representative.

5.3 PERIODIC REVIEW REPORT

A Periodic Review Report (i.e., Post-Closure Monitoring Report) will be submitted to the Department every year, beginning eighteen months after the Certificate of Completion is issued. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix A (Metes and Bounds Description). The report will be prepared in accordance with NYSDEC DER-10 and 6 NYCRR Part 360 and submitted within 45 days of the end of each certification period. Media sampling results will also incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site;
- Results of the required annual site inspections and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, surface water, sediment, explosive gas, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedences highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends;
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format;
- A site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the site-specific ROD;

- Any new conclusions or observations regarding site contamination based on inspections or data generated by the Site Monitoring Plan for the media being monitored;
- Recommendations regarding any necessary changes to the remedy and/or Site Monitoring Plan; and
- The overall performance and effectiveness of the remedy.

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

5.4 CORRECTIVE MEASURES PLAN

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

TABLES

Table 1.3.4-1 PCB Sediment Sampling Results - Validated

Table 1.3.4-2 Inorganic Sediment Sampling Results - Validated

Table 1.4.3-1 Summary of Contaminated Materials and Wastes Identification, Removal From Site, Transportation and Disposal Off-Site

Table 1.4.3-2 Summary of Post-Excavation PCB Soil Sampling Results – Validated

Table 1.4.3-3 Summary of Post-Waste Excavation Soil Sampling Results – Higher Ground Country Club – Validated

Table 1.4.3-4 Summary of Post-Waste Excavation Soil Sampling Results – South Side of Landfill – Validated

Table 1.4.3-5 Summary of Post-Waste Excavation Soil Sampling Results – West Side of Landfill – Validated

Table 1.4.3-6 Summary of Post-Excavation Sediment Sampling Results – Wet Removal Area – Validated

Table 1.4.3-7 Summary of Post-Excavation Sediment Sampling Results – Near Dry Removal Area – Validated

Table 1.4.3-8 Summary of Post-Excavation Sediment Sampling Results – Washout Areas – Validated

Table 1.4.3-9 Summary of Pre and Post Soil Sampling Results Below Decon Water Frac Tank - Validated

Table 3.3.1-1 Summary of Monitoring Wells

TABLE 1.3.4-1
PCB SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

Sample Collection Date:	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	
Sample ID:[1]	SED-2 (0-12)	SED-3 (0-14)	SED-4 (0-11)	SED-5 (16-31)	SED-6 (0-18)	SED-6 (18-35)	SED-7 (0-12)	FD01
Percent Moisture:[2]	78	79	80	45	85	82	86	87
PARAMETER	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Polychlorinated Biphenyls (PCBs) by EPA Method 8082:								
Aroclor-1016	<150	<160	<1600	<590	<220	<180	<230	<250
Aroclor-1221	<150	<160	<1600	<590	<220	<180	<230	<250
Aroclor-1232	<150	<160	<1600	<590	<220	<180	<230	<250
Aroclor-1242	<150	<160	<1600	<590	<220	<180	<230	<250
Aroclor-1248	870 P (J)	180 P (NJ)	**2300 (J)**	**1600**	**1300 P (R)**	<180	280 P (J)	<250 (UJ)
Aroclor-1254	<150	<160	<1600	<590	<220	<180	<230	<250
Aroclor-1260	<150	<160	<1600	<590	<220	<180	<230	<250

Sample Collection Date:	5/6/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008
Sample ID:[1]	SED-7 (12-25)	SED-8 (0-18)	EB01	SED-9 (0-11)	SED-9 (11-22)	SED-10 (0-22)	SED-11 (0-13)	SED-11 (13-27)
Percent Moisture:[2]	80	83	-	86	70	84	88	78
PARAMETER	ug/kg	ug/kg	ug/l	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Polychlorinated Biphenyls (PCBs) by EPA Method 8082:								
Aroclor-1016	<170	<950	<1.0	<230	<110	<2000	<270	<150
Aroclor-1221	<170	<950	<1.0	<230	<110	<2000	<270	<150
Aroclor-1232	<170	<950	<1.0	<230	<110	<2000	<270	<150
Aroclor-1242	<170	<950	<1.0	<230	<110	<2000	<270	<150
Aroclor-1248	<170	**3500 P (NJ)**	<1.0	<230	<110	**6800**	440 P (J)	<150
Aroclor-1254	<170	<950	<1.0	<230	<110	<2000	<270	<150
Aroclor-1260	<170	<950	<1.0	<230	<110	<2000	<270	<150

Sample Collection Date:	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008
Sample ID:[1]	SED-12 (0-22)	SED-13 (0-12)	SED-20 (13-26)	SED-21 (10-19)	SED-23 (12-24)	SED-24 (0-18)	SED-24 (18-36)	SED-24 (36-40)
Percent Moisture:[2]	84	46	84	69	83	89	86	87
PARAMETER	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Polychlorinated Biphenyls (PCBs) by EPA Method 8082:								
Aroclor-1016	<200	<60	<200	<100	<190	<300	<230	<250
Aroclor-1221	<200	<60	<200	<100	<190	<300	<230	<250
Aroclor-1232	<200	<60	<200	<100	<190	<300	<230	<250
Aroclor-1242	<200	<60	<200	<100	<190	<300	<230	<250
Aroclor-1248	<200	<60	<200	<100	<190	<300	<230	<250
Aroclor-1254	<200	<60	<200	480	<190	<300	<230	<250
Aroclor-1260	<200	<60	<200	<100	<190	<300	<230	<250

TABLE 1.3.4-1
PCB SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

Sample Collection Date:	5/7/2008	5/7/2008	5/8/2008	5/8/2008	5/8/2008	5/8/2008	5/8/2008	5/8/2008
Sample ID:[1]	SED-25 (0-13)	SED-25 (13-26)	EB03	SED-26 (0-16)	SED-27 (0-19)	SED-28 (0-13)	SED-28 (13-27)	SED-29 (0-25)
Percent Moisture:[2]	79	82	-	38	58	80	56	83
PARAMETER	ug/kg	ug/kg	ug/l	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Polychlorinated Biphenyls (PCBs) by EPA Method 8082:								
Aroclor-1016	<160	<180	<1.0	<53	<78	<160	<75	<190
Aroclor-1221	<160	<180	<1.0	<53	<78	<160	<75	<190
Aroclor-1232	<160	<180	<1.0	<53	<78	<160	<75	<190
Aroclor-1242	<160	<180	<1.0	<53	<78	<160	<75	<190
Aroclor-1248	<160	<180	<1.0	<53	120 P (J)	210 P (J)	<75	460 P (J)
Aroclor-1254	<160	<180	<1.0	<53	<78	<160	<75	<190
Aroclor-1260	<160	<180	<1.0	<53	<78	<160	<75	<190

Sample Collection Date:	5/8/2008	5/8/2008	5/8/2008		5/8/2008	4/20/2009	4/20/2009
Sample ID:[1]	SED-30 (0-18)	SED-31 (0-9)	SED-31 (9-18)	FD04	SED-31 (18-26)	EB07	SED-32 (0-13)
Percent Moisture:[2]	84	82	28	74	81	-	74
PARAMETER	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l	ug/kg
Polychlorinated Biphenyls (PCBs) by EPA Method 8082:							
Aroclor-1016	<1000	<180	<45	<130	<170	<1.0 (UJ)	<250
Aroclor-1221	<1000	<180	<45	<130	<170	<1.0 (UJ)	<250
Aroclor-1232	<1000	<180	<45	<130	<170	<1.0 (UJ)	<250
Aroclor-1242	<1000	<180	<45	<130	<170	<1.0 (UJ)	<250
Aroclor-1248	**5000**	580 (J)	<45 (UJ)	260 (J)	440	<1.0 (UJ)	**3600**
Aroclor-1254	<1000	<180	<45	<130	<170	<1.0 (UJ)	**3200**
Aroclor-1260	<1000	<180	<45	<130	<170	<1.0 (UJ)	<250

Sample Collection Date:	4/20/2009		4/20/2009	4/20/2009	4/20/2009	6/14/2012	6/14/2012	6/14/2012
Sample ID:[1]	SED-33 (0-17)	FD06	SED-34 (0-23)	SED-40 (0-10)	SED-40 (10-20)	SED-76 (2-6)	SED-76 (6-8)	SED-76 (8-10)
Percent Moisture:[2]	58	62	77	85	80	14.1	11.7	24.5
PARAMETER	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Polychlorinated Biphenyls (PCBs) by EPA Method 8082:								
Aroclor-1016	<79	<87	<140	<220	<160	<290 (UJ)	<280 (UJ)	<140 (UJ)
Aroclor-1221	<79	<87	<140	<220	<160	<290 (UJ)	<280 (UJ)	<140 (UJ)
Aroclor-1232	<79	<87	<140	<220	<160	<290 (UJ)	<280 (UJ)	<140 (UJ)
Aroclor-1242	<79	<87	<140	<220	<160	<290 (UJ)	<280 (UJ)	<140 (UJ)
Aroclor-1248	620 (J)	**1000 (J)**	**5000 D**	**1600**	**1900**	<290 (UJ)	<280 (UJ)	<140 (UJ)
Aroclor-1254	330 (J)	**540 (J)**	**1900**	**1100**	**1200**	<290 (UJ)	<280 (UJ)	<140 (UJ)
Aroclor-1260	<79	<87	<140	<220	<160	<290 (UJ)	<280 (UJ)	<140 (UJ)

TABLE 1.3.4-1
PCB SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

Sample Collection Date:	6/14/2012	6/14/2012		6/14/2012	6/15/2012	6/15/2012	6/15/2012	6/15/2012
Sample ID:[1]	EB-21	SED-77 (2-6)	FD-21	SED-77 (6-10)	SED-85 (2-6)	SED-85 (6-10)	SED-86 (2-6)	SED-86 (8-10)
Percent Moisture:[2]	-	14.3		10.7	11.8	19		
PARAMETER	ug/l	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Polychlorinated Biphenyls (PCBs) by EPA Method 8082:								
Aroclor-1016	<1	<240 (UJ)	<240 (UJ)	<310 (UJ)	<270 (UJ)	<240 (UJ)	<160 (UJ)	<110
Aroclor-1221	<1	<240 (UJ)	<240 (UJ)	<310 (UJ)	<270 (UJ)	<240 (UJ)	<160 (UJ)	<110
Aroclor-1232	<1	<240 (UJ)	<240 (UJ)	<310 (UJ)	<270 (UJ)	<240 (UJ)	<160 (UJ)	<110
Aroclor-1242	<1	<240 (UJ)	<240 (UJ)	<310 (UJ)	<270 (UJ)	<240 (UJ)	<160 (UJ)	<110
Aroclor-1248	<1	<240 (UJ)	<240 (UJ)	<310 (UJ)	<270 (UJ)	<240 (UJ)	<160 (UJ)	<110
Aroclor-1254	<1	<240 (UJ)	<240 (UJ)	<310 (UJ)	<270 (UJ)	<240 (UJ)	**720 (J)**	<110
Aroclor-1260	<1	<240 (UJ)	<240 (UJ)	<310 (UJ)	<270 (UJ)	<240 (UJ)	**740 (J)**	<110

Notes:

ug/kg denotes micrograms per kilogram or parts per billion (ppb).

ug/l denotes micrograms per liter or parts per billion (ppb).

Results, except equipment blanks are presented on a dry weight basis.

D indicates concentration was obtained from a diluted analysis.

P indicates a >40% difference for detected concentration between the two GC colums used for primary and confirmation analysis, typically indicating an interference, causing one value to be unusually high. Lower of the two values reported.

(J) Denotes data validator's qualifier. Indicates positive sample result is considered estimated. (2008-2009)

(J) Denotes data validator's qualifier. Indicates the analyte was positively identified; the assocaited numerical value is an approximate concentration of the analyte in the sample. (2012)

(UJ) Denotes data validator's qualifier. Indicates the sample results is not detected and the detection limit is considered estimated. (2008-2009)

(UJ) Denotes data validator's qualifier. Indicates the analyte was analyzed for, but was not detected. The associated reported quantitiation limit is approximate and may be inaccurate or imprecise. (2012)

(N) Denotes data validator's qualifier. Indicates a "tentative identification" has been made of the presence of an analyte.

(R) Denotes data validator's qualifier. Indicates the positive sample result is considered unusable.

EB01 collected prior to collecting SED-9 (0-11) and SED-9 (11-22), EB03 collected prior to collecting SED-26, EB07 collected prior to collecting SED-32 (0-13), EB21 collected prior to collecting SED-77 (2-6).

FD01 collected at SED-7 (0-12), FD04 collected at SED-31 (9-18), FD06 collected at SED-33 (0-17), FD-21 collected at SED-77 (2-6)

NYSDEC Technical Guidance for Screening Contaminated Sediments, January 25, 1999:

-NYSDEC Fresh Water Human Health Bioaccumulation Sediment Criteria for PCB = 0.8 ug/kgOC.

-NYSDEC Fresh Water Wildlife Bioaccumulation Sediment Criteria for PCB = 1400 ug/kgOC.

Amenia Town Landfill Site Record of Decision (March 2006) site specific cleanup objective for PCBs = 1000 ug/kg.

Values in **BOLD** indicate an exceedance of the site specific cleanup objective.

[1] Value in parentheses is sediment depth interval in inches below top of sediment, except for samples collected in 2012 which represent the depth interval in feet below top of sediment.

[2] Measured in laboratory.

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	5/6/2008	5/6/2008	5/6/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	
		Sample ID:[1]	SED-1 (0-10)	SED-2 (0-15)	SED-3 (0-11)	SED-13 (0-7)	EB02	SED-14 (0-14)	SED-15 (11-22)	FD02
		Percent Solids:[2]	30	26	26	29	-	30	17	18
PARAMETER	Lowest Effect Level (mg/kg)[3]	Severe Effect Level (mg/kg)[3]	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	mg/kg	mg/kg	mg/kg
Aluminum	-	-	15,300	14,500	9,490	23,000	<37.0	18,800	3,290	3,130
Antimony	2	25	<0.30	<0.31	1.6 B	0.44 BN	<4.4	0.26 BN	0.45 BN (J)	<0.50 (UJ)
Arsenic	6	33	**8.5**	4.6	3.3	4.4	<2.5	**8.3**	3.6	2.7 B
Barium	-	-	100	76.1	39.2	88.2	<11.0	147	61.8	65.0
Beryllium	-	-	0.96	0.54	5.8	0.39 BE (J)	<0.051	0.79 E	0.20 BE	0.18 B
Cadmium	0.6	9	0.13 B	**0.88**	**1.4**	0.33 B	<0.11	0.47	**0.72 B (J)**	0.35 B (J)
Calcium	-	-	16400	49,200	33,400	3,440	122 B	7,940	34,500	34,600
Chromium	26	110	17.7	15.1	9.1	19.0 E (J)	0.43 B	18.5 E	4.1 E	3.6
Cobalt	-	-	17.3	13.8	60.9	7.2 E (J)	0.12 B	10.8 E	3.0 BE	2.7 BE
Copper	16	110	**28.2**	**35.8**	**22.5**	**131 N**	4.6 B	**27.4 N**	**26.2 N (J)**	**21.2 (J)**
Iron	2%	4%	**48,200**	**25,000**	**21,500**	**26,800 E (J)**	91.5 B	**33,100 E**	8,340 E	8,010 *
Lead	31	110	20.5	**39.5**	20.0	**269 *E (J)**	<1.2	**75.1 *E**	20.4 *E	17.4
Magnesium	-	-	6,200	10,300	5,580	4,920 E (J)	37.1 B	6,230 E	6,200 E	6,110
Manganese	460	1100	**761**	**868**	**2,010**	252 E (J)	3.4 B	**850 E**	420 E	421
Mercury	0.15	1.3	0.069 B	0.077 B	0.043 B	0.15	<0.016	**0.20**	0.13 B (J)	0.074 B (J)
Nickel	16	50	**38.8**	**27.9**	**186**	15.8 E (J)	0.50 B	**23.3 E**	8.7 E	8.1 B
Potassium	-	-	1180	1260	1,220	860	47.5 B	678	206	201
Selenium	-	-	<0.30	<0.31	<0.30	<0.28	<5.2	<0.26	2.1 B	1.2 B
Silver	1	2.2	<0.095	<0.096	<0.094	0.33 B	<1.2	0.89 B	0.38 B	0.46 B
Sodium	-	-	52.5	70.7 B	92.7	52.7 B	<64.0	87.6 B	415	400
Thallium	-	-	1.3	1.3 B	1.1 B	0.92 B	<2.8	1.2 B	0.33 B	0.65 B
Vanadium	-	-	22.3	18.4	13.0	37.5 E	<0.40	25.9 E	8.2 E	7.6 B
Zinc	120	270	111	112	**436**	**520 E (J)**	18.5 B	**124 E**	50.2 E	45.9

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008
		Sample ID:[1]	SED-16 (0-6)	SED-16 (18-24)	SED-16 (24-27)	SED-17 (0-10)	SED-17 (10-19)	SED-18 (18-24)	SED-19 (0-12)	SED-20 (10-21)
		Percent Solids:[2]	12	20	14	11	16	15	17	15
PARAMETER	Lowest Effect Level (mg/kg)[3]	Severe Effect Level (mg/kg)[3]	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	-	-	10,100	15,000	2,560	2,910	1,250	1,930	7370	2,050
Antimony	2	25	1.1 BN	<0.47 N	<0.79 N	<1.1 N	<0.75 N	<0.80 N	1.4 BN	<0.80
Arsenic	6	33	**8.7**	**11.7**	4.5 B	3.7 B	1.7 B	2.6 B	4.3	0.74 B
Barium	-	-	133	242	63.1	67.4 B	36.1 B	49.2 B	233	46.4 B
Beryllium	-	-	0.40 BN	0.85 E	0.26 BE	0.17 BE	0.095 BE	0.11 BE	0.23 BE	0.13 B
Cadmium	0.6	9	**1.6**	**1.1**	**0.93 B**	**0.82 B**	0.44 B	**0.82 B**	**5.7**	0.26 B
Calcium	-	-	19,500	48,800	33,500	36,100	36,500	40,700	14300	35,800
Chromium	26	110	16.7 E	15.5 E	3.6 BE	4.9 BE	1.8 BE	2.9 BE	22.0 E	2.9 B
Cobalt	-	-	13.7 E	15.6 E	5.1 BE	3.9 BE	0.77 BE	0.87 BE	6.4 BE	0.64 BE (<0.64
Copper	16	110	**77.6 N**	**77.2 N**	**40.6 N**	**27.4 N**	12.0 N (<12 U)	**29.7 N**	**333 N**	14.9 (<14.9 U)
Iron	2%	4%	**28,400 E**	**36,300 E**	14,400 E	11,300 E	2,840 E	2,410 E	15700 E	2,710 *
Lead	31	110	**156 *E**	30.0 *E	3.9 *E	**48.8 *E**	3.0 *E	15.0 *E	**228 *E**	2.4 B (<2.4 U)
Magnesium	-	-	5,960 E	5,790 E	4040 E	4,500 E	4,510 E	5,380 E	4770 E	3,980
Manganese	460	1100	**463 E**	**1,780 E**	**708 E**	**521 E**	186 E	106 E	219 E	167
Mercury	0.15	1.3	**0.35**	0.14 B	0.089 B	**0.19 B**	0.037 B	0.064 B	**1.5**	<0.033
Nickel	16	50	**26.4 E**	**28.4 E**	11.1 BE	9.1 BE	4.8 BE	8.2 BE	**23.6 E**	6.3 B
Potassium	-	-	995	1,160	186 B	375 B	123 B	100 B	329	95.8 B
Selenium	-	-	<0.66	<0.47	0.79 B	1.1 B	3.9 B	7.5 B	<0.51	2.1 B
Silver	1	2.2	**3.6 B**	<0.15	<0.25	**1.1 B**	<0.23	0.42 B	**12.0**	<0.25
Sodium	-	-	165 B	290	207 B	145 B	219 B	83.0 B	105 B	413
Thallium	-	-	<0.48	2.5 B	0.82 B	<0.83	<0.54	<0.57	<0.37	<0.58
Vanadium	-	-	20.0 E	22.0 E	4.9 BE	12.3 BE	3.1 BE	5.8 BE	19.0 E	3.5 B
Zinc	120	270	**318**	**203 E**	32.0 E	107 E	10.1 BE (<10.1	52.0 E	**1,310 E**	10.7 B (<10.7 U)

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	
		Sample ID:[1]	SED-22 (0-12)	SED-22 (12-24)	SED-22 (24-28)	SED-24 (0-12)	SED-24 (12-24)	SED-24 (24-36)	SED-25 (0-13)-M	FD03
		Percent Solids:[2]	9	15	14	14	14	13	18	19
PARAMETER	**Lowest Effect Level (mg/kg)[3]**	**Severe Effect Level (mg/kg)[3]**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Aluminum	-	-	1,900	1,170	1,030	2,540	1,300	1,630	9,130	8,430
Antimony	2	25	<1.0	<0.65	<0.79	1.4 B	<0.64	<0.74	<0.48	0.43 B
Arsenic	6	33	<0.98	<0.61	<0.71	1.7 B	<0.60	<0.69	3.4	3.5
Barium	-	-	47.4 B	42.9 B	41.7 B	61.2	41.3 B	44.8 B	101	97.4
Beryllium	-	-	0.074 B	0.057 B	0.049 B	0.10 B	0.076 B	0.095 B	0.49 B	0.47 B
Cadmium	0.6	9	0.35 B	0.21 B	0.20 B	**1.1**	0.15 B	0.39 B	0.36 B	0.33 B
Calcium	-	-	52,900	38,400	38,700	29,100	33,300	37,300	28,800	28,400
Chromium	26	110	2.7 B	1.5 B (<1.5 U)	1.2 B (<1.2 U)	4.5 B	2.0 B	2.3 B	12.3	11.4
Cobalt	-	-	1.7 BE	0.58 BE	0.38 BE (<0.38 U)	1.8 BE	0.86 BE	0.77 BE	3.6 BE	3.5 BE
Copper	16	110	**21.8 (<21.8 U)**	11.7 (<11.7 U)	11 (<11 U)	**46.3**	7.0 (<7 U)	10.1 (<10.1 U)	11.4 (<11.4 U)	12.2 (<12.2 U)
Iron	2%	4%	5,980 *	3,560 *	2,250 *	4,670 *	2,190 *	1,540 *	10,700 *	11,900 *
Lead	31	110	19.6	2.0 B (<2.0 U)	0.63 B (<0.63 U)	**56.7**	1.6 B (<1.6 U)	0.90 B (<0.9 U)	12.3	12.5
Magnesium	-	-	3,510	4,300	4,460	3,980	4,370	4,640	5,820	5,560
Manganese	460	1100	191	122	114	224	148	90.7	233	236
Mercury	0.15	1.3	0.098 B	<0.036	<0.037	0.077 B	0.036 U	<0.042	0.072 B	0.061 B
Nickel	16	50	5.1 B	3.7 B	3.2 B	6.8 B	3.8 B	5.9 B	12.2	12.2
Potassium	-	-	241 B	88.1 B	70.9 B	148 B	68.2 B	58.8	329	294
Selenium	-	-	<1.0	1.4 B	<0.79	0.69 B	<0.64	0.74 B	1.4 B	2.8 B
Silver	1	2.2	0.78 B	<0.21	<0.24	**1.3 B**	<0.20	<0.23	<0.15	<0.14
Sodium	-	-	219 B	350	449	111 B	147 B	201 B	49.5 B	49.3 B
Thallium	-	-	1.4 B	0.99 B	1.4 B	<0.51	<0.47	2.0 B	1.0 B	0.71 B
Vanadium	-	-	4.2 B	1.7 B	1.5 B	9.2 B	2.0 B	2.8 B	9.0	9.0
Zinc	120	270	87.3	19.5 (<19.5 U)	12.8 B (<12.8 U)	**229**	11.0 (<11 U)	8.5 B (<8.5 U)	23.9 (<23.9 U)	24.8 (<24.8 U)

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	5/7/2008	5/8/2008	5/8/2008	5/8/2008	5/8/2008	4/20/2009	4/20/2009	4/20/2009
		Sample ID:[1]	SED-25 (13-27)	EB04	SED-31 (0-9)	SED-31 (9-18)	SED-31 (18-27)	EB06	SED-35 (0-23)	SED-36 (0-21)
		Percent Solids:[2]	17	-	29	37	73	-	22	17
PARAMETER	Lowest Effect Level (mg/kg)[3]	Severe Effect Level (mg/kg)[3]	mg/kg	ug/l	mg/kg	mg/kg	mg/kg	ug/l	mg/kg	mg/kg
Aluminum	-	-	10,300	<37.0	7,120	7,370	3,490	<56.0	9,920	9,900
Antimony	2	25	<0.59	<4.4	1.3 B	**2.3**	**2.4**	<4.6	<0.60 N	<0.82 N
Arsenic	6	33	2.6 B	<2.5	4.8	1.7	<0.099	<5.3	**9.5**	**7.8**
Barium	-	-	102	<11.0	40.6	45.9	2.9 B	9.2 B	78.9	87.2
Beryllium	-	-	0.59 B	<0.051	1.9	2.9	4.5	<0.13	2	1.9
Cadmium	0.6	9	0.47 B	<0.11	**0.82**	**1.8**	**2.5**	<0.14	**1.4**	**1.3 B**
Calcium	-	-	29,900	<99.0	32500	6,830	2,380	<130	16100	55,800
Chromium	26	110	15.0	<0.22	6.5	8.1	3.6	<1.1	11.6	11.1
Cobalt	-	-	4.7 BE (J)	0.27 B	35.9	54.3	52.0	<1.2	25.5 E	25.7 E (J)
Copper	16	110	15.8 (<15.8 U)	5.7 B	14.0	11.3	<0.067	**16.4 B**	**33.9**	**31.3**
Iron	2%	4%	10,600 * (J)	<89.0	**99,900**	**165,000**	**176,000**	<61.0	**59,500 E**	**58,900 E (J)**
Lead	31	110	13.0	<1.2	21.6	**38.9**	9.4	<2.2	**44.6 E**	**35.0 E (J)**
Magnesium	-	-	6,390	<7.9	4,020	3,580	1,880	<77.0	5,130 E	5680 E (J)
Manganese	460	1100	227	3.9 B	**1,950**	**2,380**	**1,850**	9.1 B	**1,930 E**	**3,520 E (J)**
Mercury	0.15	1.3	0.077 B	0.14 B	0.071B (<0.071U)	0.075B (<0.075U)	0.0095B (<0.0095U)	<0.016	0.12 B	0.098 B
Nickel	16	50	15.1	<0.22	**96.3**	**149**	**173**	<1.5	**60.8 E**	**61.4 E (J)**
Potassium	-	-	379	<36.0	853	720	941	<41.0	694	915
Selenium	-	-	3.9 B	<5.2	<0.27	<0.23	<0.11	<6.6	<2.6 N	<3.5 N
Silver	1	2.2	<0.19	<1.2	<0.083	<0.072	<0.033	**8.1 B**	<0.47	<0.64
Sodium	-	-	50.9	<64.0	48.8 B	36.1 B	8.3 B	30.6 B	63.4 B	93.7 B
Thallium	-	-	0.75 B	<2.8	<0.19	<0.17	<0.078	<4.2	<1.5	<2.0
Vanadium	-	-	8.3 B	<0.40	13.2	15.3	5.3	<0.96	16.3 E	14.9 BE (J)
Zinc	120	270	23.3 (<23.3 U)	11.0 B	**262**	**423**	**404**	19.5 B	**201 E**	**184 E (J)**

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

Sample Collection Date:			4/20/2009		4/20/2009	4/20/2009	4/20/2009	4/20/2009	4/20/2009	4/20/2009
Sample ID:[1]			SED-39 (0-13)	FD07	SED-40 (0-10)-M	SED-40 (10-19)-M	SED-41 (0-20)	EB08	SED-42 (0-18)	SED-43 (0-13)
Percent Solids:[2]			57	52	21	35	18	-	75	61
PARAMETER	Lowest Effect Level (mg/kg)[3]	Severe Effect Level (mg/kg)[3]	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	mg/kg	mg/kg
Aluminum	-	-	6,230	5710	13,100	15,500	13,400	<56.0	2,920	4,720
Antimony	2	25	<0.21 N	<0.24 N	<0.54 N	0.87 BN	0.76 BN (<0.76 U)	<4.6	<0.14 N	<0.19 N
Arsenic	6	33	2.9	3.3	**7.6**	**8.5**	**8.7**	<5.3	1.8	4.6
Barium	-	-	24.9	24.7	83.9	96	88.2	<8.5	19.7	36.5
Beryllium	-	-	3	3.6	1.1	1.2	1.3 B	<0.13	3.5	3.9
Cadmium	0.6	9	**1.5 (J)**	**1.9 (J)**	**0.94 B**	**1.1**	**0.79 B**	<0.14	**2.3**	**2.1**
Calcium	-	-	9,080	10200	24,700	6,630	42,200	<130	570	1,610 (J)
Chromium	26	110	6.9	6.3	14.5	16.4	13.9	<1.1	2.6	4.1
Cobalt	-	-	36.8 E	39.6 E	16.8 E	17.8 E	19.5 E (J)	<1.2	30.1 E	45.4 E
Copper	16	110	13.3	14.7	**34.6**	**39.7**	**28.1**	<5.0	1.3 B	8.1
Iron	2%	4%	**71,900 E (J)**	**94,200 E (J)**	**33,500 E**	**43,100 E**	**43,400 E (J)**	<61.0	**134,000 E**	**132,000 E**
Lead	31	110	13.0 E	14.8 E	**55.2 E**	**70.7 E**	**39.9 E (J)**	<2.2	6.6 E	16.1 E
Magnesium	-	-	4,380 E (J)	3,070 E (J)	6,610	6,700	6,190	<77.0	1,280	3,340
Manganese	460	1100	**1,340 E (J)**	**934 E (J)**	**1,360 E**	**849 E**	**2,740 E (J)**	<0.96	**822 E**	**1,050 E**
Mercury	0.15	1.3	0.036 B	0.028 B	0.11 B	0.15	0.097 B	<0.016	<0.0070	0.029 B
Nickel	16	50	**88.7 E (J)**	**124 E (J)**	**39.7 E**	**43.8 E**	**45.3 E (J)**	<1.5	**126 E**	**153 E**
Potassium	-	-	764	682	964	890	1,070	<41.0	483	750
Selenium	-	-	<0.90 N	<1.0 N	<2.3	<1.4	<3.2	<6.6	<0.60	<0.79
Silver	1	2.2	<0.16	<0.19	<0.43	0.39 B (<0.39 U)	**1.1 B**	0.64 B	<0.11	<0.15
Sodium	-	-	24.6 B	25.0 B	69.8 B (<69.8 U)	43.9 B (<43.9 U)	83.9 B (<83.9 U)	19.2 B	8.3 B (<8.3 U)	12.9 B (<12.9 U)
Thallium	-	-	<0.52 (UJ)	1.2 B (J)	<1.4	<0.83	<1.9	<4.2	<0.35	0.71 B (J)
Vanadium	-	-	6.8 E	5.9 E	20.2	24	18.9	<0.96	<0.037	2.4 B
Zinc	120	270	**224 E (J)**	**293 E (J)**	**157 E**	**188 E**	**154 E**	16.3 B	**276 E**	**349 E**

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	4/20/2009	4/20/2009	4/20/2009	8/13/2009	8/13/2009	8/13/2009		8/13/2009
		Sample ID:[1]	FD08	SED-44 (0-19)	SED-45 (0-6)	EB10	SED-46 (0-24)	SED-47(0-10)	FD10	SED-48 (0-10)
		Percent Solids:[2]	66	62	67	-	46	52	45	26
PARAMETER	Lowest Effect Level (mg/kg)[3]	Severe Effect Level (mg/kg)[3]	mg/kg	mg/kg	mg/kg	ug/l	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	-	-	4,300	4,240	2,700	<12.0	19,600	10,500	12,800	5,810
Antimony	2	25	<0.12 N	<0.13 N	<0.11 N	<4.2	0.30 BN	0.72 BN	0.72 BN	0.65 BN
Arsenic	6	33	3.4	3.3	1.9	<3.1	**8.1 N**	1.7 N	2.6 N	3.1 N
Barium	-	-	33.3	60.4	19.8	<2.9	71.7 E	57.5 E	68.2 E	109 E
Beryllium	-	-	3.4	3.7	5.3	<0.037	2.1	3.0	2.9	3.6
Cadmium	0.6	9	**2.4**	**2.2**	**2.4**	<0.50	**1.1 E**	**2.0 E (J)**	**1.1 E (J)**	**1.0 E**
Calcium	-	-	1,070 (J)	1,370	2,810	<87.0	3,470 E	8,290 E (J)	5,440 E (J)	5,400 E
Chromium	26	110	3.9	4.2	2.1	<0.50	19.5	10.6 (J)	13.9 (J)	7.8
Cobalt	-	-	39.8 E	46.8 E	43.3 E	<0.67	66.3 E	48.4 E	51.9 E	53.6 E
Copper	16	110	6.8	8.9	1.2	<4.7	**45.3**	**25.9 (J)**	**35.4 (J)**	**21.5**
Iron	2%	4%	**131,000 E**	**115,000 E**	**129,000 E**	<47.0	**78,600**	**112,000**	**98,100**	**104,000**
Lead	31	110	13.5 E	19.3 E	6.2 E	<2.1	25.5 E	19.3 E (J)	25.8 E (J)	**91.3 E**
Magnesium	-	-	2,570	3140	1,320	<62.0	9,680 E	5,390 E (J)	6,780 E (J)	4,030 E
Manganese	460	1100	**1,060 E**	**1,120 E**	**2,150 E**	<3.5	**1,040 E**	**2,250 E (J)**	**1,280 E (J)**	**1,060 E**
Mercury	0.15	1.3	0.032 B	0.039 B	<0.0076	<0.056	0.056 B	0.057 B	0.057 B	0.13
Nickel	16	50	**139 E**	**141 E**	**141 E**	<0.64	**135 NE**	**118 NE**	**127 NE**	**118 NE**
Potassium	-	-	585	607	276	<59.0	1,920	960 (J)	1,210 (J)	391
Selenium	-	-	<0.53	<0.57	<0.46	<10.0	<0.90 N	<0.80 N	<1.5 N	<2.2 N
Silver	1	2.2	<0.098	<0.10	<0.084	<2.4	<0.091	<0.081	<0.15	<0.22
Sodium	-	-	11.8 B (<11.8 U)	14.5 B (<14.5 U)	9.1 B (<9.1 U)	56.4 B	47.8 B	29.8 B	32.3 B	41.1 B
Thallium	-	-	<0.31 (UJ)	0.53 B	<0.27	<5.7	0.55 B	<0.25	<0.46	0.90 B
Vanadium	-	-	1.5 B	2.5	<0.028	<0.34	21.1 E	10.0 E (J)	14.8 E (J)	15.3 E
Zinc	120	270	**312 E**	**320 E**	**304 E**	24.8	**227 NE**	**254 NE**	**264 NE**	**284 NE**

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	8/13/2009	8/13/2009	8/13/2009	8/13/2009	8/13/2009	8/13/2009	8/13/2009	8/13/2009
		Sample ID:[1]	SED-49 (0-11)	SED-50 (0-11)	SED-51 (0-4)	SED-52 (0-24)	SED-53 (0-13)	SED-54 (0-7)	SED-55 (0-8)	SED-56 (0-10)
		Percent Solids:[2]	63	65	70	31	38	17	15	36
PARAMETER	Lowest Effect Level (mg/kg)[3]	Severe Effect Level (mg/kg)[3]	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	-	-	3,670	5,070	3,510	9,520	10,900	5,310	4,800	4,730
Antimony	2	25	0.42 BN	0.41 BN	0.46 BN	<0.37	1.0 B	2.0 B	**2.3 B**	1.7 B
Arsenic	6	33	<0.16 N	<0.17 N	<0.20 N	4.9	**7.8**	**19.9**	5.8	3.3
Barium	-	-	45.1 E	31.3 E (J)	16.9 E	41.8	75.4	206	87.2	63.1
Beryllium	-	-	3.3	2.5	3.1	0.42 BE	1.5 E	2.0 E	2.2 E	3.9 E
Cadmium	0.6	9	**1.8 E**	**2.0 E (J)**	**2.3 E**	0.30 B	**1.1**	**0.62 B**	**1.0 B**	**1.9**
Calcium	-	-	1,330 E	853 E (J)	928 E	10,700 E	7,780 E	9,750 E	10,200 E	2,040 E
Chromium	26	110	4.1	6.4	4.8	15.9	12.5	4.3 B	6.4	4.1
Cobalt	-	-	38.1 E	33.2 E (J)	38.1 E	5.6 E	55.9 E	61.4 E	42.0 E	53.7 E
Copper	16	110	8.5	9.5	4.9	15.0 E	**39.1 E**	**25.1 R**	**24.8 E**	11.9 E
Iron	2%	4%	**104,000**	**118,000**	**142,000**	14,300	**70,600**	**137,000**	**64,000**	**162,000**
Lead	31	110	15.0 E	12.5 E (J)	10.7 E	10.2 E	**43.5 E**	27.5 E	**125 E**	18.6 E
Magnesium	-	-	2,550 E	3700 E	1,720 E	4,480 E	6,260 E	4,190 E	4,030 E	3,230 E
Manganese	460	1100	**1,830 E**	**1,060 E** (J)	**970 E**	286 E	**1,020 E**	**12,700 E**	**844 E**	**3,700 E**
Mercury	0.15	1.3	0.033 B	0.020 B	0.014 B	0.047 B	0.077 B	0.12 B	**0.20 B**	0.053 B
Nickel	16	50	**113 NE**	**123 NE** (J)	**126 NE**	14.2 E	**109 E**	**76.9 E**	**112 E**	**175 E**
Potassium	-	-	654	1,160	447	624	1,180	697	388	611
Selenium	-	-	<0.80 N	<0.84 N (UJ)	<0.99 N	6.6	4.1	<4.0	5.5 B	<1.4
Silver	1	2.2	<0.081	<0.085	<0.10	<0.16	<0.17	<0.40	<0.43	<0.14
Sodium	-	-	10.2 B	13.8 B (<13.8 U)	10.5 B (<10.2 U)	87.7 B	36.1 B	70.1 B	97.2 B	24.6 B
Thallium	-	-	<0.25	<0.26	<0.31	<0.49	<0.52	<1.2	<1.3	<0.43
Vanadium	-	-	3.0 E	7.1 E (J)	1.1 BE	11.7 E	17.2 E	13.4 E	16.5 E	4.9 E
Zinc	120	270	**256 NE**	**213 NE** (J)	**294 NE**	42.0 E	**233 E**	**209**	**250 E**	**341 E**

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	8/13/2009	10/12/2009	10/12/2009	10/12/2009	10/12/2009	10/12/2009	10/12/2009	10/12/2009
		Sample ID:[1]	SED-57 (0-7)	SED-59 (0-8)	SED-59 (8-17)	SED-60 (0-11)	SED-60 (11-22)	SED-61 (0-15)	EB14	SED-62 (0-15)
		Percent Solids:[2]	45	72	76	52	75	28	-	67
PARAMETER	Lowest Effect Level (mg/kg)[3]	Severe Effect Level (mg/kg)[3]	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	mg/kg
Aluminum	-	-	5,270	3,800 B	9,500 B	4,900 B (J)	3,500 B	14,000 B	17 BJ	4,700 B (J)
Antimony	2	25	1.2 B	1.4 B (<1.4 U)	0.86 BJ (<0.86 U)	1.7 B (<1.7 U)	1.2 B (<1.2 U)	**3.4 B** (<3.4 U)	<20	1.7 B (<1.7 U)
Arsenic	6	33	3.6	2.5	2.6	3.9	2.5	**12**	<20	3.1 (J)
Barium	-	-	47.9 (J)	21	67	47 (J)	25	170	<200	63 (J)
Beryllium	-	-	3.6 E	5.6	2.8	5 (J)	4.1	13.0	<5.0	4.5 (J)
Cadmium	0.6	9	**1.6**	**0.83**	0.33	**1.3** (J)	**0.76**	**3.3**	<5.0	**1.4 (J)**
Calcium	-	-	2,080 E (J)	1700	1,500	<45	580	54 J (<54 U)	<800	<47
Chromium	26	110	5.4	3.8 B	9.2 B	3.9 B (J)	3.4 B	12 B	<20	6.1 B (J)
Cobalt	-	-	46.4 E (J)	41	25	54 (J)	37	130	<50	53 (J)
Copper	16	110	**17.1 E (J)**	9.9 B	12 B	15 B (J)	12 B	**42 B**	<30	**18 B** (J)
Iron	2%	4%	**108,000**	**130,000 B**	**80,000 B**	**160,000 B**	**120,000 B**	**350,000 B**	<200	**160,000 B (J)**
Lead	31	110	25.3 E (J)	9.0 B	11 B	9.5 B (J)	14 B	**66 B**	<10	11 B (J)
Magnesium	-	-	4,020 E (J)	2,000	3,800	3,200 (J)	2,300	9,100	<500	2,800 (J)
Manganese	460	1100	**1,040 E (J)**	**1,000 B**	**560 B**	**2,100 B**	**760 B**	**2,800 B**	<50	**1,200 B**
Mercury	0.15	1.3	0.065	0.013 J	0.029 J	0.053 J	<0.052	0.13 J	<0.40	0.045 J
Nickel	16	50	**143 E (J)**	**140**	**80**	**160** (J)	**130**	**420**	<50	**170 (J)**
Potassium	-	-	643	500 B	710 B	980 B (J)	490 B	1,300 B	<1000	640 B
Selenium	-	-	<1.1	4.4	4.6	<1.7	4.6	3.6 J	<30	<1.8
Silver	1	2.2	<0.11	<1.8	<1.5	<1.7	<1.6	<3.9	<30	<1.8
Sodium	-	-	21.6 B	<61	10 BJ (<10 U)	7.1 BJ (<7.1 U)	5.2 BJ (<5.2 U)	34 BJ (<34 U)	39 J	8.1 BJ (<8.1 U)
Thallium	-	-	<0.34	0.38 J	0.75 J	<1.1	<1.1	<2.6	<20	<1.2
Vanadium	-	-	8.4 E (J)	2.2 J	9.9	3.4 (J)	3.6	15	<50	4.4 (J)
Zinc	120	270	**330 (J)**	**290 B**	**170 B**	**300 B (J)**	**280 B**	**850 B**	15 J	**380 B (J)**

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	10/12/2009	10/12/2009	10/12/2009	10/12/2009	10/12/2009	10/12/2009	10/12/2009	10/12/2009
		Sample ID:[1]	FD14	SED-63 (0-12)	SED-64 (0-35)	SED-65 (0-19)	SED-65 (19-38)	SED-66 (0-12)	SED-67 (0-19)	EB15
		Percent Solids:[2]	78	65	17	33	59	61	73	-
PARAMETER	**Lowest Effect Level (mg/kg)[3]**	**Severe Effect Level (mg/kg)[3]**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**ug/l**
Aluminum	-	-	3,000 B (J)	5,400 B	8,700 B	12,100	14,600	4,120	4,230	16.6 B
Antimony	2	25	1.2 B (<1.2 U)	1.6 B (<1.6 U)	1.8 BJ (<1.8 U)	0.34 BN (<0.34 U)	<0.25 N	0.39 BN (<0.39 U)	0.44 BN (<0.44 U)	<4.2
Arsenic	6	33	1.1 (J)	5.3	**10**	**8.6 N**	**7.5 N**	3.6 N	2.5 N	<3.1
Barium	-	-	42 (J)	78	70	67.8 *E	59.1 *E	41.8 *E	61.5 *E (J)	5.3 B
Beryllium	-	-	3.1 (J)	2.9	0.98 J	1.6 E	3.5 E	4.0 E	3.0 E	<0.037
Cadmium	0.6	9	**1 (J)**	**1.2**	<1.3	**0.82 E**	**1.0 E**	**1.7 E**	**1.8 E**	<0.5
Calcium	-	-	<29	<43	17,000	7070	2,010	1,270	<5	<87
Chromium	26	110	4.6 B (J)	4.3 B	10 B	12.1 E	13.3 E	4.5 E	4.1 E	1.1 B
Cobalt	-	-	43 (J)	53	29.0	41.7 E	44.8 E	38.5 E	40.8 E	<0.67
Copper	16	110	10 B (J)	16 B	**35 B**	**33**	**27.1**	10.8	6.4	**17.7 B**
Iron	2%	4%	**120,000 B (J)**	**140,000 B**	**54,000 B**	**89,700**	**117,000**	**157,000**	**136,000**	76.7 B
Lead	31	110	4.9 B (J)	9.5 B	**42 B**	28.4 E	14.2 E	16.9 E	7.3 E	<2.1
Magnesium	-	-	1800 (J)	4100	5,100	6320	7,720 E	2,450 E	3,210 E	<62
Manganese	460	1100	**1,400 B**	**4,000 B**	**1,300 B**	**1,410 ***	**778 ***	**1,100 ***	**1,560 * (J)**	11 B
Mercury	0.15	1.3	<0.049	0.035 J	0.050 J	**0.19**	0.026 B	0.032 B	<0.007 (UJ)	<0.056
Nickel	16	50	**140** (J)	**200**	**68**	**99.3 NE**	**133 NE**	**131 NE**	**134 NE**	1.2 B
Potassium	-	-	590 B	2,000 B	850 B	904	1,700	568	1,580	<59
Selenium	-	-	<1.1	1.5 J	10	7 N	6.8 N	2.2 N	<0.59 N	<10
Silver	1	2.2	<1.1	<1.6	<7.7	0.45 B (<0.45 U)	0.24 B (<0.24 U)	0.36 B (<0.36 U)	0.14 B (<0.14 U)	<2.5
Sodium	-	-	4.4 BJ (<4.4 U)	5.8 BJ (<5.8 U)	120 BJ (<120 U)	37.1 B (<37.1 U)	27.8 B (<27.8 U)	9.7 B (<9.7 U)	11.2 B (<11.2 U)	102
Thallium	-	-	<0.72	<1.1	1.8 J	1.1 BN	1.7 N	0.064 BN	<0.18 N	<5.7
Vanadium	-	-	1.7 (J)	3.7	17	15.5 E	13.9 E	2.9 BE	1.4 BE	<0.34
Zinc	120	270	**280 B (J)**	**370 B**	**160 B**	**199 NE**	**263 NE**	**315 NE**	**287 NE**	19.0 B

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	10/12/2009	10/12/2009		10/12/2009	10/12/2009	10/12/2009	10/12/2009	10/12/2009
		Sample ID:[1]	SED-68 (0-20)	SED-69 (0-21)	FD15	SED-70(0-18)	SED-71 (0-28)	EB16	SED-72 (0-19)	SED-73 (0-20)
		Percent Solids:[2]	62	67	66	72	67	-	52	54
PARAMETER	Lowest Effect Level (mg/kg)[3]	Severe Effect Level (mg/kg)[3]	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	mg/kg	mg/kg
Aluminum	-	-	5,170	4,320	4,590	4,850	3,560	18.2 B	4,500	6,370 (J)
Antimony	2	25	0.24 BN (<0.24 U)	0.45 BM (<0.45 U)	<0.17 N	0.56 BN (<0.56 U)	0.73 BN (<0.73 U)	<4.2	1.1 BN (<1.1 U)	1.7 N (<1.7 U)
Arsenic	6	33	2.3 N	4.1 N	3.8 N	2.8 N	2.5 N	<3.1	3.0 N	4.0 N (J)
Barium	-	-	71.6 *E	23.8 *E	23.8 *E	23.6 *E	9.8 E	<2.9	46.7 E	71.2 E (J)
Beryllium	-	-	4.8 E	2.7 E	2.5 E	6 E	2.0 NE	<0.037	7.7 NE	3.0 NE (J)
Cadmium	0.6	9	**1.2 E**	**1 E**	**1.1 E**	**2.2 E**	0.5	<0.50	**1.1 ***	**1.8 * (J)**
Calcium	-	-	252	1,600	1,360	<6.5	136	<87	<8.4	<6.2
Chromium	26	110	4.0 E	3.4 E	3.8 E	4.2 E	3.7 E	0.62 B	3.1 E	5.0 E (J)
Cobalt	-	-	49.5 E	50.7 E (J)	39.5 E (J)	50.2 E	22.8 E	<0.67	57.8 E	55.1 E (J)
Copper	16	110	9.9	9.4	10	7.7	15.5	<4.7	10.7	13.7 (J)
Iron	2%	4%	**128,000**	**114,000**	**110,000**	**161,000**	**85,600**	<47	**143,000**	**159,000 (J)**
Lead	31	110	6.9 E	7.6 E	7.7 E	10.1 E	7.6 *	<2.1	7.2 *	11.5 * (J)
Magnesium	-	-	4,140 E	3,830 E	4,020 E	2,770 E	2010 E	<62	3,380 E	4030 E (J)
Manganese	460	1100	**1,790 ***	**2,740 ***	**2,620 ***	**855 ***	**588 E**	<3.5	**1,240 E**	**2630 E (J)**
Mercury	0.15	1.3	<0.0091	<0.0081	<0.0087	0.011 B	0.022 B (J)	<0.056	0.064 B (J)	0.019 B (J)
Nickel	16	50	**159 NE**	**165 NE**	**135 NE**	**161 NE**	**76.2 NE**	<0.64	**192 NE**	**175 NE**
Potassium	-	-	1,280	1,900	2,040	666	428	<59	1,300	497 (J)
Selenium	-	-	2.2 N	4 N	2.5 N	<0.76 N	<0.63 N	<10	<0.99 N	<0.73 N
Silver	1	2.2	0.16 B (<0.16 U)	0.14 B (<0.14 U)	0.12 B (<0.12 U)	0.12 B (<0.12 U)	<0.063	<2.4	<0.1	<0.074
Sodium	-	-	19.3 B (<19.3 U)	10.2 B (<10.2 U)	9.4 B (<9.4 U)	8.9 B (<8.9 U)	9.1 B	39.1 B	10.5 B (J)	11.6 B
Thallium	-	-	0.53 BN	<0.28 N	<0.23 N	0.59 BN	<0.19	<5.7	0.41 B	<0.22
Vanadium	-	-	2 BN	2.4 BE	2.6 E	1.1 BE	3.1 E	<0.34	1.5 BE	3.8 E (J)
Zinc	120	270	**294 NE**	**287 NE**	**274**	**334 NE**	**179**	19.2 B	**336 NE**	**309 NE**

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	10/12/2009	10/12/2009	10/12/2009	6/14/2012	6/14/2012	6/14/2012	6/14/2012	6/14/2012
		Sample ID:[1]	FD16	SED-74 (0-18)	SED-75 (0-14)	SED-76 (2-6)-M	SED-76 (6-8)-M	SED-76 (8-10)-M	EB-22	SED-77 (2-6)-M
		Percent Solids:[2]	69	71	73	14.1 (J)	11.7 (J)	24.5 (J)	-	14.3 (J)
PARAMETER	**Lowest Effect Level (mg/kg)[3]**	**Severe Effect Level (mg/kg)[3]**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**ug/l**	**mg/kg**
Aluminum	-	-	3,150 (J)	3,030	3,190	1,180 (J)	927 (J)	1,870 (J)	0.262	1,450 (J)
Antimony	2	25	0.85 N (<0.85 U)	0.81 N (<0.81 U)	0.83 N (<0.83 U)	<1.33 (UJ)	<1.66 (UJ)	1.26 J (J)	<0.0035	<1.33 (UJ)
Arsenic	6	33	1.4 N (J)	2.0 N	1.8 N	<1.46 (UJ)	<1.81 (UJ)	<0.879 (UJ)	<0.0032	<1.46 (UJ)
Barium	-	-	112 E (J)	25.5 E (J)	35.7 E	30.8 (J)	18.9 (J)	42.9 (J)	0.0036 J	41.3 (J)
Beryllium	-	-	5.0 NE (J)	2.5 NE (J)	3.2 NE	<0.972 (UJ)	<1.21 (UJ)	<0.585 (UJ)	<0.0007	<0.969 (UJ)
Cadmium	0.6	9	**1.2 * (J)**	**0.88 ***	0.56 *	<0.335 (UJ)	<0.415 (UJ)	0.274 J (J)	0.0002 J	<0.334 (UJ)
Calcium	-	-	<5.5	<4.9	<4.8	30,500 (J)	27,200 (J)	297,000 GS1 (J)	1.96	36,700 (J)
Chromium	26	110	3.7 E (J)	2.7 E (J)	3.0 E	**71.2 (J)**	23.3 (J)	12.4 (J)	<0.0034	2.48 J (J)
Cobalt	-	-	47.2 E (J)	30.6 E (J)	27.6 E	1.03 J (J)	0.903 J (J)	1.46 J (J)	0.0006 J	<0.672 (UJ)
Copper	16	110	7.6 (J)	7.9	8.6	15.2 (J)	9.93 (J)	8.3 (J)	<0.0020	11.4 (J)
Iron	2%	4%	**118,000 (J)**	**93,700**	**79,100**	4,860 (J)	5,250 (J)	6,230 (J)	0.415	2,460 (J)
Lead	31	110	5.8 * (J)	7.3 * (J)	26.8 *	1.76 J (J)	2.97 J (J)	4.41 J (J)	<0.0045	4.11 J (J)
Magnesium	-	-	2,230 E (J)	2,330 E (J)	2,090 E	3,730 (J)	2,650 (J)	5,690 (J)	0.123	3,970 (J)
Manganese	460	1100	**5,080 E (J)**	**699 E (J)**	**831 E**	87 (J)	70.6 J (J)	172 (J)	0.0072	106 (J)
Mercury	0.15	1.3	0.029 B (J)	0.015 B (J)	0.043 B (J)	0.0646 J (J)	<0.0519 (UJ)	<0.0238 (UJ)	<0.00007	0.0984 J (J)
Nickel	16	50	**147 NE**	**109 NE (J)**	**90.1 NE**	11.7 (J)	5.34 J (J)	5.13 (J)	0.0008 J	3.96 J (J)
Potassium	-	-	899 (J)	780	529	328 (J)	237 J (J)	261 (J)	0.262 J	219 J (J)
Selenium	-	-	<0.65 N	<0.58 N (UJ)	<0.57 N	5.22 J (J)	8.58 J (J)	5.25 J (J)	<0.0024	4.99 J (J)
Silver	1	2.2	<0.066	<0.059	<0.057	<1.40 (UJ)	<1.74 (UJ)	<0.843 (UJ)	<0.0020	<1.40 (UJ)
Sodium	-	-	11.2 B	10.6 B	8.3 B	437 (J)	231 (J)	154 (J)	0.146 J	367 (J)
Thallium	-	-	<0.2	<0.18	<0.17	<1.50 (UJ)	<1.85 (UJ)	<0.899 (UJ)	<0.0025	<1.49 (UJ)
Vanadium	-	-	<0.032 E (UJ)	1.7 BE (J)	2.9 E	4.37 J (J)	2.67 J (J)	2.99 J (J)	<0.0022	2.39 J (J)
Zinc	120	270	**257 NE**	**215 NE (J)**	**195 NE**	33.1 (J)	30.6 (J)	23.5 (J)	0.0124	20.1 (<20.1 UJ)

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	6/14/2012	6/14/2012	6/14/2012	6/14/2012	6/14/2012	6/14/2012	6/14/2012	6/14/2012
		Sample ID:[1]	FD-22	SED-77 (6-10)-M	SED-78 (2-6)-M	SED-78 (6-10)-M	SED-79 (2-6)-M	SED-79 (6-10)-M	SED-80 (2-6)-M	SED-80 (6-8)-M
		Percent Solids:[2]	13.7 (J)	10.7 (J)	14.0 (J)	13.3 (J)	13.9 (J)	34.5	14.1 (J)	52.2
PARAMETER	**Lowest Effect Level (mg/kg)[3]**	**Severe Effect Level (mg/kg)[3]**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Aluminum	-	-	1,200 (J)	935 (J)	1,720 (J)	4,990 (J)	1,430 (J)	1,350	1,540 (J)	1,820
Antimony	2	25	**8.61 J (J)**	<1.97 (UJ)	1.63 J (J)	<1.51 (UJ)	**4.96 J (J)**	1.01 J	**4.22 J (J)**	0.813 J
Arsenic	6	33	1.92 J (J)	<2.16 (UJ)	<1.58 (UJ)	2.03 J (J)	<1.53 (UJ)	0.8106 J	<1.60 (UJ)	1.89 J
Barium	-	-	41.6 (J)	20 (J)	41.6 (J)	30.8 (J)	28.1 (J)	40.4	38.1 (J)	41.1
Beryllium	-	-	<1.08 (UJ)	<1.44 (UJ)	<1.05 (UJ)	<1.10 (UJ)	<1.02 (UJ)	<0.443	<1.07 (UJ)	<0.277
Cadmium	0.6	9	0.388 J (J)	<0.495 (UJ)	<0.361 (UJ)	**0.602 J (J)**	<0.351 (UJ)	0.219 J	<0.367 (UJ)	0.279 J
Calcium	-	-	38,100 (J)	25,200 (J)	32,300 (J)	23,300 (J)	30,100 (J)	289,000 GS1	37,100 (J)	294,000 GS1
Chromium	26	110	<2.46 (UJ)	5.06 J (J)	3.27 J (J)	21.0 (J)	<2.32 (UJ)	4.36	2.83 J (J)	2.33
Cobalt	-	-	<0.750 (UJ)	<0.996 (UJ)	0.850 J (J)	2.24 J (J)	<0.707 (UJ)	0.968 J	1.03 J (J)	2.04
Copper	16	110	9.21 (J)	4.44 J (J)	15.0 (J)	11.8 (J)	8.3 (J)	5.88	15.7 (J)	6.25
Iron	2%	4%	2,690 (J)	1230 J (J)	3,080 (J)	15,000 (J)	2,110 (J)	5,010	5,490 (J)	10,400
Lead	31	110	6.99 J (J)	<1.59 (UJ)	14.5 (J)	4.51 J (J)	2.74 J (J)	1.92 J	5.36 J (J)	3.0
Magnesium	-	-	4,350 (J)	2,430 (J)	3,590 (J)	3,160 (J)	3,530 (J)	4,740	3,940 (J)	4,920
Manganese	460	1100	115 (J)	55.2 J (J)	131 (J)	105 (J)	68.2 J (J)	277	151 (J)	369
Mercury	0.15	1.3	0.105 J (J)	<0.0542 (UJ)	0.149 J (J)	<0.0404 (UJ)	0.0805 J	<0.0169	0.0724 J (J)	<0.0104
Nickel	16	50	3.31 J (J)	1.43 J (J)	3.27 J (J)	9.53 (J)	3.05 J	2.9	5.52 J (J)	4.68
Potassium	-	-	206 J (J)	256 J (J)	265 J (J)	599 (J)	205 J	190	247 J (J)	317
Selenium	-	-	<1.50 (UJ)	5.47 J (J)	4.41 J (J)	10 (J)	5.02 J	3.80 J	5.69 J (J)	3.38 J
Silver	1	2.2	<1.56 (UJ)	<2.07 (UJ)	<1.51 (UJ)	**10.4 (J)**	<1.47 (UJ)	<0.639	<1.54 (UJ)	<0.400
Sodium	-	-	424 (J)	466 (J)	266 (J)	483 (J)	121 J	131	241 (J)	80
Thallium	-	-	6.51 J (J)	<2.21 (UJ)	<1.61 (UJ)	<1.70 (UJ)	<1.57 (UJ)	<0.682	<1.64 (UJ)	<0.426
Vanadium	-	-	2.03 J (J)	<2.35 (UJ)	4.09 J (J)	6.23 J (J)	2.26 J	3.94 J	3.89 J (J)	3.48
Zinc	120	270	21.7 (<21.7 UJ)	15.7 (<15.7 UJ)	58.4 (J)	37.5 (J)	16.5 (<16.5 UJ)	13.9	27.2 (J)	17.3

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	6/14/2012	6/15/2012	6/15/2012	6/15/2012	6/15/2012	6/15/2012	6/15/2012	6/15/2012
		Sample ID:[1]	SED-80 (8-10)-M	SED-81 (2-6)-M	SED-81 (6-8)-M	SED-81 (8-10)-M	SED-82 (2-6)-M	SED-82 (6-8)-M	SED-82 (8-10)-M	SED-83 (2-6)-M
		Percent Solids:[2]	56.2	16.4 (J)	55.5	55.8	20.1 (J)	66.7	77.2	14 (J)
PARAMETER	Lowest Effect Level (mg/kg)[3]	Severe Effect Level (mg/kg)[3]	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	-	-	2,080	6,870 (J)	1,920	2,400	9,360 (J)	10,800	21,800	3,730 (J)
Antimony	2	25	0.722 J	1.31 J (J)	0.623 J	0.626 J	1.58 J (J)	0.475 J	<0.275	1.88 J (J)
Arsenic	6	33	2.43 J	4.17 J (J)	1.22 J	1.50 J	**9.05 (J)**	**8.6**	5.5	2.14 J (J)
Barium	-	-	39.3	79 (J)	35.4	42.2	66.2 (J)	26.6	98.8	60.4 (J)
Beryllium	-	-	<0.276	<0.916 (UJ)	<0.256	<0.267	<0.791 (UJ)	0.309 J	0.8	<1.04 (UJ)
Cadmium	0.6	9	0.289 J	**1.23 J (J)**	0.215 J	0.266 J	**0.972 J (J)**	0.507 J	0.567 J	**1.2 J (J)**
Calcium	-	-	281,000 GS1	29,300 (J)	264,000 GS1	311,000 GS1	184,000 GS1 (J)	62,900 GS1	13,200	30,900 (J)
Chromium	26	110	2.73	10.4 (J)	2.57	3.10	12.90 (J)	12.50	20.90	6.92 (J)
Cobalt	-	-	2.68	6.34 (J)	2.04	2.68	8.56 (J)	11.9	16.9	2.44 J (J)
Copper	16	110	6.76	**52.9 (J)**	5.63	7.06	**23.2 (J)**	**21.5**	**44.8**	**47.7 (J)**
Iron	2%	4%	11,500	11,800 (J)	8,540	10,900	**37,300 (J)**	**28,700**	**49,700 GS1**	8,390 (J)
Lead	31	110	3.3	**76.1 (J)**	2.7	3.5	11.7 (J)	10.5	14.5	**54.2 (J)**
Magnesium	-	-	5,120	4,680 (J)	4,900	5,850	9,940 (J)	20,100 GS1	16,700 GS1	4,560 (J)
Manganese	460	1100	**480**	280 (J)	315	426	**668 (J)**	**1,900 GS1**	**1,850 GS1**	132 (J)
Mercury	0.15	1.3	<0.0100	**0.345 (J)**	<0.0107	<0.0099	<0.0299 (UJ)	<0.0084	<0.0073	<0.0390 (UJ)
Nickel	16	50	5.58	15.5 (J)	4.59	5.82	**18.7 (J)**	**23.1**	**36.7**	8.31 (J)
Potassium	-	-	416	777 (J)	344	461	876 (J)	1,350	3,710	476 (J)
Selenium	-	-	4.94 J	4.83 J (J)	3.14 J	4.36 J	4.14 J (J)	1.38 J	0.476 J	5.49 J (J)
Silver	1	2.2	<0.397	**2.43 J (J)**	<0.369	<0.385	<1.14 (UJ)	<0.300	<0.289	**2.14 J (J)**
Sodium	-	-	87.6	432 (J)	82.1	94.2	118 J (J)	49.6	92.8	113 J (J)
Thallium	-	-	<0.424	<1.41 (UJ)	<0.394	<0.411	14.8 (J)	<0.321	<0.309	<1.60 (UJ)
Vanadium	-	-	4.15	19.2 (J)	3.36	4.3	13.2 (J)	14.8	28.1	10.6 (J)
Zinc	120	270	18.1	**165 (J)**	16	19	53.3 (J)	57.2	72.6	**262 (J)**

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	6/14/2012	6/15/2012	6/15/2012		6/15/2012	6/15/2012	6/15/2012	6/15/2012
		Sample ID:[1]	SED-83 (6-10)-M	SED-84 (2-6)-M	SED-84 (6-10)-M	FD-24	SED-85 (2-6)-M	SED-85 (6-10)-M	EB-26	SED-87 (2-6)-M
		Percent Solids:[2]	16 (J)	15.7 (J)	15.7 (J)	15.2 (J)	11.8 (J)	19 (J)	-	55.5
PARAMETER	Lowest Effect Level (mg/kg)[3]	Severe Effect Level (mg/kg)[3]	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	mg/kg
Aluminum	-	-	3,210 (J)	1,710 (J)	4,700 (J)	6,500 (J)	2,670 (J)	1,200 (J)	0.234	8,010 (J-)
Antimony	2	25	<1.31 (UJ)	**2.95 J (J)**	<1.37 (UJ)	<1.26 (UJ)	<1.71 (UJ)	**2.72 J (J)**	<0.0035	0.470 J
Arsenic	6	33	1.73 J (J)	<1.53 (UJ)	<1.50 (UJ)	<1.38 (UJ)	2.64 J (J)	<1.26 (UJ)	<0.0032	1.05
Barium	-	-	53.7 (J)	47.4 (J)	28.6 (J)	38.7 (J)	62.7 (J)	36.3 (J)	0.0035 J	18
Beryllium	-	-	<0.956 (UJ)	<1.02 (UJ)	<0.998 (UJ)	<0.921 (UJ)	<1.25 (UJ)	<0.837 (UJ)	<0.0007	0.268 J
Cadmium	0.6	9	**0.990 J (J)**	<0.350 (UJ)	0.461 J (J)	**0.623 J (J)**	**1.58 J (J)**	0.392 J (J)	0.0001 J	0.512 J
Calcium	-	-	33,300 (J)	35,500 (J)	31,800 (J)	53,000 (J)	30,800 (J)	25,200 (J)	1.86	6170
Chromium	26	110	6.08 (J)	3.177 J (J)	9.87 (J)	12.50 (J)	5.44 J (J)	2.51 J (J)	<0.0034	9.31
Cobalt	-	-	1.67 J (J)	<0.704 (UJ)	3.11 J (J)	4.97 J (J)	2.33 J (J)	0.757 J (J)	<0.0006	6.71
Copper	16	110	**41.5 (J)**	9.1 (J)	13.3 (J)	14.8 (J)	**67.2 (J)**	**18.4 (J)**	<0.0020	12.2
Iron	2%	4%	5,840 (J)	1,810 (J)	16,900 (J)	**20,900 (J)**	8,030 (J)	3,490 (J)	0.330	**22,000**
Lead	31	110	**38.6 (J)**	2.95 J (J)	6.38 J (J)	8.48 J (J)	**40.4 (J)**	10.3 (J)	0.00689 J	8.28
Magnesium	-	-	4,360 (J)	4,250 (J)	3,940 (J)	5,140 (J)	3,390 (J)	2,550 (J)	0.111	7,960
Manganese	460	1100	111 (J)	127 (J)	150 (J)	186 (J)	199 (J)	151 (J)	0.0064	181
Mercury	0.15	1.3	<0.0379 (UJ)	**0.175 J (J)**	<0.0364 (UJ)	<0.0374 (UJ)	**0.369 (J)**	**0.152 (J)**	<0.00007	0.0122 J
Nickel	16	50	8.44 (J)	4.12 J (J)	9.62 (J)	13.2 (J)	8.43 (J)	3.94 J (J)	0.0008 J	13.8
Potassium	-	-	340 (J)	220 J (J)	589 (J)	747 (J)	313 J (J)	198 J (J)	0.255 J	572
Selenium	-	-	5.84 J (J)	7.54 J (J)	7.10 J (J)	8.53 J (J)	4.86 J (J)	3.00 J (J)	0.0026 J	1.63 J
Silver	1	2.2	**1.43 J (J)**	<1.46 (UJ)	<1.44 (UJ)	<1.33 (UJ)	<1.79 (UJ)	<1.21 (UJ)	<0.0020	<0.375
Sodium	-	-	97.3 J (J)	136 J (J)	226 (J)	298 (J)	398 (J)	208 (J)	0.137 J	32.7 J (J+)
Thallium	-	-	<1.47 (UJ)	<1.56 (UJ)	<1.53 (UJ)	<1.42 (UJ)	<1.91 (UJ)	<1.29 (UJ)	<0.0025	<0.400
Vanadium	-	-	8.91 J (J)	3.49 J (J)	5.85 J (J)	7.96 J (J)	8.27 J (J)	2.77 J (J)	<0.0022	9.89
Zinc	120	270	**178 (J)**	18.9 (<18.9 UJ)	**227 (J)**	59.9 (J)	**250 (J)**	60.7 (J)	0.0134	48.8

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	6/15/2012	6/18/2012	6/18/2012		6/18/2012	6/18/2012	6/18/2012	6/18/2012
		Sample ID:[1]	SED-87 (6-10)-M	SED-88 (2-6)-M	SED-88 (6-10)-M	FD-27	EB-27	SED-89 (2-6)-M	SED-89 (6-8)-M	SED-89 (8-10)-M
		Percent Solids:[2]	81.2	14.8 (J)	65	64.1	-	14.7 (J)	16.7 (J)	56.8
PARAMETER	Lowest Effect Level (mg/kg)[3]	Severe Effect Level (mg/kg)[3]	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	mg/kg	mg/kg	mg/kg
Aluminum	-	-	6,050	5,320 (J)	5,930	5,190	0.0978	8,200 (J)	4,380 (J)	2,630
Antimony	2	25	0.548 J	**2.76 J (J)**	<0.315	<0.327	<0.0035	**4.15 J (J)**	**3.41 J (J)**	<0.377
Arsenic	6	33	**13.2**	5.71 J (J)	7.00	4.25 J	<0.0032	**7.43 J (J)**	**6.31 J (J)**	1.32 J
Barium	-	-	11.5	47.7 (J)	26	23.5	<0.0034	91.7 (J)	47.1 (J)	35.6
Beryllium	-	-	<0.185	<1.05 (UJ)	<0.230	<0.238	<0.0007	<0.949 (UJ)	1.12 J (J)	<0.275
Cadmium	0.6	9	0.384 J	**1.31 J (J)**	**0.700 J**	0.546 J	0.0001 J	**1.31 J (J)**	**1.65 J (J)**	0.417 J
Calcium	-	-	65,500 GS1	28,300 (J)	130,000	130,000 GS1	0.688	31,300 (J)	26,000 (J)	269,000 GS1
Chromium	26	110	7.58	11.1 (J)	8.86	9.61	<0.0034	13.5 (J)	8.63 (J)	4.09
Cobalt	-	-	6.89	4.00 J (J)	6.16	5.54	<0.0006	9.15 (J)	4.13 J (J)	2.82
Copper	16	110	**16.8**	**38.5 (J)**	14.5	12.9	<0.0020	**51.9 (J)**	**30.2 (J)**	7.27
Iron	2%	4%	18,100	13,300 (J)	**20,100**	15,700	0.105	17,700 (J)	7,920 (J)	10,300
Lead	31	110	7.63	**64.10 (J)**	6.93	6.08	<0.0045	**104 (J)**	27.2 (J)	2.8
Magnesium	-	-	12,000 GS1	4,460 (J)	12,700 GS1	12,500 GS1	0.0498	6,210 (J)	4,440 (J)	5,430
Manganese	460	1100	235	143 (J)	339	261	0.0032	331 (J)	299 (J)	290
Mercury	0.15	1.3	<0.0074	**0.302 (J)**	<0.0094	<0.0091	<0.00007	**0.423 (J)**	0.115 J (J)	<0.0108
Nickel	16	50	13.5	11.1 (J)	11.7	10.5	<0.0008	**18.6 (J)**	10.9 (J)	4.68
Potassium	-	-	747	360 (J)	743	614	<0.157	723 (J)	410 (J)	335
Selenium	-	-	0.721 J	<1.45 (UJ)	<0.318	<0.330	<0.0024	<1.31 (UJ)	<1.27 (UJ)	<0.380
Silver	1	2.2	<0.266	<1.52 (UJ)	<0.331	<0.344	<0.0020	**1.75 J (J)**	**1.52 J (J)**	<0.396
Sodium	-	-	26.4 J (J+)	221 J (J)	77.2 J	195 J	0.159 J	425 J (J)	322 J (J)	174 J
Thallium	-	-	<0.284	4.20 J (J)	2.06 J	<0.367	<0.0025	4.15 J (J)	5.04 J (J)	1.54 J
Vanadium	-	-	7.75	13.5 (J)	10.1	8.99	<0.0022	16.7 (J)	10.8 (J)	4.52
Zinc	120	270	45.2	**175 (J)**	36.1	33.9	0.0055	**192 (J)**	48.7 (J)	22.5

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

		Sample Collection Date:	6/18/2012	6/18/2012	6/18/2012	6/18/2012	6/18/2012	6/18/2012	6/18/2012	6/18/2012
		Sample ID:[1]	SED-90 (2-6)-M	SED-90 (6-10)-M	SED-91 (2-4)-M	SED-91 (4-6)-M	SED-91 (6-9)-M	SED-92 (2-6)-M	SED-92 (6-8)-M	SED-92 (8-10)-M
		Percent Solids:[2]	54.1	67.1	79.8	85.8	85.5	23.5 (J)	66.6	76.4
PARAMETER	Lowest Effect Level (mg/kg)[3]	Severe Effect Level (mg/kg)[3]	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	-	-	3,500	3,710	7,740	13,700	6,310	9,630 (J)	7,500	22,700
Antimony	2	25	<0.375	<0.316	0.970 J	0.814 J	1.41 J	**2.09 J (J)**	<0.296	0.825 J
Arsenic	6	33	2.32 J	3.20 J	**12.60**	**11.90**	3.34 J	**7.71 (J)**	5.72	4.28
Barium	-	-	35.3	28.4	28.6	36.1	7.11	108 (J)	26.4	86.5
Beryllium	-	-	<0.273	<0.231	0.396 J	0.389 J	0.309 J	<0.584 (UJ)	0.268 J	0.7
Cadmium	0.6	9	0.556 J	0.473 J	**1.2**	**0.8**	**0.612 J**	**1.31 J (J)**	**0.666 J**	**1.17**
Calcium	-	-	203,000 GS1	175,000 GS1	2,550	12,000	48,800 GS1	18,400 (J)	110,000 GS1	7,780
Chromium	26	110	5.08	5.77	10.5	15.7	9.59	13.5 (J)	10.2	24.9
Cobalt	-	-	4.28	4.34	11.60	11.30	9.54	6.10 (J)	7.22	14.20
Copper	16	110	8.64	10.7	**26.7**	**28.6**	**22.6**	**42.1 (J)**	**17.9**	**38.9**
Iron	2%	4%	15,000	14,000	**56,000 GS1**	**34,000 GS1**	18,500	13,500 (J)	19,900	**54,400 GS1**
Lead	31	110	5.0	4.17	10.80	11.70	9.38	**55.40 (J)**	6.97	12.90
Magnesium	-	-	5,880	6,480	7,300 GS1	15,800 GS1	20,200 GS1	5,890 (J)	10,500 GS1	15,400 GS1
Manganese	460	1100	306	284	**901 GS1**	**481**	**476**	342 (J)	294	**1,710 GS1**
Mercury	0.15	1.3	<0.0106	<0.0085	<0.0076	<0.0062	<0.0064	**0.339 (J)**	<0.0081	0.0091 J
Nickel	16	50	6.44	7.72	**24.2**	**24.3**	**17.8**	**16.4 (J)**	13.4	**30.4**
Potassium	-	-	242	295	687	1,790	843	1,050 (J)	810	4,130
Selenium	-	-	<0.378	<0.319	<0.238	<0.220	<0.258	<0.808 (J)	<0.298	<0.267
Silver	1	2.2	<0.394	<0.332	<0.248	<0.229	<0.269	**2.64 J (J)**	<0.311	<0.278
Sodium	-	-	119 J	78.4 J	32.8 J	69.1 J	68.4 J	275 J (J)	103 J	244 J
Thallium	-	-	2.09 J	1.31 J	0.311 J	1.54 J	1.44 J	1.71 J (J)	0.840 J	0.307 J
Vanadium	-	-	5.49	5.85	11.3	16.7	9.01	15 (J)	12.2	27.6
Zinc	120	270	30	30	55.1	61.3	38.9	**319 (J)**	42.1	78.8

TABLE 1.3.4-2
INORGANIC SEDIMENT SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL

Notes:

mg/kg denotes milligrams per kilogram or parts per million (ppm).
ug/l denotes micrograms per liter or parts per billion (ppb).
Results, except equipment blanks are presented on a dry weight basis.
B indicates concentration below the reporting limit and equal to or above the detection limit.
E indicates an estimated concentration due to presence of interference, as determined by the serial dillution analysis.
N indicates matrix spike recovery falls outside of the control limit.
* indicates the relative percent difference for duplicate analyses is outside the control limit.
J indicates detection above the method detection limit but below the reporting limit; therefore the result is an estimated concentration.
GS1 indicates sample dilution required for high concentration of target analytes to be within the instrument calibration range.
(J) Denotes data validator's qualifier. Indicates positive sample result is considered estimated. (2008-2009)
(J) Denotes data validator's qualifier. Indicates the analyte was positively identified; the assocaited numerical value is an approximate concentration of the analyte in the sample. (2012)
(J-) Denotes data validator's qualifier. Indicates the analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
(J+) Denotes data validator's qualifier. Indicates the analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
(UJ) Denotes data validator's qualifier. Indicates the sample results is not detected and the detection limit is considered estimated. (2008-2009)
(UJ) Denotes data validator's qualifier. Indicates the analyte was analyzed for, but was not detected. The associated reported quantitiation limit is approximate and may be inaccurate or imprecise. (2012)
(U) Denotes data validator's qualifier. Indicates not present above the associated level; blank contamination exist.
FD02 collected at SED-15 (11-22), FD03 collected at SED-25 (0-13)-M, FD07 collected at SED-39 (0-13), FD08 collected at SED-43 (0-13),
FD10 collected at SED-47 (0-10), FD14 collected at SED-62 (0-15), FD15 collected at SED-70 (0-18), FD16 collected at SED-73 (0-20).
FD22 collected at SED-77 (2-6)-M, FD24 collected at SED-84 (6-10)-M, FD27 collected at SED-88 (6-10)-M
EB02 collected prior to collecting SED-14 (0-14), EB04 collected prior to collecting SED-31 (0-9), SED-31 (9-18) and SED-31 (18-27), EB06
collected prior to collecting SED-35 (0-23), EB08 collected prior to collecting SED-42 (0-18), EB10 collected prior to collecting SED-46 (0-24),
EB14 collected prior to collecting SED-62 (0-15), EB15 collected prior to collecting SED-68 (0-20), EB16 collected prior to collecting SED-72 (0-19),
EB-22 collected prior to collecting SED-77 (2-6)-M, EB-26 collected prior to collecting SED-87 (2-6)-M and EB-27 collected prior to collecting SED-89(2-6)-M.
Values in **BOLD** indicate an exceedance of the Lowest Effect Level, the Severe Effect Level or both. Shaded values indicate an exceedance
of the Severe Effect Level for the metals of concern (copper, lead, mercury, nickel and zinc).

(1) Value in parentheses is sediment depth interval in inches below top of sediment, except for samples collected in 2012 which represent the depth interval in feet below top of sediment.

(2) Measured in laboratory.

(3) NYSDEC Technical Guidance for Screening Contaminated Sediments, January 25, 1999.

TABLE 1.4.3-1
SUMMARY OF CONTAMINATED MATERIALS AND WASTES IDENTIFICATION, REMOVAL FROM SITE, TRANSPORTATION AND DISPOSAL OFF-SITE
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Waste Type	Quantity	Disposal Classification	Date Waste Removed From Site	Transporter	Transporter Permit No.	Treatment, Storage or Disposal Facility	Treatment, Storage or Disposal Facility Permit No.
Aerosol Cans	1 5-gallon pail	UN1950, Waste Aerosols, 2.1, Limited Quantity (D001, B)	12/4/2012	Veolia ES Technical Solutions, LLC	6NYCRR Part 364 Permit No. NJ-410 EPA ID No. NJD080631369	Veolia ES Technical Solutions, LLC Flanders, NJ	NJDEP Solid and Hazardous Waste Facility Permit No. HWP030002 EPA ID No. NJD980536593
Solvent Based Paints, Thinners	2 drums	UN1993, Waste Flammable Liquids, N.O.S., (Solvent Based Paint, Thinners), 3, II, RQ (D001, B)	12/4/2012	Veolia ES Technical Solutions, LLC	6NYCRR Part 364 Permit No. NJ-410 EPA ID No. NJD080631369	Veolia ES Technical Solutions, LLC Flanders, NJ	NJDEP Solid and Hazardous Waste Facility Permit No. HWP030002 EPA ID No. NJD980536593
Latex Paint, Putty, Oil Etc.	1 drum	Non Hazardous Material (ID72, B)	12/4/2012	Veolia ES Technical Solutions, LLC	6NYCRR Part 364 Permit No. NJ-410 EPA ID No. NJD080631369	Veolia ES Technical Solutions, LLC Flanders, NJ	NJDEP Solid and Hazardous Waste Facility Permit No. HWP030002 EPA ID No. NJD980536593
Misc Scrap Metal	3 roll-offs	Misc. Scrap Metal	9/4/2012	LM Scrap Metal	Not Applicable	Southeast Auto Recycle, Inc. Wingdale, NY	Facility ID No. 7038059 Dismantler Validation No. 40449 Scrap Collector Validation No. 40451
Metal and Drum Fragments, Sand/Soil, PVC Pipe & Other Debris	1 roll-off (Est. 5 tons)	Non Hazardous, Non DOT Regulated Material (Metal and Drum Fragments) (L)	10/15/2012	Freehold Cartage, Inc.	6NYCRR Part 364 Permit No. NJ-113 EPA ID No. NJD054126164	Veolia ES Greentree Landfill Kersey, PA	PADEP Permit No. 101397

TABLE 1.4.3-1
SUMMARY OF CONTAMINATED MATERIALS AND WASTES IDENTIFICATION, REMOVAL FROM SITE, TRANSPORTATION AND DISPOSAL OFF-SITE
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Waste Type	Quantity	Disposal Classification	Date Waste Removed From Site	Transporter	Transporter Permit No.	Treatment, Storage or Disposal Facility	Treatment, Storage or Disposal Facility Permit No.
Decontamination Water	4936 gallons	Non-Hazardous, Non DOT Regulated Liquid, (Decon Water)	10/17/2012	Clean Harbors Environmental Services, Inc.	6NYCRR Part 364 Permit No. MA-006 EPA ID No. MAD039322250	Clean Harbors of Baltimore, Inc. Baltimore, MD	MDE CHS Permit No. A-151 EPA ID No. MDD980555189
Decontamination Water	3170 gallons	Non-Hazardous, Non DOT Regulated Liquid, (Decon Water)	11/27/2012	Clean Harbors Environmental Services, Inc.	6NYCRR Part 364 Permit No. MA-006 EPA ID No. MAD039322250	Clean Harbors of Baltimore, Inc. Baltimore, MD	MDE CHS Permit No. A-151 EPA ID No. MDD980555189
Decontamination Water	9990 gallons (2 tanker truck loads)	Non-Hazardous, Non DOT Regulated Liquid, (Decon Water)	6/20/2013	Clean Harbors Environmental Services, Inc.	6NYCRR Part 364 Permit No. MA-006 EPA ID No. MAD039322250	Clean Harbors of Baltimore, Inc. Baltimore, MD	MDE CHS Permit No. A-151 EPA ID No. MDD980555189
Decontamination Water, and Iron Stained Water From West Anchor Trench (500± Gallons)	5010 gallons	Non-Hazardous, Non DOT Regulated Liquid, (Decon Water)	7/17/2013	Clean Harbors Environmental Services, Inc.	6NYCRR Part 364 Permit No. MA-006 EPA ID No. MAD039322250	Clean Harbors of Baltimore, Inc. Baltimore, MD	MDE CHS Permit No. A-151 EPA ID No. MDD980555189
Decontamination Water	3295 gallons	Non-Hazardous, Non DOT Regulated Liquid, (Decon Water)	8/7/2013	Clean Harbors Environmental Services, Inc.	6NYCRR Part 364 Permit No. MA-006 EPA ID No. MAD039322250	Clean Harbors of Baltimore, Inc. Baltimore, MD	MDE CHS Permit No. A-151 EPA ID No. MDD980555189
Waste Motor Oil (A#4 Drum WC-1)	1 drum	NA3082, Hazardous Waste, Liquid, N.O.S., (D029), 9, PGIII, ERG #171	11/12/2012	EQ Northeast, Inc.	6NYCRR Part 364 Permit No. MA-025 EPA ID No. MAD084814136	EQ Detroit, Inc. Detroit, MI	Michigan DEQ Facility ID No. 399367 License No. 9920 EPA ID No. MD980991566

TABLE 1.4.3-1
SUMMARY OF CONTAMINATED MATERIALS AND WASTES IDENTIFICATION, REMOVAL FROM SITE, TRANSPORTATION AND DISPOSAL OFF-SITE
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Waste Type	Quantity	Disposal Classification	Date Waste Removed From Site	Transporter	Transporter Permit No.	Treatment, Storage or Disposal Facility	Treatment, Storage or Disposal Facility Permit No.
Flammable Liquids (A#1 Drum WC-2, A#4 Drum WC-2)	2 drums	NA3082, Hazardous Waste, Liquid, N.O.S., (Acetone), 9, PGIII, ERG #171 (F003)	11/12/2012	EQ Northeast, Inc.	6NYCRR Part 364 Permit No. MA-025 EPA ID No. MAD084814136	EQ Detroit, Inc. Detroit, MI	Michigan DEQ Facility ID No. 399367 License No. 9920 EPA ID No. MD980991566
Drums With Misc. Debris (A#3 Drum WC-1, A#5 Drum WC-1 A#11 Drum WC-1 A#14 Drum WC-1)	4 drums	Non DOT Regulated	11/12/2012	EQ Northeast, Inc.	6NYCRR Part 364 Permit No. MA-025 EPA ID No. MAD084814136	EQ Detroit, Inc. Detroit, MI	Michigan DEQ Facility ID No. 399367 License No. 9920 EPA ID No. MD980991566
PCB Contaminated Soil	756,183 kilograms	RQ, Polychlorinated Biphenyls, Solid Mixture, 9, UN3432, III (B007)	7/2/2012, 7/9/2012, 7/10/2012, 7/17/2012, 7/18/2012	Page, ETC. Inc. Mangiardi Brothers Trucking, Inc. Goulet Trucking, Inc.	6NYCRR Part 364 Permit No. 7A-296 EPA ID No. NYD986969947 6NYCRR Part 364 Permit No. 4A-209 EPA ID No. NYR000097972 6NYCRR Part 364 Permit No. MA-113 EPA ID No. MAC300006038	CWM Chemical Services, LLC Model City, NY	NYSDEC Permit No. 9-2934-00022/00097 EPA ID No. NYD049836679
Sediment Barriers and Debris	2.5 tons	Non Hazardous, Non DOT Regulated Material (Sediment Barriers and Debris)	5/17/2013	Freehold Cartage, Inc.	6NYCRR Part 364 Permit No. NJ-113 EPA ID No. NJD054126164	Veolia ES Greentree Landfill Kersey, PA	PADEP Permit No. 101397

TABLE 1.4.3-1
SUMMARY OF CONTAMINATED MATERIALS AND WASTES IDENTIFICATION, REMOVAL FROM SITE, TRANSPORTATION AND DISPOSAL OFF-SITE
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Waste Type	Quantity	Disposal Classification	Date Waste Removed From Site	Transporter	Transporter Permit No.	Treatment, Storage or Disposal Facility	Treatment, Storage or Disposal Facility Permit No.
Sediment Barriers and Debris	5 tons	Non Hazardous, Non DOT Regulated Material (Sediment Barriers and Debris)	10/10/2013	Freehold Cartage, Inc.	6NYCRR Part 364 Permit No. NJ-113 EPA ID No. NJD054126164	ADS Greentree Landfill Kersey, PA	PADEP Permit No. 101397
Non-Hazardous PCB Contaminated Soil	206.9 tons	Non-Hazardous Site Soils and Debris	11/13/2013 11/14/2013	Riccelli Enterprises, Inc.	6NYRR Part 364 Permit No. 7A-402 EPA ID No. NYR000059246	IESI – Seneca Meadows Landfill Waterloo, NY	NYSDEC Permit No. 8-4532-00023/00001-0
Monitoring Well Water and Silt	2 drums	Non Hazardous Liquid Waste, Non DOT, Not RCRA Regulated, None, None, None	7/8/14	EQ Northeast, Inc.	6NYCRR Part 364 Permit No. MA-025 EPA ID No. MAD084814136	EQ Detroit, Inc. Detroit, MI	Michigan DEQ Facility ID No. 399367 License No. 9920 EPA ID No. MD980991566
Non Hazardous Soil Cuttings, Poly & PPE From Replacement Well Installation	1 drum	Non Hazardous, Non DOT Regulated Material (Soil Cuttings)	7/15/2015	MC Environmental Services, Inc. and Veolia ES Technical Solutions, LLC	6NYCRR Part 364 Permit No. 5A-175 EPA ID No. NYR000021071 6NYCRR Part 364 Permit No. NJ-410 EPA ID No. NJD080631369	Veolia ES Technical Solutions, LLC West Carrollton, OH	EPA ID No. OHD093945293

TABLE 1.4.3-2
SUMMARY OF POST-EXCAVATION PCB SOIL SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**6/26/2012**	**6/26/2012**	**6/27/2012**	**6/26/2012**	**6/26/2012**
	Sample ID:	**Soil-PCB-FL-1**	**Soil-PCB-FL-2**	**Soil-PCB-FL-3**	**Soil-PCB-FL-4**	**Soil-PCB-FL-5**
	Northing NAD83[1] U.S. Survey Ft.:	**1091544.161**	**1091510.884**	**1091523.958**	**1091526.213**	**1091541.521**
	Easting NAD83[1] U.S. Survey Ft.:	**746270.237**	**746282.597**	**746284.362**	**746298.127**	**746289.851**
	Elevation[2]:	**481.237**	**490.875**	**490.136**	**496.561**	**490.204**
PARAMETER [3]	**Soil Regulatory Level [4]**					
Polychlorinated Biphenyls (PCBs), mg/kg:						
Aroclor-1248	<50	<0.086	3.2 (J)	0.94 (J)	12 (J)	1.4 (J)
Aroclor-1254	<50	<0.086	2.0	<0.11	7.8	<0.22
Total Aroclor	<50	<0.086	5.2	0.94	19.8	1.4

	Sample Collection Date:	**6/26/2012**	**6/27/2012**	**6/27/2012**	**6/27/2012**	**6/27/2012**
	Sample ID:	**Soil-PCB-FL-6**	**Soil-PCB-FL-7**	**Soil-PCB-EB02**	**Soil-PCB-FL-8**	**Soil-PCB-FL-9**
	Northing NAD83[1] U.S. Survey Ft.:	**1091544.879**	**1091563.385**	**-**	**1091566.095**	**1091581.214**
	Easting NAD83[1] U.S. Survey Ft.:	**746279.802**	**746274.652**	**-**	**746297.936**	**746305**
	Elevation[2]:	**485.312**	**484.371**	**-**	**495.091**	**494.11**
PARAMETER [3]	**Soil Regulatory Level [4]**					
Polychlorinated Biphenyls (PCBs), mg/kg:						
Aroclor-1248	<50	0.11 (J)	<0.056	<0.00020	8.8 (J)	8.0 (J)
Aroclor-1254	<50	<0.059	<0.056	<0.00020	6.5	<0.93
Total Aroclor	<50	0.11	<0.056	<0.00020	15.3	8.0

TABLE 1.4.3-2
SUMMARY OF POST-EXCAVATION PCB SOIL SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**6/26/2012**	**6/26/2012**	**6/26/2012**	**6/26/2012**	**6/26/2012**
	Sample ID:	**Soil-PCB-SW-1**	**Soil-PCB-EB01**	**Soil-PCB-SW-2**	**Soil-PCB-SW-3**	**Soil-PCB-SW-4[5]**
	Northing NAD83[1] U.S. Survey Ft.:	**1091533.333**	**-**	**1091500.127**	**1091508.022**	**1091508.819**
	Easting NAD83[1] U.S. Survey Ft.:	**746267.247**	**-**	**746285.94**	**746295.151**	**746275.04**
	Elevation[2]:	**482.971**	**-**	**493.899**	**499.992**	**487.081**
PARAMETER [3]	**Soil Regulatory Level [4]**					
Polychlorinated Biphenyls (PCBs), mg/kg:						
Aroclor-1248	<50	25 (J)	<0.00020	16 (J)	3.1 (J)	**75 (J)**
Aroclor-1254	<50	20	<0.00020	<2.3	<0.45	**70**
Total Aroclor	<50	45	<0.00020	16	3.1	**145**

	Sample Collection Date:	**6/26/2012**	**6/26/2012**		**6/26/2012**	**6/26/2012**
	Sample ID:	**Soil-PCB-SW-5**	**Soil-PCB-SW-6[5]**	**Soil-PCB-FD01[5]**	**Soil-PCB-SW-7**	**Soil-PCB-SW-8**
	Northing NAD83[1] U.S. Survey Ft.:	**1091517.162**	**1091516.534**		**1091517.38**	**1091535.217**
	Easting NAD83[1] U.S. Survey Ft.:	**746284.236**	**746273.051**		**746296.032**	**746305.146**
	Elevation[2]:	**491.066**	**485.881**		**500.053**	**501.392**
PARAMETER [3]	**Soil Regulatory Level [4]**					
Polychlorinated Biphenyls (PCBs), mg/kg:						
Aroclor-1248	<50	5.7 (J)	38 (J)	36 (J)	12 (J)	**2.5 (J)**
Aroclor-1254	<50	3.6	43	38	<2.4	**<0.43**
Total Aroclor	<50	9.3	**81**	**74**	12	**2.5**

TABLE 1.4.3-2
SUMMARY OF POST-EXCAVATION PCB SOIL SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**6/26/2012**	**6/26/2012**	**6/26/2012**	**6/26/2012**	**6/26/2012**
	Sample ID:	**Soil-PCB-SW-9**	**Soil-PCB-SW-10**	**Soil-PCB-SW-11**	**Soil-PCB-SW-12**	**Soil-PCB-SW-13**
	Northing NAD83[1] U.S. Survey Ft.:	**1091533.121**	**1091532.907**	**1091550.852**	**1091556.105**	**1091560.741**
	Easting NAD83[1] U.S. Survey Ft.:	**746295.755**	**746281.522**	**746302.087**	**746284.683**	**746265.186**
	Elevation[2]:	**494.413**	**487.121**	**500.58**	**488.978**	**484.441**
PARAMETER [3]	**Soil Regulatory Level [4]**					
Polychlorinated Biphenyls (PCBs), mg/kg:						
Aroclor-1248	<50	3.2 (J)	<0.057	17 (J)	0.095 (J)	<0.056
Aroclor-1254	<50	<0.50	<0.057	<2.3	<0.058	<0.056
Total Aroclor	<50	3.2	<0.057	17	0.095	<0.056

	Sample Collection Date:	**6/27/2012**		**6/27/2012**	**6/27/2012**	**6/27/2012**
	Sample ID:	**Soil-PCB-SW-14**	**Soil-PCB-FD02**	**Soil-PCB-SW-15[6]**	**Soil-PCB-SW-16**	**Soil-PCB-SW-17**
	Northing NAD83[1] U.S. Survey Ft.:	**1091569.82**		**1091589.252**	**1091592.767**	**1091578.417**
	Easting NAD83[1] U.S. Survey Ft.:	**746309.374**		**746313.172**	**746303.769**	**746282.942**
	Elevation[2]:	**499.678**		**498.883**	**499.241**	**491.631**
PARAMETER [3]	**Soil Regulatory Level [4]**					
Polychlorinated Biphenyls (PCBs), mg/kg:						
Aroclor-1248	<50	2.9 (J)	3.8 (J)	**150 (J)**	20 (J)	17 (J)
Aroclor-1254	<50	1.8	2.4	**67**	11	11
Total Aroclor	<50	4.7	6.2	**217**	31	28

TABLE 1.4.3-2
SUMMARY OF POST-EXCAVATION PCB SOIL SAMPLING RESULTS - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Sample Collection Date:		**6/27/2012**	**7/9/2012**	**7/9/2012**		**7/9/2012**
Sample ID:		**Soil-PCB-SW-18**	**Soil-PCB-EB03**	**Soil-PCB-SW-19**	**Soil-PCB-FD03**	**Soil-PCB-SW-20**
Northing NAD83[1] U.S. Survey Ft.:		**1091575.032**	**-**	**1091591.75**		**1091513.72**
Easting NAD83[1] U.S. Survey Ft.:		**746272.958**	**-**	**746319.57**		**746267.53**
Elevation[2]:		**486.188**	**-**	**499.77**		**483.8**
PARAMETER [3]	**Soil Regulatory Level [4]**					
Polychlorinated Biphenyls (PCBs), mg/kg:						
Aroclor-1248	<50	9.7 (J)	<0.00020	37 (J)	34 (J)	10 (J)
Aroclor-1254	<50	6.2	<0.00020	<5.3	<5.2	8.3
Total Aroclor	<50	15.9	<0.00020	37	34	18.3

Notes:

mg/kg denotes milligrams per kilogram or parts per million (ppm).

Results are presented on a dry weight basis.

Qualifiers in parenthesis are data validator's qualifiers.

(J) indicates the analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.

[1] North orientation and bearings are based on the New York State Plane Coordinate System, East Zone, North American Datum (NAD) 1983. Obtained through GPS observations.

[2] Vertical datum established from National Geodetic Vertical Datum (N.G.V.D.) 1988. Obtained through GPS observations.

[3] Only the compounds that were detected are listed.

[4] The soil regulatory level is <50 mg/kg total PCBs, as soil with a PCB concentration of 50 mg/kg or greater is a NYS hazardous waste per 6 NYCRR Part 371.4(e) and a TSCA waste per 40 CFR Part 761, and required to be disposed of offsite.

[5] Additional soil excavated. See results for Soil-PCB-SW-20.

[6] Additional soil excavated. See results for Soil-PCB-SW-19.

Soil-PCB-EB01 collected prior to collectiong Soil-PCB-SW-2, Soil-PCB-EB02 collected prior to collecting Soil-PCB-FL-8, Soil-PCB-EB03 collected prior to collecting Soil-PCB-SW-19.

Soil-PCB-FD01 collected at Soil-PCB-SW-6, Soil-PCB-FD02 collected at Soil-PCB-SW-14, Soil-PCB-FD03 collected at Soil-PCB-SW-19.

Values in **BOLD** exceed the soil regulatory level.

TABLE 1.4.3-3
SUMMARY OF POST-WASTE EXCAVATION SOIL SAMPLING RESULTS - VALIDATED
HIGHER GROUND COUNTRY CLUB
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Sample Collection Date:		**7/11/2012**	**7/11/2012**	**7/11/2012**		**7/11/2012**
Sample ID:		**HGCC-EB01**	**HGCC-SW-1**	**HGCC-SW-2**	**HGCC-FD01**	**HGCC-SW-3**
Northing NAD83[1] U.S. Survey Ft.:		**-**	**1091822.2236**	**1091819.5150**		**1091810.8042**
Easting NAD83[1] U.S. Survey Ft.:		**-**	**746614.8479**	**746565.8879**		**746515.3211**
Elevation[2]:		**-**	**486.4212**	**484.7575**		**490.5933**
PARAMETER [3]	**NYSDEC DER-10 Unrestricted Use Soil Cleanup Objective Values [4]**					
TAL Metals, mg/kg:						
Aluminum	-	<0.050	NR	NR	NR	NR
Antimony	-	<0.050	<2.6	<2.6	<2.6	<2.7
Arsenic	13	<0.010	6.0	3.8	<2.6	<2.7
Barium	350	<0.050	26	31 (J)	67 (J)	67
Beryllium	7.2	<0.0040	<0.26	<0.26	0.42 (J+)	0.54 (J+)
Cadmium	2.5	<0.0040	0.33	0.32	0.41	0.36
Chromium	1 / 30 [5]	<0.010	12	11	9.4	17
Cobalt	-	<0.050	15	14	20	17
Copper	50	<0.010	34	32	31	36
Iron	-	<0.050	NR	NR	36,000 B, E, B-07 (J)	36,000 B, B-07, E (J)
Lead	63	<0.010	13	11	15	18
Manganese	1600	<0.010	770	960 (J)	**1,800 (J)[6]**	1,200
Mercury	0.18	<0.00010	<0.027	<0.026	<0.027	0.032
Nickel	30	<0.010	25	24	**35[6]**	29
Selenium	3.9	<0.050	<5.3 Z-01	<5.1 Z-01	<5.1 Z-01	<5.4 Z-01
Silver	2	<0.0050	<0.53	<0.51	<0.51	<0.54
Thallium	-	<0.050	<2.6	<2.6	<2.6	<2.7
Vanadium	-	<0.010	17	16	15	25
Zinc	109	<0.020	65	60	79	84
TCL Volatile Organic Compounds (VOCs), mg/kg:						
None Detected	-	-	-	-	-	-
TCL Semi-Volatile Organic Compounds (SVOCs), mg/kg:						
None Detected	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs), mg/kg:						
Aroclor-1248	0.1	<0.0002 (UJ)	<0.021	<0.021	<0.020	<0.022

TABLE 1.4.3-3
SUMMARY OF POST-WASTE EXCAVATION SOIL SAMPLING RESULTS - VALIDATED
HIGHER GROUND COUNTRY CLUB
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**7/11/2012**	**7/12/2012**	**7/13/2012**	**7/13/2012**	**7/13/2012**
	Sample ID:	**HGCC-SW-4**	**HGCC-FL-1**	**HGCC-FL-2**	**HGCC-FL-3**	**HGCC-SW-5**
	Northing NAD83[1] U.S. Survey Ft.:	**1091803.4171**	**1091815.5492**	**1091800.2783**	**1091789.2576**	**1091792.2501**
	Easting NAD83[1] U.S. Survey Ft.:	**746466.4745**	**746575.4026**	**746504.5399**	**746426.0789**	**746416.4437**
	Elevation[2]:	**489.7110**	**482.2899**	**484.8823**	**488.5841**	**492.3223**
PARAMETER [3]	**NYSDEC DER-10 Unrestricted Use Soil Cleanup Objective Values [4]**					
TAL Metals, mg/kg:						
Aluminum	-	NR	NR	NR	NR	NR
Antimony	-	<2.7 MS-07A (UJ)	<2.7	<2.9	<2.7	<2.7
Arsenic	13	<2.7 R-04	<2.7	<2.9	<2.7	2.7
Barium	350	44	37	43	44	52
Beryllium	7.2	0.45 (J+)	0.44	0.41	0.32	0.37
Cadmium	2.5	0.36	0.31	<0.29	0.32	0.28
Chromium	1 / 30 [5]	15	16	17	15	15
Cobalt	-	16	18	15	14	14
Copper	50	36	34	29	32	38
Iron	-	34,000 B-07, MS-19, B	NR	NR	NR	NR
Lead	63	16	20	16	17	20
Manganese	1600	1,000 MS-19	510	750	950	950
Mercury	0.18	<0.027	0.057	<0.029	0.031	0.029
Nickel	30	27	**31[6]**	28	27	28
Selenium	3.9	<2.6 MS-09 (UJ)	<2.7	<2.9	<2.7	<2.7
Silver	2	<0.55	0.56	0.66	0.61	0.67
Thallium	-	<2.6 (UJ)	<2.7	<2.9	<2.7	<2.7
Vanadium	-	21	23	22	19	21
Zinc	109	75	69	85	68	68
TCL Volatile Organic Compounds (VOCs), mg/kg:						
None Detected	-	-	-	-	-	-
TCL Semi-Volatile Organic Compounds (SVOCs), mg/kg:						
None Detected	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs), mg/kg:						
Aroclor-1248	0.1	<0.022	<0.058	<0.059	<0.055	<0.055

TABLE 1.4.3-3
SUMMARY OF POST-WASTE EXCAVATION SOIL SAMPLING RESULTS - VALIDATED
HIGHER GROUND COUNTRY CLUB
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**7/18/2012**	**7/18/2012**	**7/18/2012**	**7/18/2012**	
	Sample ID:	**HGCC-EB02**	**HGCC-SW-6**	**HGCC-FL-4**	**HGCC-SW-7**	**HGCC-FD02**
	Northing NAD83[1] U.S. Survey Ft.:	**-**	**1091781.5823**	**1091774.6610**	**1091772.9325**	
	Easting NAD83[1] U.S. Survey Ft.:	**-**	**746364.6851**	**746353.4947**	**746318.7341**	
	Elevation[2]:	**-**	**491.5677**	**491.5983**	**490.6212**	
PARAMETER [3]	**NYSDEC DER-10 Unrestricted Use Soil Cleanup Objective Values [4]**					
TAL Metals, mg/kg:						
Aluminum	-	<0.050	8,000	8,600 MS-19, R-02 (J)	9,300	10,000
Antimony	-	<0.050	<2.5	<2.6	<2.6	<2.6
Arsenic	13	<0.010	12	3.7	4.6	5.2
Barium	350	<0.050	14	23	24	29
Beryllium	7.2	<0.0040	<0.25	<0.26 R-04	<0.26	<0.26
Cadmium	2.5	<0.0040	0.26	0.29	0.33	0.36
Chromium	1 / 30 [5]	<0.010	9.1	6.9	11	12
Cobalt	-	<0.050	9.9	10	12	13
Copper	50	0.013	30	30	33	34
Iron	-	<0.050	21,000 E	18,000 B-07, MS-19, B	24,000 E	25,000 E
Lead	63	<0.010	11	11	17	18
Manganese	1600	0.011	610	600 MS-19	870	1,100
Mercury	0.18	<0.00010	<0.026	<0.026	<0.027	<0.027
Nickel	30	0.018	19	18	24	27
Selenium	3.9	<0.050	<2.5	<2.6 MS-09 (UJ)	<2.6	<2.6
Silver	2	<0.0050	<0.49	<0.52	<0.51	<0.53
Thallium	-	<0.050	NR	<2.6	NR	NR
Vanadium	-	<0.050	13	13	17	19
Zinc	109	<0.020	42	32 (J)	54	53
TCL Volatile Organic Compounds (VOCs), mg/kg:						
None Detected	-	-	-	-	-	-
TCL Semi-Volatile Organic Compounds (SVOCs), mg/kg:						
None Detected	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs), mg/kg:						
Aroclor-1248	0.1	<0.0002	<0.021	<0.021	**0.64[6]**	**0.57[6]**

TABLE 1.4.3-3
SUMMARY OF POST-WASTE EXCAVATION SOIL SAMPLING RESULTS - VALIDATED
HIGHER GROUND COUNTRY CLUB
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Notes:

mg/kg denotes milligrams per kilogram or parts per million (ppm).
B indicates analyte found in the associated blank as well as in the sample.
B-07 indicates data is not affected by elevated level in blank since sample result is >10x the level found in the blank.
E indicates result is estimated. Value reported over verified calibration range.
R-02 indicates duplicate RPD is outside of control limits. Outlier can be attibuted to sample non-homogeneity encountered during sample prep.
R-04 indicates duplicate RPD is a less usefull indicator of sample precision for sample results that are <5x the reporting limit.
Z-01 indicates elevated reporting limit due to high concentration of an interfering analyte(s). Requested reporting limit is not met.
MS-07A indicates matrix spike and spike duplicate recovery is outside of control limits. Analysis is in control based on laboratory fortified blank reovery. Possibility of matrix effects that lead to low bias or non-homogeneous sample aliquout cannot be eliminated.
MS-09 indicates matrix spike recovery and matrix spike duplicate recovery outside of control limits. Possibility of sample matrix effects that lead to a low bias for reported result or non-homogenous sample aliquots cannot be eliminated.
MS-19 indicates sample to spike ratio is greater than equal to 4:1. Spiked amount is not representative of the native amount in the sample, appropriate or meaninful recoveries cannot be calculated.
NR indicates not reported by laboratory.
No results reported by laboratory for Ca, K, Mg and Na.
Qualifiers in parenthesis are data validator's qualifiers.
(J) indicates the analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
(J+) indicates the analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
(UJ) indicates the analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
Results are presented on a dry weight basis.
HGCC-EB01 collected prior to collecting HGCC-SW-1, HGCC-EB02 collected prior to collecting HGCC-SW-6.
HGCC-FD01 collected at HGCC-SW-2 , HGCC-FD02 collected at HGCC-SW-7.
(1) North orientation and bearings are based on the New York State Plane Coordinate System, East Zone, North American Datum (NAD) 1983. Obtained through GPS observations.
(2) Vertical datum established from National Geodetic Vertical Datum (N.G.V.D.) 1988. Obtained through GPS observations.
(3) Only the compounds that were detected are listed.
(4) NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation Appendix 5 and 6 NYCRR PART 375-6.8, Environmental Remediation Program Objective Tables, Dated December 14, 2006.
(5) The 6 NYCRR Part 375-6.8 Unrestricted Use Soil Cleanup Objective is 1 mg/kg for hexavalent chromium and 30 mg/kg for trivalent chromium.
(6) Sampling result with exceedance presented to NYSDEC and it was determined that no further action was required.
Values in **BOLD** exceed their soil cleanup objective value.

TABLE 1.4.3-4
SUMMARY OF POST-WASTE EXCAVATION SOIL SAMPLING RESULTS - SOUTH SIDE OF LANDFILL - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**8/8/2012**	**8/8/2012**	**8/8/2012**	**8/8/2012**	
	Sample ID:	**OLC-SOUTH-EB01**	**OLC-SOUTH-SW1**	**OLC-SOUTH-FL1**	**OLC-SOUTH-FL2**	**OLC-SOUTH-FD01**
	Northing NAD83[1] U.S. Survey Ft.:	**-**	**1091013.6436**	**1091076.1074**	**1090968.7587**	
	Easting NAD83[1] U.S. Survey Ft.:	**-**	**746462.9130**	**746622.7199**	**746363.1634**	
	Elevation[2]:	**-**	**537.1434**	**529.8213**	**529.5857**	
PARAMETER [3]	**NYSDEC DER-10 Unrestricted Use Soil Cleanup Objective Values [4]**					
TAL Metals, mg/kg:						
Aluminum	-	<0.050	8,800 B-07, MS-19, B	9,800	13,000 MS-19	13,000 MS-19
Antimony	-	<0.050	<2.5 MS-07A (UJ)	<2.7	<2.6 MS-07 (UJ)	<2.7 MS-07 (UJ)
Arsenic	13	<0.010	9.0 (J)	9.0	4.7	<2.7 (UJ)
Barium	350	<0.050	27	29	26 MS-11 (J)	29
Beryllium	7.2	<0.0040	<0.25	<0.27	<0.26	<0.27
Cadmium	2.5	<0.0040	0.35	0.32	0.28	0.33
Chromium	1 / 30 [5]	<0.010	9.1	10	12	12
Cobalt	-	<0.050	17	12	12	13
Copper	50	<0.010	36	39 B, B-07	33 B, B-07	33
Iron	-	<0.050 B-05	NR	NR	NR	30,000 B-07, MS-19, B
Lead	63	<0.010	12	16	14	16
Manganese	1600	<0.010	740 MS-19	900	530 MS-19	650 MS-19
Mercury	0.18	<0.00010	<0.026	<0.028	<0.028	<0.027
Nickel	30	<0.010	28	22	24	26
Selenium	3.9	<0.050	<2.5 MS-07A (UJ)	<2.7	<2.6 MS-07 (UJ)	<2.7 MS-07 (UJ)
Silver	2	<0.0050	<0.49	0.70	<0.52	<0.54
Thallium	-	<0.050	<2.5	<2.7	<2.6	<2.7
Vanadium	-	<0.010	13	16	18	20
Zinc	109	<0.020	66	49	53	67
TCL Volatile Organic Compounds (VOCs), mg/kg:						
None Detected	-	-	-	-	-	-
TCL Semi-Volatile Organic Compounds (SVOCs), mg/kg:						
None Detected	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs), mg/kg:						
Aroclor-1248	0.1	<0.00020	<0.020	**0.13[6]**	<0.022	<0.022
Aroclor-1254	0.1	<0.00020	<0.020	**0.16[6]**	<0.022	<0.022
Total Aroclor	0.1	<0.00020	<0.020	**0.29[6]**	<0.022	<0.022

TABLE 1.4.3-4
SUMMARY OF POST-WASTE EXCAVATION SOIL SAMPLING RESULTS - SOUTH SIDE OF LANDFILL - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Notes:

mg/kg denotes milligrams per kilogram or parts per million (ppm).
B indicates analyte is found in the associated blank as well as in the sample.
B-05 indicates data is not affected by elevated level in blank since sample result is "not detected".
B-07 indicates data is not affected by elevated level in blank since sample result is >10x level found in the blank.
MS-07 indicates matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of sample matrix effects that lead to low bias for reported results or non-homogeneous sample aliquot cannot be eliminated.
MS-07A indicates matrix spike and spike duplicate recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of matrix effects that lead to low bias or non-homogeneous sample aliquot cannot be eliminated.
MS-11 indicates matrix spike outside control limits. Possibility of sample matrix effects that lead to a high bias for reported result or non-homogeneous sample aliquots cannot be eliminated.
MS-19 indicates sample to spike ratio is greater than equal to 4:1. Spiked amount is not representative of the native amount in the sample, appropriate or meaninful recoveries cannot be calculated.
NR indicates not reported by laboratory.
No results reported by laboratory for Ca, K, Mg and Na.
Qualifiers in parenthesis are data validator's qualifiers.
(J) indicates the analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
(UJ) indicates the analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
Results are presented on a dry weight basis.
(1) North orientation and bearings are based on the New York State Plane Coordinate System, East Zone, North American Datum (NAD) 1983. Obtained through GPS observations.
(2) Vertical datum established from National Geodetic Vertical Datum (N.G.V.D.) 1988. Obtained through GPS observations.
(3) Only the compounds that were detected are listed.
(4) NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation Appendix 5 and 6 NYCRR PART 375-6.8, Environmental Remediation Program Objective Tables, Dated December 14, 2006.
(5) The 6 NYCRR Part 375-6.8 Unrestricted Use Soil Cleanup Objective is 1 mg/kg for hexavalent chromium and 30 mg/kg for trivalent chromium.
(6) Sampling result with exceedance presented to NYSDEC and it was determined that no further action was required.
OLC-SOUTH-EB01 collected prior to collecting OLC-SOUTH-SW1
OLD-SOUTH-FD01 collected at OLC-SOUTH-FL2.
Values in **BOLD** exceed their soil cleanup objective value.

TABLE 1.4.3-5
SUMMARY OF POST-WASTE EXCAVATION SOIL SAMPLING RESULTS - WEST SIDE OF LANDFILL - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**11/6/2012**	**11/6/2012**	**11/6/2012**	
	Sample ID:	**OLC-West-EB01**	**OLC-West-FL1**	**OLC-West-FL2**	**OLC-West-FD01**
	Northing NAD83[1] U.S. Survey Ft.:	**-**	**1091637.0000**	**1091460.0000**	
	Easting NAD83[1] U.S. Survey Ft.:	**-**	**746291.7000**	**746288.4000**	
	Elevation[2]:	**-**	**483.598**	**483.484**	
PARAMETER [3]	**NYSDEC DER-10 Unrestricted Use Soil Cleanup Objective Values [4]**				
TAL Metals, mg/kg:					
Aluminum	-	<0.050	21,000 MS-19	13,000	14,000
Antimony	-	<0.001	<2.9 MS-07A (UJ)	7.3 (J)	<3.3 (UJ)
Arsenic	13	<0.00040	4.6	<3.3	<3.3
Barium	350	<0.010	62	347	43
Beryllium	7.2	<0.00040	0.57	<0.33	<0.33
Cadmium	2.5	<0.00050	0.37	0.36	0.41
Calcium	-	<0.15	950 MS-19	1,900	2,300
Chromium	1 / 30 [5]	<0.0010	20	12	13
Cobalt	-	<0.0010	19	8.4	8.4
Copper	50	<0.005	44	12	12
Iron	-	<0.050	39,000 MS-19	24,000	23,000
Lead	63	<0.0010	19	34	29
Magnesium	-	<0.15	8,200 MS-19	4,100	3,900
Manganese	1600	<0.0010	810 MS-19, R-02	420	280
Mercury	0.18	<0.00010	0.037	<0.033	<0.033
Nickel	30	<0.0050	**32[6]**	12	14
Potassium	-	<2.0	870	580	680
Selenium	3.9	<0.0050	<2.9	<3.3	<3.3
Silver	2	<0.00050	<0.58	<0.66	<0.66
Sodium	-	<2.0	<120 MS-15 (UJ)	<130	<130
Thallium	-	<0.00020	<2.9	<3.3	<3.3
Vanadium	-	<0.0050	23	21	22
Zinc	109	<0.010	73	63	86
TCL Volatile Organic Compounds (VOCs), mg/kg:					
cis-1,2-Dichloroethylene	0.25	<0.0010	<0.0011	<0.0016	<0.0014
TCL Semi-Volatile Organic Compounds (SVOCs), mg/kg:					
None Detected	-	-	-	-	-
Polychlorinated Biphenyls (PCBs), mg/kg:					
Aroclor-1248	0.1	<0.00040	<0.024	<0.026	<0.027

TABLE 1.4.3-5
SUMMARY OF POST-WASTE EXCAVATION SOIL SAMPLING RESULTS - WEST SIDE OF LANDFILL - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**11/6/2012**	**11/12/2012**	**11/12/2012**
	Sample ID:	**OLC-West-FL3**	**OLC-West-FL4**	**OLC-West-FL5**
	Northing NAD83[1] U.S. Survey Ft.:	**1091367.0000**	**1091215.0000**	**1091145.0000**
	Easting NAD83[1] U.S. Survey Ft.:	**746255.4000**	**746260.2000**	**746284.2000**
	Elevation[2]:	**483.884**	**484.517**	**484.998**
PARAMETER [3]	**NYSDEC DER-10 Unrestricted Use Soil Cleanup Objective Values [4]**			
TAL Metals, mg/kg:				
Aluminum	-	21,000	10,000	11,000
Antimony	-	<2.9	3.1	3.9
Arsenic	13	<2.9	3.4	5.2
Barium	350	45	55	72
Beryllium	7.2	0.41	<0.28	<0.29
Cadmium	2.5	<0.29	0.88	0.87
Calcium	-	1,200	22,000	29,000
Chromium	1 / 30 [5]	17	17	15
Cobalt	-	13	12	12
Copper	50	15	**70[6]**	**64[6]**
Iron	-	31,000	29,000	28,000
Lead	63	13	12	**130[6]**
Magnesium	-	5,700	14,000	19,000
Manganese	1600	430	460	870
Mercury	0.18	<0.031	0.063	**0.26[6]**
Nickel	30	23	27	25
Potassium	-	770	1,200	900
Selenium	3.9	<2.9	<2.8	<2.9
Silver	2	<0.58	0.75	1.4
Sodium	-	<120	<110	<110
Thallium	-	<2.9	<2.8	<2.9
Vanadium	-	23	19	19
Zinc	109	64	**190[6]**	**240[6]**
TCL Volatile Organic Compounds (VOCs), mg/kg:				
cis-1,2-Dichloroethylene	0.25	<0.0012	<0.0011	0.0013
TCL Semi-Volatile Organic Compounds (SVOCs), mg/kg:				
None Detected	-	-	-	-
Polychlorinated Biphenyls (PCBs), mg/kg:				
Aroclor-1248	0.1	0.039	0.052	<0.022

TABLE 1.4.3-5
SUMMARY OF POST-WASTE EXCAVATION SOIL SAMPLING RESULTS - WEST SIDE OF LANDFILL - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Notes:

mg/kg denotes milligrams per kilogram or parts per million (ppm).
R-02 indicates duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.
MS-07A indicates matrix spike and spike duplicate recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of matrix effects that lead to low bias or non-homogeneous sample aliquot cannot be eliminated.
MS-15 indicates matrix spike and matrix spike duplicate recoveries are outside of control limits. Data validation is not affected since results for this compound in this sample are "non detected", and recovery bias is on the high side.
MS-19 indicates sample to spike ratio is greater than equal to 4:1. Spiked amount is not representative of the native amount in the sample, appropriate or meaninful recoveries cannot be calculated.
Qualifiers in parenthesis are data validator's qualifiers.
(J) indicates the analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
(UJ) indicates the analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
Results are presented on a dry weight basis.
(1) North orientation and bearings are based on the New York State Plane Coordinate System, East Zone, North American Datum (NAD) 1983. Obtained through GPS observations.
(2) Vertical datum established from National Geodetic Vertical Datum (N.G.V.D.) 1988. Obtained through GPS observations.
(3) Only the compounds that were detected are listed.
(4) NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation Appendix 5 and 6 NYCRR PART 375-6.8, Environmental Remediation Program Objective Tables, Dated December 14, 2006.
(5) The 6 NYCRR Part 375-6.8 Unrestricted Use Soil Cleanup Objective is 1 mg/kg for hexavalent chromium and 30 mg/kg for trivalent chromium.
(6) Sampling result with exceedance presented to NYSDEC and it was determined that no further action was required.
Values in **BOLD** exceed their soil cleanup objective value.
OLC-West-EB01 collected pror to collecting OLC-West-FL1.
OLC-West-FD01 collected at OLC-West-FL2.

TABLE 1.4.3-6
SUMMARY OF POST-EXCAVATION SEDIMENT SAMPLING RESULTS - WET REMOVAL AREA - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**9/13/2012**	**9/13/2012**	**9/19/2012**	**9/19/2012**	**9/19/2012**	
	Sample ID:	**SED-W-FL-1**	**SED-W-FL-2**	**SED-W-EB01**	**SED-W-FL-3**	**SED-W-FL-4**	**SED-W-FD01**
	Northing NAD83[1] U.S. Survey Ft.:	**1090980.16**	**1091009.2**	**-**	**1091034.01**	**1091054.64**	
	Easting NAD83[1] U.S. Survey Ft.:	**746142.53**	**746138.8**	**-**	**746152.93**	**746164.64**	
	Elevation[2]:	**480.31**	**479.87**	**-**	**480.41**	**480.41**	
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**						
Metals, mg/kg:							
Copper	110	20 (J)	50 (J)	<0.024 mg/L	18 (J)	16 (J)	16 (J)
Lead	110	9.8 M-10 (J)	44 M-10 (J)	<0.0040 mg/L	11 (J)	<4.9 (UJ)	<5.0 (UJ)
Mercury	1.3	<0.2 MS-07A (UJ)	0.23 (J)	<0.00010 mg/L	<0.19 MS-07A	<0.17 (UJ)	<0.17 (UJ)
Zinc	270	41 (J)	210 (J)	<0.050 mg/L	95 (J)	11 (J)	7.1 (J)
Polychlorinated Biphenyls (PCBs), mg/kg:							
Aroclor-1248	1	<0.79 (UJ)	<0.89 (UJ)	<0.00004 mg/L	<0.16 (UJ)	<0.14 (UJ)	<0.14 (UJ)
Aroclor-1254	1	**1.3 (J)[5]**	<0.89 (UJ)	<0.00004 mg/L	<0.16 (UJ)	<0.14 (UJ)	<0.14 (UJ)
Total Aroclor	1	**1.3[5]**	<0.89	<0.00004 mg/L	<0.16	<0.14	<0.14

	Sample Collection Date:	**9/21/2012**	**9/21/2012**	**9/22/2012**	**9/22/2012**	**9/22/2012**	**9/24/2012**
	Sample ID:	**SED-W-FL-5**	**SED-W-FL-6**	**SED-W-FL-7**	**SED-W-FL-8**	**SED-W-FL-9**	**SED-W-FL-10**
	Northing NAD83[1] U.S. Survey Ft.:	**1090947.01**	**1090927.1**	**1091104.87**	**1091078.42**	**1091133.52**	**1091019.56**
	Easting NAD83[1] U.S. Survey Ft.:	**746152.43**	**746178.89**	**746172.76**	**746172.93**	**746171.42**	**746179.68**
	Elevation[2]:	**480.69**	**481.47**	**480.58**	**480.77**	**480.58**	**480.91**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**						
Metals, mg/kg:							
Copper	110	20 (J)	25 (J)	47 (J)	32 (J)	51 (J)	19 (J)
Lead	110	9.1 (J)	<5.0 (UJ)	15 (J)	8.6 (J)	41 (J)	<6.1 (UJ)
Mercury	1.3	<0.21 (UJ)	<0.18 (UJ)	<0.18 MS-07 (UJ)	<0.19 (UJ)	0.17 (J)	<0.19 (UJ)
Zinc	270	54 (J)	53 (J)	76 (J)	35 (J)	100 (J)	28 (J)
Polychlorinated Biphenyls (PCBs), mg/kg:							
Aroclor-1248	1	<0.17 (UJ)	<0.14 (UJ)	<0.14 (UJ)	<0.15 (UJ)	<0.11 (UJ)	<0.15 (UJ)
Aroclor-1254	1	<0.17 (UJ)	<0.14 (UJ)	<0.14 (UJ)	<0.15 (UJ)	<0.11 (UJ)	<0.15 (UJ)
Total Aroclor	1	<0.17	<0.14	<0.14	<0.15	<0.11	<0.15

TABLE 1.4.3-6
SUMMARY OF POST-EXCAVATION SEDIMENT SAMPLING RESULTS - WET REMOVAL AREA - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**9/24/2012**	**9/24/2012**	**9/25/2012**	**9/25/2012**	**9/25/2012**	**9/26/2012**
	Sample ID:	**SED-W-FL-11**	**SED-W-FL-12**	**SED-W-FL-13**	**SED-W-FL-14**	**SED-W-FL-15**	**SED-W-FL-16**
	Northing NAD83[1] U.S. Survey Ft.:	**1090991.53**	**1091048.71**	**1091278.03**	**1091246.72**	**1091216.17**	**1091091.25**
	Easting NAD83[1] U.S. Survey Ft.:	**746172.03**	**746190.12**	**746204.28**	**746201.76**	**746200.47**	**746197.1**
	Elevation[2]:	**480.42**	**480.72**	**482.86**	**482.49**	**482.07**	**480.59**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**						
Metals, mg/kg:							
Copper	110	27 (J)	30 (J)	40	29	31	33 (J)
Lead	110	11 (J)	<5.2 (UJ)	20	18	14	28 (J)
Mercury	1.3	<0.21 (UJ)	<0.17 (UJ)	<0.030	<0.031	<0.031	<0.22 (UJ)
Zinc	270	74 (J)	21 (J)	80	64	53	71 (J)
Polychlorinated Biphenyls (PCBs), mg/kg:							
Aroclor-1248	1	<0.17 (UJ)	<0.14 (UJ)	<0.024	<0.026	<0.024	<0.17
Aroclor-1254	1	<0.17 (UJ)	<0.14 (UJ)	<0.024	<0.026	<0.024	<0.17
Total Aroclor	1	<0.17	<0.14	<0.024	<0.026	<0.024	<0.17

	Sample Collection Date:	**9/26/2012**	**9/27/2012**	**9/27/2012**	**9/26/2012**	**9/26/2012**
	Sample ID:	**SED-W-FL-17**	**SED-W-EB02**	**SED-W-FL-18**	**SED-W-FL-19**	**SED-W-FL-20**
	Northing NAD83[1] U.S. Survey Ft.:	**1091126.28**	**-**	**1091058.38**	**1091164.55**	**1090953.35**
	Easting NAD83[1] U.S. Survey Ft.:	**746198.12**	**-**	**746220.62**	**746177.64**	**746175.04**
	Elevation[2]:	**480.65**	**-**	**481.22**	**480.63**	**480.2**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**					
Metals, mg/kg:						
Copper	110	40 (J)	<0.0050 mg/L	49 (J)	49 (J)	26 (J)
Lead	110	14 (J)	<0.0010 mg/L	19 (J)	44 (J)	7.4 (J)
Mercury	1.3	<0.15 (UJ)	<0.00010 mg/L	<0.19 MS-07A	<0.18 (UJ)	<0.21 (UJ)
Zinc	270	53 (J)	<0.010 mg/L	79 (J)	160 (J)	52 (J)
Polychlorinated Biphenyls (PCBs), mg/kg:						
Aroclor-1248	1	<0.12 (UJ)	<0.00004 mg/L	<0.15 (UJ)	<0.14 (UJ)	<0.17 (UJ)
Aroclor-1254	1	<0.12 (UJ)	<0.00004 mg/L	0.16 (J)	<0.14 (UJ)	<0.17 (UJ)
Total Aroclor	1	<0.12	<0.00004 mg/L	0.16	<0.14	<0.17

TABLE 1.4.3-6
SUMMARY OF POST-EXCAVATION SEDIMENT SAMPLING RESULTS - WET REMOVAL AREA - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Sample Collection Date:		**9/27/2012**		**9/27/2012**	**9/27/2012**	**9/27/2012**	**10/2/2012**
Sample ID:		**SED-W-FL-21**	**SED-W-FD02**	**SED-W-FL-22**	**SED-W-FL-23**	**SED-W-FL-24**	**SED-W-FL-25**
Northing NAD83[1] U.S. Survey Ft.:		**1091034.25**		**1091009.69**	**1090983.87**	**1090925.77**	**1091112.56**
Easting NAD83[1] U.S. Survey Ft.:		**746214.79**		**746203.21**	**746196.98**	**746201.53**	**746225.16**
Elevation[2]:		**481.06**		**481.32**	**481.27**	**482.09**	**481.24**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**						
Metals, mg/kg:							
Copper	110	50 (J)	62 (J)	42 (J)	37 (J)	27	89 (J)
Lead	110	21 (J)	44 (J)	7.5 (J)	15 (J)	17	38 (J)
Mercury	1.3	<0.21 (UJ)	0.28 (J)	<0.19 (UJ)	<0.19 (UJ)	<0.070	<0.17 (UJ)
Zinc	270	84 (J)	170 (J)	34 (J)	64 (J)	60	100 (J)
Polychlorinated Biphenyls (PCBs), mg/kg:							
Aroclor-1248	1	<0.17 (UJ)	<0.16 (UJ)	<0.15 (UJ)	<0.16 (UJ)	<0.056	<0.13 (UJ)
Aroclor-1254	1	0.19 (J)	0.28 (J)	<0.15 (UJ)	<0.16 (UJ)	<0.056	<0.13 (UJ)
Total Aroclor	1	0.19	0.28	<0.15	<0.16	<0.056	<0.13

Sample Collection Date:		**10/2/2012**	**10/2/2012**	**10/2/2012**	**10/3/2012**	**10/3/2012**	**10/3/2012**
Sample ID:		**SED-W-FL-26**	**SED-W-FL-27**	**SED-W-FL-28**	**SED-W-FL-29**	**SED-W-FL-30**	**SED-W-FL-31**
Northing NAD83[1] U.S. Survey Ft.:		**1091155.64**	**1091187.91**	**1091216.26**	**1091001.17**	**1090977.96**	**1090949.3**
Easting NAD83[1] U.S. Survey Ft.:		**746205.06**	**746199.62**	**746226.22**	**746235.41**	**746220.21**	**746211.75**
Elevation[2]:		**480.92**	**481.33**	**482.94**	**482.5**	**482.37**	**482.2**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**						
Metals, mg/kg:							
Copper	110	39 (J)	14	17	16	12	29
Lead	110	23 (J)	15	16	14 M-10	13 M-10	19 M-10
Mercury	1.3	<0.16 (UJ)	<0.040	<0.033	<0.050	<0.034	0.045
Zinc	270	110 (J)	58	69	49	51	61
Polychlorinated Biphenyls (PCBs), mg/kg:							
Aroclor-1248	1	<0.13 (UJ)	<0.031	<0.026	<0.040	<0.027	<0.033
Aroclor-1254	1	0.13 (J)	<0.031	<0.026	<0.040	<0.027	0.053
Total Aroclor	1	0.13	<0.031	<0.026	<0.040	<0.027	0.053

TABLE 1.4.3-6
SUMMARY OF POST-EXCAVATION SEDIMENT SAMPLING RESULTS - WET REMOVAL AREA - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**10/4/2012**	**10/4/2012**	**10/4/2012**	**10/4/2012**	**10/4/2012**	**10/5/2012**
	Sample ID:	**SED-W-FL-32**	**SED-W-FL-33**	**SED-W-FL-34**	**SED-W-FL-35**	**SED-W-FL-36**	**SED-W-FL-37**
	Northing NAD83[1] U.S. Survey Ft.:	**1091032.75**	**1091067.13**	**1091082.93**	**1091092.97**	**1091173.63**	**1091130.36**
	Easting NAD83[1] U.S. Survey Ft.:	**746249.52**	**746245.32**	**746219.95**	**746247.75**	**746219.27**	**746246.36**
	Elevation[2]:	**482.54**	**482.54**	**481.4**	**482.74**	**480.54**	**482.4**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**						
Metals, mg/kg:							
Copper	110	17	8.5	63 (J)	13	53 (J)	38 (J)
Lead	110	11	16	15 (J)	18	44 (J)	29 (J)
Mercury	1.3	<0.030	0.049	<0.15 (UJ)	0.066	0.13 (J)	0.14 (J)
Zinc	270	53	52	76 (J)	52	120 (J)	68 (J)
Polychlorinated Biphenyls (PCBs), mg/kg:							
Aroclor-1248	1	<0.025	<0.030	<0.12 (UJ)	<0.051	<0.093 (UJ)	0.54 (J)
Aroclor-1254	1	<0.025	<0.030	<0.12 (UJ)	<0.051	<0.093 (UJ)	0.36 (J)
Total Aroclor	1	<0.025	<0.030	<0.12	<0.051	<0.093	0.90

	Sample Collection Date:	**10/5/2012**	**10/5/2012**	**11/6/2012**
	Sample ID:	**SED-W-FL-38**	**SED-W-FL-39**	**SED-W-FL-40**
	Northing NAD83[1] U.S. Survey Ft.:	**1091157.1**	**1091189**	**1091322.35**
	Easting NAD83[1] U.S. Survey Ft.:	**746231.99**	**746241.2**	**746200.1**
	Elevation[2]:	**481.96**	**480.88**	**481.01**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**			
Metals, mg/kg:				
Copper	110	58 (J)	33	21
Lead	110	97 (J)	16	16
Mercury	1.3	0.27 (J)	<0.031	<0.030
Zinc	270	170 (J)	70	54
Polychlorinated Biphenyls (PCBs), mg/kg:				
Aroclor-1248	1	0.14 (J)	0.029	<0.023
Aroclor-1254	1	0.20 (J)	0.029	<0.023
Total Aroclor	1	0.34	0.058	<0.023

TABLE 1.4.3-6
SUMMARY OF POST-EXCAVATION SEDIMENT SAMPLING RESULTS - WET REMOVAL AREA - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Notes:

mg/kg denotes milligrams per kilogram or parts per million (ppm).

MS-07 indicates matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.

MS-07A indicates matrix spike and spike duplicate recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of matrix effects that lead to low bias or non-homogeneous sample aliquot cannot be eliminated.

M-10 indicates the reporting limit verification for the AIHA lead program is outside of control limits for this element. Any reported result at or near the detection limit may be biased on the high side.

Qualifiers in parenthesis are data validator's qualifiers. J indicates the analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample. UJ indicates the analyte was analyzed for, but not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.

Results are presented on a dry weight basis.

(1) North orientation and bearings are based on the New York State Plane Coordinate System, East Zone, North American Datum (NAD) 1983. Obtained through GPS observations.

(2) Vertical datum established from National Geodetic Vertical Datum (N.G.V.D.) 1988. Obtained through GPS observations.

(3) Only the compounds that were detected are listed.

(4) NYSDEC Record of Decision (ROD) sediment remediation criteria for metals is the severe effect level from the NYSDEC Technical Guidance for Screening Contaminated Sediments, January 25, 1999; and for PCBs is 1 mg/kg.

(5) In accordance with the provisions of NYSDEC DER-10 Section 5.4(b)(2)(i), the PCBs level was determined to be acceptable after consultation with NYSDEC since it only slightly exceeds the remediation criteria of 1 mg/kg.

SED-W-EB01 collected prior to collecting SED-W-FL-3, SED-W-EB02 collected prior to collecting SED-W-FL-18.

SED-W-FD01 collected at SED-W-FL-4, SED-W-FD02 collected at SED-W-FL-21.

Values in **BOLD** exceed their sediment remediation criteria.

TABLE 1.4.3-7
SUMMARY OF POST-EXCAVATION SEDIMENT SAMPLING RESULTS - NEAR DRY REMOVAL AREA - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**10/17/2012**	**10/17/2012**	**10/17/2012**		**10/22/2012**	**10/22/2012**
	Sample ID:	**SED-ND-EB01**	**SED-ND-FL-1**	**SED-ND-FL-2**	**SED-ND-FD01**	**SED-ND-FL-3**	**SED-ND-FL-4A**
	Northing NAD83[1] U.S. Survey Ft.:	**-**	**1091331.93**	**1091376.22**		**1091406.21**	**1091438.22**
	Easting NAD83[1] U.S. Survey Ft.:	**-**	**746224.2**	**746197.6**		**746229.15**	**746189.9**
	Elevation[2]:	**-**	**481.76**	**479.83**		**480.49**	**479.38**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**						
Polychlorinated Biphenyls (PCBs), mg/kg:							
Aroclor-1248	1	<0.00004 mg/L (UJ)	<0.024	<0.027	0.047	0.17	**4.5 (J)[5]**
Aroclor-1254	1	<0.00004 mg/L (UJ)	<0.024	<0.027	<0.028	0.15	**3.6 (J)[5]**
Total Aroclor	1	<0.00004 mg/L	<0.024	<0.027	0.047	0.32	**8.1[5]**

	Sample Collection Date:	**10/22/2012**	**10/22/2012**	**10/22/2012**	**10/22/2012**	**10/22/2012**	**10/22/2012**
	Sample ID:	**SED-ND-FL-4B**	**SED-ND-FL-5**	**SED-ND-FL-6A**	**SED-ND-FL-6B**	**SED-ND-FL-7**	**SED-ND-FL-8**
	Northing NAD83[1] U.S. Survey Ft.:	**1091438.22**	**1091452.14**	**1091478.42**	**1091478.42**	**1091496.29**	**1091519.03**
	Easting NAD83[1] U.S. Survey Ft.:	**746189.9**	**746240.86**	**746197.16**	**746197.16**	**746235.77**	**746193.23**
	Elevation[2]:	**479.38**	**480.48**	**479.57**	**479.57**	**480.32**	**479.61**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**						
Polychlorinated Biphenyls (PCBs), mg/kg:							
Aroclor-1248	1	0.056	0.064	**3.4 (J)[5]**	0.12	<0.023	<0.025
Aroclor-1254	1	0.043	0.048	**2.6 (J)[5]**	0.068	<0.023	<0.025
Total Aroclor	1	0.99	0.112	**6.0[5]**	0.188	<0.023	<0.025

TABLE 1.4.3-7
SUMMARY OF POST-EXCAVATION SEDIMENT SAMPLING RESULTS - NEAR DRY REMOVAL AREA - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**10/25/2012**	**10/25/2012**	**10/25/2012**	**10/25/2012**	**10/25/2012**	**10/25/2012**
	Sample ID:	**SED-ND-FL-9**	**SED-ND-FL-10**	**SED-ND-FL-11**	**SED-ND-FL-12**	**SED-ND-FL-13**	**SED-ND-FL-14**
	Northing NAD83[1] U.S. Survey Ft.:	**1091556.07**	**1091611.902**	**1091620.856**	**1091579.02**	**1091666.732**	**1091705.69**
	Easting NAD83[1] U.S. Survey Ft.:	**746243.21**	**746244.937**	**746193.713**	**746195.13**	**746170.768**	**746179.788**
	Elevation[2]:	**479.91**	**480.617**	**479.059**	**479.12**	**479.867**	**480.522**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**						
Polychlorinated Biphenyls (PCBs), mg/kg:							
Aroclor-1248	1	0.59	0.58	0.046	<0.027	0.073	<0.080 (UJ)
Aroclor-1254	1	0.26	0.25	<0.025	<0.027	<0.048	<0.080 (UJ)
Total Aroclor	1	0.85	0.73	0.046	<0.027	0.073	<0.080

	Sample Collection Date:	**10/26/2012**	**10/26/2012**		**10/26/2012**	**10/26/2012**	**10/26/2012**
	Sample ID:	**SED-ND-FL-15**	**SED-ND-FL-16**	**SED-ND-FD02**	**SED-ND-FL-17**	**SED-ND-FL-18**	**SED-ND-FL-19**
	Northing NAD83[1] U.S. Survey Ft.:	**1091821.832**	**1091775.094**		**1091736.738**	**1091716.47**	**1091698.472**
	Easting NAD83[1] U.S. Survey Ft.:	**746232.057**	**746224.712**		**746163.874**	**746119.915**	**746229.269**
	Elevation[2]:	**480.808**	**479.923**		**482.015**	**481.093**	**480.664**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**						
Polychlorinated Biphenyls (PCBs), mg/kg:							
Aroclor-1248	1	<0.024	<0.024	<0.025	<0.024	<0.031	0.47
Aroclor-1254	1	<0.024	<0.024	<0.025	<0.024	<0.031	0.33
Total Aroclor	1	<0.024	<0.024	<0.025	<0.024	<0.031	0.80

TABLE 1.4.3-7
SUMMARY OF POST-EXCAVATION SEDIMENT SAMPLING RESULTS - NEAR DRY REMOVAL AREA - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**10/26/2012**	**10/26/2012**	**10/27/2012**	**10/27/2012**	**10/27/2012**	**10/27/2012**
	Sample ID:	**SED-ND-EB02**	**SED-ND-FL-20**	**SED-ND-FL-21**	**SED-ND-FL-22**	**SED-ND-FL-23**	**SED-ND-FL-24**
	Northing NAD83[1] U.S. Survey Ft.:	**-**	**1091659.871**	**1091462.92**	**1091756.488**	**1091710.187**	**1091747.256**
	Easting NAD83[1] U.S. Survey Ft.:	**-**	**746252.281**	**746202.1**	**746264.885**	**746266.663**	**746204.579**
	Elevation[2]:	**-**	**481.26**	**479.63**	**481.563**	**481.171**	**480.453**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**						
Polychlorinated Biphenyls (PCBs), mg/kg:							
Aroclor-1248	1	<0.00004 mg/L	<0.025	<0.026	<0.024	<0.024	<0.049
Aroclor-1254	1	<0.00004 mg/L	<0.025	<0.026	<0.024	<0.024	<0.049
Total Aroclor	1	<0.00004 mg/L	<0.025	<0.026	<0.024	<0.024	<0.049

Notes:

mg/kg denotes milligrams per kilogram or parts per million (ppm).

Results are presented on a dry weight basis.

Qualifiers in parenthesis are data validator's qualifiers. J indicates the analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample. UJ indicates the analyte was analyzed for, but not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.

[1] North orientation and bearings are based on the New York State Plane Coordinate System, East Zone, North American Datum (NAD) 1983. Obtained through GPS observations.

[2] Vertical datum established from National Geodetic Vertical Datum (N.G.V.D.) 1988. Obtained through GPS observations.

[3] Only the compounds that were detected are listed.

[4] NYSDEC Record of Decision (ROD) sediment remediation criteria for metals is the severe effect level from the NYSDEC Technical Guidance for Screening Contaminated Sediments, January 25, 1999; and for PCBs is 1 mg/kg.

[5] Additional sediment was excavated and a post-excavation sample was collected. See results for SED-ND-FL-21.

SED-ND-EB01 collected prior to collecting SED-ND-FL-1, SED-ND-EB02 collected prior to collecting SED-ND-FL-20.

SED-ND-FD01 collected at SED-ND-FL-2, SED-ND-FD02 collected at SED-ND-FL-16.

Values in **BOLD** exceed their sediment remediation criteria.

TABLE 1.4.3-8
SUMMARY OF POST-EXCAVATION SEDIMENT SAMPLING RESULTS - WASHOUT AREAS - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Sample Collection Date:		**5/10/2013**	**5/10/2013**	**5/10/2013**	**5/10/2013**	**5/10/2013**	**5/10/2013**
Sample ID:		**SED-EB01**	**SED-W-FL-41**	**SED-W-FL-42**	**SED-W-FL-43**	**SED-W-FL-44**	**SED-W-FL-45**
Northing NAD83[1] U.S. Survey Ft.:		**-**	**1091053.3**	**1091066**	**1091094.4**	**1091080.4**	**1091053.3**
Easting NAD83[1] U.S. Survey Ft.:		**-**	**746252.8**	**746245.2**	**746255.1**	**746258.5**	**746252.8**
Elevation[2]:		**-**	**482.06**	**481.95**	**482.13**	**482.32**	**482.06**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**						
Metals, mg/kg:							
Copper	110	<0.010 mg/L	27	10	20	23	19
Lead	110	<0.010 mg/L	13	11	13	13	13
Mercury	1.3	<0.00010 mg/L	<0.034	<0.034	<0.034	<0.32	<0.036
Zinc	270	<0.020 mg/L	69	71	58	56	58
Polychlorinated Biphenyls (PCBs), mg/kg:							
Aroclor-1248	1	<0.000040 mg/L	<0.028	0.077	0.27	0.11	0.035
Aroclor-1254	1	<0.000040 mg/L	<0.028	0.042	0.12	0.052	<0.028
Total Aroclor	1	<0.000040 mg/L	<0.028	0.119	0.39	0.162	<0.028

Sample Collection Date:		**5/10/2013**		**7/9/2013**	**7/9/2013**	**7/9/2013**
Sample ID:		**SED-ND-FL-25**	**SED-FD01**	**SED-EB02**	**SED-W-FL-46**	**SED-W-FL-47**
Northing NAD83[1] U.S. Survey Ft.:		**1091737.4**		**-**	**1091044.65**	**1091105.27**
Easting NAD83[1] U.S. Survey Ft.:		**746275.8**		**-**	**746240.46**	**746256.75**
Elevation[2]:		**481.92**		**-**	**481.85**	**482.05**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**					
Metals, mg/kg:						
Copper	110	18	16	<0.010 mg/L	23	7.9
Lead	110	14	15	<0.010 mg/L	19	13
Mercury	1.3	<0.032	<0.032	<0.00010 mg/L	0.070	<0.047
Zinc	270	63	65	<0.020 mg/L	71	40
Polychlorinated Biphenyls (PCBs), mg/kg:						
Aroclor-1248	1	<0.025	<0.026	<0.000040 mg/L	<0.046	<0.037
Aroclor-1254	1	<0.025	<0.026	<0.000040 mg/L	<0.046	<0.037
Total Aroclor	1	<0.025	<0.026	<0.000040 mg/L	<0.046	<0.037

TABLE 1.4.3-8
SUMMARY OF POST-EXCAVATION SEDIMENT SAMPLING RESULTS - WASHOUT AREAS - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Sample Collection Date:		**7/9/2013**		**7/9/2013**	**7/9/2013**	**7/9/2013**	**7/9/2013**
Sample ID:		**SED-W-FL-48**	**SED-FD02**	**SED-W-FL-49**	**SED-W-FL-50**	**SED-ND-FL-26**	**SED-ND-FL-27**
Northing NAD83[1] U.S. Survey Ft.:		**1091223.36**		**1091232.75**	**1091270.91**	**1091700.12**	**1091720.35**
Easting NAD83[1] U.S. Survey Ft.:		**746219.59**		**746192.96**	**746205.69**	**746257.93**	**746228.7**
Elevation[2]:		**482.91**		**482.18**	**482.94**	**481.07**	**481.05**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**						
Metals, mg/kg:							
Copper	110	44	40	41	42	16	9.3
Lead	110	21	19	38	20	21	19
Mercury	1.3	<0.032	<0.032	0.044	<0.032	0.068	0.077
Zinc	270	75	76	91	72	58	83
Polychlorinated Biphenyls (PCBs), mg/kg:							
Aroclor-1248	1	<0.025	0.031	0.070	<0.025	0.12	0.22
Aroclor-1254	1	<0.025	<0.024	<0.026	<0.025	<0.025	<0.026
Total Aroclor	1	<0.025	0.031	0.070	<0.025	0.12	0.22

Sample Collection Date:		**7/9/2013**	**7/9/2013**	**7/9/2013**	**7/9/2013**	**7/9/2013**	**7/17/2013**
Sample ID:		**SED-ND-FL-28**	**SED-ND-FL-29**	**SED-ND-FL-30**	**SED-ND-FL-31**	**SED-ND-FL-32**	**SED-ND-FL-33**
Northing NAD83[1] U.S. Survey Ft.:		**1091771.7**	**1091745.55**	**1091800.31**	**1091767.92**	**1091735.5**	**1091751.52**
Easting NAD83[1] U.S. Survey Ft.:		**746224.61**	**746238.5**	**746251.48**	**746261.28**	**746268.06**	**746270.83**
Elevation[2]:		**479.9**	**480.45**	**481.8**	**481.57**	**481.79**	**482.28**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**						
Metals, mg/kg:							
Copper	110	26	32	13	20	30	38
Lead	110	16	24	17	19	28	29
Mercury	1.3	<0.031	<0.034	<0.030	<0.032	<0.031	<0.032
Zinc	270	67	73	61	67	240	81
Polychlorinated Biphenyls (PCBs), mg/kg:							
Aroclor-1248	1	0.20	0.62	0.059	0.55	0.72	**1.4[5]**
Aroclor-1254	1	<0.024	<0.14	<0.024	<0.13	<0.12	0.60
Total Aroclor	1	0.20	0.62	0.059	0.55	0.72	**2.0[5]**

TABLE 1.4.3-8
SUMMARY OF POST-EXCAVATION SEDIMENT SAMPLING RESULTS - WASHOUT AREAS - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Sample Collection Date:		**7/25/2013**		**7/25/2013**
Sample ID:		**SED-ND-FL-34**	**SED-FD03**	**SED-ND-FL-35**
Northing NAD83[1] U.S. Survey Ft.:		**1091751.64**		**1091784.08**
Easting NAD83[1] U.S. Survey Ft.:		**746270.78**		**746255.27**
Elevation[2]:		**481.22**		**481.21**
PARAMETER [3]	**NYSDEC ROD Sediment Remediation Criteria[4]**			
Metals, mg/kg:				
Copper	110	22	27	26
Lead	110	17	19	17
Mercury	1.3	<0.031	<0.031	<0.030
Zinc	270	75	77	74
Polychlorinated Biphenyls (PCBs), mg/kg:				
Aroclor-1248	1	<0.024	<0.024	<0.024
Aroclor-1254	1	<0.024	<0.024	<0.024
Total Aroclor	1	<0.024	<0.024	<0.024

Notes:

mg/kg denotes milligrams per kilogram or parts per million (ppm).

Results are presented on a dry weight basis.

[1] North orientation and bearings are based on the New York State Plane Coordinate System, East Zone, North American Datum (NAD) 1983. Obtained through GPS observations.

[2] Vertical datum established from National Geodetic Vertical Datum (N.G.V.D.) 1988. Obtained through GPS observations.

[3] Only the compounds that were detected are listed.

[4] NYSDEC Record of Decision (ROD) sediment remediation criteria for metals is the severe effect level from the NYSDEC Technical Guidance for Screening Contaminated Sediments, January 25, 1999; and for PCBs is 1 mg/kg.

[5] Additional sediment was excavated and a post-excavation sample was collected. See results for SED-ND-FL-34.

SED-EB01 collected prior to collecting SED-W-FL-41, SED-EB02 collected prior to collecting SED-W-FL-46.

SED-FD01 collected at SED-ND-FL-25, SED-FD02 collected at SED-W-FL-48, SED-FD03 collected at SED-ND-FL-34.

Values in **BOLD** exceed their sediment remediation criteria.

TABLE 1.4.3-9
SUMMARY OF PRE AND POST SOIL SAMPLING RESULTS BELOW DECON WATER FRAC TANK - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

	Sample Collection Date:	**11/9/2012**	**11/9/2012**	**11/9/2012**		**8/12/2013**	**8/12/2013**	**8/12/2013**	**8/12/2013**
	Sample ID:	**PRE OLDWFT-EB01**	**PRE OLDWFT-1**	**PRE OLDWFT-2**	**PRE OLDWFT-FD01**	**POST OLDWFT-EB01**	**POST OLDWFT-1**	**POST OLDWFT-2**	**POST OLDWFT-FD01**
	Northing NAD83[1] U.S. Survey Ft.:	**-**	**1091584.4800**	**1091598.1900**		**-**	**1091585.314**	**1091598.978**	
	Easting NAD83[1] U.S. Survey Ft.:	**-**	**746738.5700**	**746736.8300**		**-**	**746739.477**	**746737.828**	
	Elevation[2]:	**-**	**509.32**	**509.15**		**-**	**509.295**	**509.092**	
PARAMETER [3]	**NYSDEC DER-10 Unrestricted Use Soil Cleanup Objective Values [4]**								
TAL Metals, mg/kg:									
Aluminum	-	<0.050	11,000 MS-19	11,000	12,000	<0.050	11,000 MS-19	7,500	7,000
Antimony	-	<0.001	3.7 MS-09 (J)	4.0	3.5	<0.050	<2.8 B-05 MS-09 (UJ)	<2.7 B-05	<3.1 B-05
Arsenic	13	<0.00040	4.0	5.4	<2.7	<0.010	5.7	6.3	4.1
Barium	250	<0.010	26	24	24	<0.050	26	21	20
Beryllium	7.2	<0.00040	<0.26	<0.27	<0.27	<0.0040	<0.28	<0.27	<0.31
Cadmium	2.5	<0.00050	0.46	0.44	0	<0.0040	0.6	0.6 (J)	0.49 (J)
Calcium	-	<0.15	28,000 MS-19	29,000	20,000	<0.15	29,000 MS-19	55,000	25,000
Chromium	1 / 30 [5]	<0.001	12	12	12	<0.010	12	8.6	7.3
Cobalt	-	<0.001	13	15	13	<0.050	14	9.7	9.5
Copper	50	<0.005	31	32	32	<0.010	38	24	19
Iron	-	<0.050	24,000 MS-19	25,000	23,000	<0.050	32,000 MS-19	23,000	21,000
Lead	63	<0.001	14	12	11	<0.010	18 R-01 (J)	13	9.9
Magnesium	-	<0.15	18,000 MS-19	19,000	17,000	<0.15	22,000 MS-19	30,000 (J)	15,000 (J)
Manganese	1600	<0.001	610 MS-19 (J)	540	470	<0.010	780 MS-19	750	460
Mercury	0.18	<0.00010	<0.027	<0.026	<0.027	<0.00010	<0.028	<0.028	<0.028
Nickel	30	<0.005	24	28	26	<0.010	26	18	18
Potassium	-	<2.0	1,200	1,100	1,300	<2.0	1,700	1,000	800
Selenium	3.9	<0.005	<2.6	<2.7	<2.7	<0.050	<2.8	<2.7	<3.1
Silver	2	<0.00050	<0.52	<0.53	<0.54	<0.0050	<0.56	<0.54	<0.62
Sodium	-	<2.0	<100 MS-12	<110	<110	<2.0	<110 MS-22	<110	<120
Thallium	-	<0.00020	<2.6	<2.7	<2.7	<0.050	<2.8	<2.7	<3.1
Vanadium	-	<0.005	18	18	19	<0.010	15	8.4	9.1
Zinc	109	<0.010	64	74	59	<0.020	66	47	43
TCL Volatile Organic Compounds (VOCs), mg/kg:									
Acetone	0.05	<0.05	**0.14 (J)**	**0.076 (J)**	<0.064 (UJ)	<0.05	<0.058 (UJ)	<0.054 V-16 (UJ)	<0.055 V-16 (UJ)
TCL Semi-Volatile Organic Compounds (SVOCs), mg/kg:									
Bis(2-Ethylhexyl)phthalate	-	<0.01	<0.38	<0.36	<0.37	<0.01	0.58 (J)	<0.38	<0.38
Polychlorinated Biphenyls (PCBs), mg/kg:									
Aroclor-1248	0.1	<0.000040	**0.15**	0.065	0.092	<0.000040	**0.065 O-04 [6]**	**0.65 O-04 [6]**	**0.65 O-04 [6]**
Aroclor-1254	0.1	<0.000040	**0.19**	0.066	0.078	<0.000040	0.089	**0.44 [6]**	**0.43 [6]**
Total Aroclor	0.1	<0.000040	**0.34**	**0.131**	**0.170**	<0.000040	**0.154 [6]**	**1.09 [6]**	**1.08 [6]**

TABLE 1.4.3-9
SUMMARY OF PRE AND POST SOIL SAMPLING RESULTS BELOW DECON WATER FRAC TANK - VALIDATED
AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

Notes:

mg/kg denotes milligrams per kilogram or parts per million (ppm).
B-05 denotes analyte is found in the associated blank as well as in the sample.
MS-09 indicates matrix spike recovery and matrix spike duplicate recovery outside of control limits. Possibility of sample matrix effects that lead to a low bias for reported result or non-homogeneous sample aliquots cannot be eliminated.
MS-12 indicates matrix spike recovery and matrix spike duplicate recovery outside of control limits. Possibility of sample matrix effects that lead to a high bias for reported results or non-homogeneous sample aliquots cannot be eliminated.
MS-19 indicates sample to spike ratio is greater than equal to 4:1. Spiked amount is not representative of the native amount in the sample, appropriate or meaninful recoveries cannot be calculated.
MS-22 indicates either matrix spike or matric spike duplicate is outside of control limits, but the other is within control limits. RPD between the two MS/MSD results is within method specified criteria.
O-04 indicates sample fingerprint does not match standard exactly. Sample was quantitated against the closest matching standard.
R-01 indicates duplicate RPD is outside of control limits. Reduced prescision is anticipated for reported result.
V-16 indicates response factor is less than metod specifed minimum acceptable value. Reduced precision and accuracy may be associated with report result.
Qualifiers in parenthesis are data validator's qualifiers.
(J) indicates the analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
(UJ) indicates the analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
Results are presented on a dry weight basis.
(1) North orientation and bearings are based on the New York State Plane Coordinate System, East Zone, North American Datum (NAD) 1983. Obtained through GPS observations.
(2) Vertical datum established from National Geodetic Vertical Datum (N.G.V.D.) 1988. Obtained through GPS observations.
(3) Only the compounds that were detected are listed.
(4) NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation Appendix 5 and 6 NYCRR PART 375-6.8, Environmental Remediation Program Objective Tables, Dated December 14, 2006.
(5) The 6 NYCRR Part 375-6.8 Unrestricted Use Soil Cleanup Objective is 1 mg/kg for hexavalent chromium and 30 mg/kg for trivalent chromium.
(6) Sampling result with exceedance presented to NYSDEC and it was determined that no further action was required.
PRE OLDWFT-EB01 collected prior to collecting PRE OLDWFT-1 and PRE OLDWFT-2.
PRE OLDWFT-FD01 collected at PRE OLDWFT-2.
POST OLDWFT-EB01 collected prior to collecting POST OLDWFT-1.
POST OLDWFT-FD01 collected at POST OLDWFT-2.
Values in **BOLD** exceed their soil cleanup objective value.

TABLE 3.3.1-1
SUMMARY OF MONITORING WELLS
AMENIA TOWN LANDFILL

Monitoring Well ID	Type of Well	Ground Elevation (Ft. AMSL)	Top of Steel Guard Pipe Elevation (Ft. AMSL)	Top of PVC Riser Pipe Elevation (Ft. AMSL)
MW-3	Shallow	504.62	507.39	506.93
MW-4	Shallow	511.62	513.02	512.67
MW-4B	Deep	509.39	512.54	512.27
MW-5	Shallow	521.73	523.62	523..45
MW-9	Shallow	523.56	525.90	525.70
MW-10	Shallow	488.20	488.20 (1)	487.88

AMSL is above mean sea level.
(1) Top of curb box.
NOTE: The elevations are based on a field survey conducted on July 1, 2015 and benchmark consisting of spike in utility pole near monitoring well MW-3 at elevation 506.78 feet.

RI REPORT TABLES

Tables 5-6 to 5-10: Amenia Town Landfill RI/FS Groundwater Results

Tables 5-23 to 5-24: Amenia Town Landfill RI/FS Surface Water Results

Table 5-6
Amenia Town Landfill RI/FS
VOC Groundwater Results

VOCs (ug/L)	NYSDEC GQS	MW-1 1/23/02	MW-1 4/3/2002	MW-2 1/24/02	MW-2 04/04/2002	MW-2B 1/24/02	MW-2B 04/04/2002	MW-3 1/23/02	MW-3 04/05/2002	MW-4 1/22/02	MW-4 04/04/2002
1,1-Dichlororethane	5	--	--	--	--	--	--	--	1.65 J	5.89	6.37
1,1-Dichlororethene	5	--	--	11.5	--	--	--	--	--	--	--
1,2-Dichlorobenzene	3	--	--	1.39 J	1.51 J	--	--	--	--	1.25 J	1.51 J
1,2-Dichloroethane	0.6	--	--	--	--	--	--	--	--	--	3.42 J
1,3-Dichlorobenzene	3	--	--	--	3.23 J	--	--	--	--	--	--
1,4-Dichlorobenzene	3	--	--	2.53 J	3.18 J	--	--	--	--	--	0.745 J
Acetone	50	--	--	--	--	--	15.1	--	--	--	--
Benzene	1	--	--	2.13 J	2.36 J	--	--	--	--	5.03	3.09 J
Chlorobenzene	5	--	--	1.51 J	1.64 J	--	--	--	--	4.97 J	4.98 J
Chloroethane	5	--	--	--	--	--	--	--	--	8.94 J	6.36 J
cis-1,2-Dichloroethene	5	--	--	--	--	--	--	17.1	35.4	--	--
Ethylbenzene	5	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	5	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	5	--	--	--	--	--	--	--	0.547 J	--	--
Trans-1,2-Dichloroethene	5	--	--	--	--	--	--	--	--	--	--
Trichloroethene	5	--	--	--	--	--	--	11.8	22.0	1.04 J	1.12 J
Vinyl Chloride	2	--	--	--	--	--	--	6.41 J	6.78 J	--	--

VOCs = volatile organic compounds

J = analyte detected below reporting limits

--- = undetected

EPA Method 8260B

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

Table 5-6
Amenia Town Landfill RI/FS
VOC Groundwater Results

VOCs (ug/L)	NYSDEC GQS	Dup-012202 MW-4 1/22/02	Dup-040502 MW-4 04/04/2002	MW-4B 1/22/02	MW-4B 04/05/2002	MW-5 1/24/02	MW-5 04/04/2002	MW-6 01/28/02	MW-6 04/05/2002	MW-7 01/25/02	MW-7 04/04/2002
1,1-Dichlororethane	5	5.64	6.49	--	--	--	--	8.67	7.25	--	--
1,1-Dichlororethene	5	--	--	--	--	--	--	1.42 J	--	--	--
1,2-Dichlorobenzene	3	1.21 J	1.52 J	--	--	--	--	1.30 J	0.67 J	--	--
1,2-Dichloroethane	0.6	--	3.5 J	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	3	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	3	--	0.768 J	--	--	4.49 J	6.42	2.06 J	1.16 J	--	--
Acetone	50	--	--	17.2	25.5 J	--	--	--	5.34 J	--	--
Benzene	1	4.86 J	3.2 J	--	--	--	1.49 J	2.09 J	1.34 J	--	--
Chlorobenzene	5	4.83 J	4.96 J	--	--	2.43 J	2.83 J	16.8	9.32	--	--
Chloroethane	5	8.25 J	6.4 J	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	5	--	--	--	--	--	0.714 J	104	70.3	--	--
Ethylbenzene	5	--	--	--	--	--	0.656 J	--	--	--	--
Methylene Chloride	5	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	5	--	--	--	--	--	--	--	--	--	--
Trans-1,2-Dichloroethene	5	--	--	--	--	--	--	23.8	19.6	--	--
Trichloroethene	5	1.06 J	1.25 J	--	--	--	--	16.2	9.14	--	--
Vinyl Chloride	2	--	--	--	--	--	--	13.8	15.3	--	--

Table 5-6
Amenia Town Landfill RI/FS
VOC Groundwater Results

VOCs (ug/L)	NYSDEC GQS	MW-8 1/25/02	MW-8 04/03/2002	MW-8B 01/25/02	MW-8B 04/03/2002	MW-9 1/28/02	MW-9 04/04/2002
1,1-Dichlororethane	5	--	--	--	--	--	--
1,1-Dichlororethene	5	--	--	--	--	--	--
1,2-Dichlorobenzene	3	--	--	--	--	--	--
1,2-Dichloroethane	0.6	--	--	--	--	--	--
1,3-Dichlorobenzene	3	--	--	--	--	--	--
1,4-Dichlorobenzene	3	--	--	--	--	--	--
Acetone	50	--	--	--	--	--	--
Benzene	1	--	--	--	--	--	--
Chlorobenzene	5	--	--	--	--	--	--
Chloroethane	5	--	--	--	--	--	--
cis-1,2-Dichloroethene	5	--	--	--	--	--	--
Ethylbenzene	5	--	--	--	--	--	--
Methylene Chloride	5	--	--	--	--	--	--
Tetrachloroethene	5	--	--	--	--	2.25 J	0.797 J
Trans-1,2-Dichloroethene	5	--	--	--	--	--	--
Trichloroethene	5	--	--	--	--	--	--
Vinyl Chloride	2	--	--	--	--	--	--

Table 5-6
Amenia Town Landfill RI/FS
VOC Groundwater Results

VOCs (ug/L)	NYSDEC GQS	FB-012202 1/22/02	TB-01-22-02 1/22/02	FB-012302 1/23/02	TB-012302 1/23/02	FB-012402 1/24/02	FB-012502 1/25/02	TB-012802 1/28/02	FB-012802 1/28/02
1,1-Dichlororethane	5	--	--	--	--	--	--	--	--
1,1-Dichlororethene	5	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	3	--	--	--	--	--	--	--	--
1,2-Dichloroethane	0.6	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	3	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	3	--	--	--	--	--	--	--	--
Acetone	50	--	--	--	--	--	31.6 J	--	--
Benzene	1	--	--	--	--	--	--	--	--
Chlorobenzene	5	--	--	--	--	--	--	--	--
Chloroethane	5	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	5	--	--	--	--	--	--	--	--
Ethylbenzene	5	--	--	--	--	--	--	--	--
Methylene Chloride	5	--	--	4.4 J	--	4 J	1.55 J	--	--
Tetrachloroethene	5	--	--	--	--	--	--	--	--
Trans-1,2-Dichloroethene	5	--	--	--	--	--	--	--	--
Trichloroethene	5	--	--	--	--	--	--	--	--
Vinyl Chloride	2	--	--	--	--	--	--	--	--

VOCs = volatile organic compounds

J = analyte detected below reporting limits

--- = undetected

EPA Method 8260B

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

Table 5-6
Amenia Town Landfill RI/FS
VOC Groundwater Results

VOCs (ug/L)	NYSDEC GQS	**FB040302** 04/03/2002	**TB040402** 04/04/2002	**TB040402A** 04/04/2002	**FB040402** 04/04/2002	**TB040502** 04/05/2002	**FB040502** 04/05/2002
1,1-Dichlororethane	5	--	--	--	--	--	--
1,1-Dichlororethene	5	--	--	--	--	--	--
1,2-Dichlorobenzene	3	--	--	--	--	--	--
1,2-Dichloroethane	0.6	--	--	--	--	--	--
1,3-Dichlorobenzene	3	--	--	--	--	--	--
1,4-Dichlorobenzene	3	--	--	--	--	--	--
Acetone	50	--	--	--	--	--	--
Benzene	1	--	--	--	--	--	--
Chlorobenzene	5	--	--	--	--	--	--
Chloroethane	5	--	--	--	--	--	--
cis-1,2-Dichloroethene	5	--	--	--	--	--	--
Ethylbenzene	5	--	--	--	--	--	--
Methylene Chloride	5	2.82 J	--	--	2.95 J	--	2.9 J
Tetrachloroethene	5	--	--	--	--	--	--
Trans-1,2-Dichloroethene	5	--	--	--	--	--	--
Trichloroethene	5	--	--	--	--	--	--
Vinyl Chloride	2	--	--	--	--	--	--

VOCs = volatile organic compounds

J = analyte detected below reporting limits

--- = undetected

EPA Method 8260B

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

Table 5-7
Amenia Town Landfill RI/FS
SVOC Groundwater Results

SVOCs (ug/L)	NYSDEC GQS	MW-1 1/23/02	MW-1 4/3/2002	MW-2 1/24/02	MW-2 04/04/2002	MW-2B 1/24/02	MW-2B 04/04/2002	MW-3 1/23/02	MW-3 04/05/2002	MW-4 1/22/02	MW-4 04/04/2002
1,4-Dichlorobenzene	3	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	1 *	--	--	--	2.8 J	--	--	--	--	--	--
Benzoic Acid	none	--	--	--	--	--	--	--	--	--	--
Bis (2-ethylhexyl)phthalate	5	--	--	15.7 J	--	19.5 J	--	26.2	--	--	--
Diethyl phthalate	50	--	--	--	--	--	--	--	--	--	--

Benzoic acid is not regulated by the NYSDEC Principal Organic Contaminant Standard as of June 1998

SVOC = semivolatile organic compound

J = analyte detected below reporting limits

* = NYSDEC standard for total chlorinated phenols

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

--- = undetected

EPA Method 8270C

Table 5-7
Amenia Town Landfill RI/FS
SVOC Groundwater Results

SVOCs (ug/L)	NYSDEC GQS	Dup-010002 MW-4 1/22/02	Dup-040502 MW-4 04/04/2002	MW-4B 1/22/02	MW-4B 04/05/2002	MW-5 1/24/02	MW-5 04/04/2002	MW-6 01/28/02	MW-6 04/05/2002	MW-7 01/25/02	MW-7 04/04/2002
1,4-Dichlorobenzene	3	--	--	--	--	--	3.88 J	--	--	--	--
4-Chloro-3-methylphenol	1 *	--	--	--	--	--	--	--	--	--	--
Benzoic Acid	none	--	--	--	14.8 J	--	--	--	--	--	--
Bis (2-ethylhexyl)phthalate	5	--	--	--	--	--	--	26.2	--	--	--
Diethyl phthalate	50	--	--	--	--	--	3.55 J	--	--	--	--

Benzoic acid is not regulated by the NYSDEC Principal Organic Contaminant Standard as of June 1998

SVOC = semivolatile organic compound

J = analyte detected below reporting limits

* = NYSDEC standard for total chlorinated phenols

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

--- = undetected

EPA Method 8270C

Table 5-7
Amenia Town Landfill RI/FS
SVOC Groundwater Results

SVOCs (ug/L)	NYSDEC GQS	MW-8 1/25/02	MW-8 04/03/2002	MW-8B 01/25/02	MW-8B 04/03/2002	MW-9 1/28/02	MW-9 04/04/2002
1,4-Dichlorobenzene	3	--	--	--	--	--	--
4-Chloro-3-methylphenol	1 *	--	--	--	--	--	--
Benzoic Acid	none	--	--	--	--	--	--
Bis (2-ethylhexyl)phthalate	5	--	--	--	--	--	--
Diethyl phthalate	50	--	--	--	--	--	--

Benzoic acid is not regulated by the NYSDEC Principal Organic Contaminant Standard as of June 1998

SVOC = semivolatile organic compound

J = analyte detected below reporting limits

* = NYSDEC standard for total chlorinated phenols

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

--- = undetected

EPA Method 8270C

Table 5-7
Amenia Town Landfill RI/FS
SVOC Groundwater Results

SVOCs (ug/L)	NYSDEC GQS	FB-012202 1/22/02	FB-012302 1/23/02	FB-012402 1/24/02	FB-012502 1/25/02	FB-012802 1/28/02	FB040302 04/03/2002	FB040402 04/04/2002	FB040502 04/05/2002
1,4-Dichlorobenzene	3	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	1 *	--	--	--	--	--	--	--	--
Benzoic Acid	none	--	--	--	--	--	--	--	--
Bis (2-ethylhexyl)phthalate	5	--	--	--	--	--	--	--	--
Diethyl phthalate	50	--	--	--	--	--	--	--	--

Benzoic acid is not regulated by the NYSDEC Principal Organic Contaminant Standard as of June 1998

SVOC = semivolatile organic compound

J = analyte detected below reporting limits

* = NYSDEC standard for total chlorinated phenols

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

--- = undetected

EPA Method 8270C

Table 5-8
Amenia Town Landfill RI/FS
Pesticide Groundwater Results

Pesticides (ug/L)	NYSDEC GQS	MW-1 1/23/02	MW-1 4/3/2002	MW-2 1/24/02	MW-2 04/04/2002	MW-2B 1/24/02	MW-2B 04/04/2002	MW-3 1/23/02	MW-3 04/05/2002	MW-4 1/22/02	MW-4 04/04/2002
alpha-chlordane	0.05 *	--	--	--	--	--	--	--	--	--	--
beta-BHC	0.04	--	--	--	--	--	--	--	--	0.845	R
delta-BHC	0.04	--	--	--	--	--	--	--	--	--	--
gamma-BHC	0.05	--	--	--	--	--	--	--	--	--	R
Endosulfan II	none	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	5	--	--	--	--	--	--	--	--	0.0510 J	--
Heptachlor	0.04	--	--	--	0.0104 J	--	--	--	--	--	--

EPA Method 8081A

--- = undetected

J = analyte detected below reporting limits

R = rejected - percent difference between concentration on primary column and confirmation column exceeded 100%

N = Single column analysis

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

* = NYSDEC Standard is for chlordane

Endosulfan II is not regulated by the NYSDEC Principal Organic Contaminant Standard as of June 1998

Table 5-8
Amenia Town Landfill
Pesticide Groundwater Results

Pesticides (ug/L)	NYSDEC GQS	Dup-012202 MW-4 1/22/02	Dup-040502 MW-4 04/04/2002	MW-4B 1/22/02	MW-4B 04/05/2002	MW-5 1/24/02	MW-5 04/04/2002	MW-6 01/28/02	MW-6 04/05/2002	MW-7 01/28/02	MW-7 04/04/2002
alpha-chlordane	0.05 *	--	--	--	--	--	--	--	--	--	--
beta-BHC	0.04	0.966	R	--	--	--	0.0203 J	--	--	--	--
delta-BHC	0.04	--	--	--	--	--	--	--	--	--	--
gamma-BHC	0.05	--	R	--	--	--	--	--	--	--	--
Endosulfan II	none	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	5	--	--	--	--	--	--	0.0414 J	--	--	--
Heptachlor	0.04	--	--	--	--	--	--	--	--	--	--

EPA Method 8081A

--- = undetected

J = analyte detected below reporting limits

R = rejected - percent difference between concentration on primary column and confirmation column exceeded 100%

N = Single column analysis

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

* = NYSDEC Standard is for chlordane

Endosulfan II is not regulated by the NYSDEC Principal Organic Contaminant Standard as of June 1998

Table 5-8
Amenia Town Landfill
Pesticide Groundwater Results

Pesticides (ug/L)	NYSDEC GQS	MW-8 01/24/02	MW-8 04/03/2002	MW-8B 01/24/02	MW-8B 04/03/2002	MW-9 01/28/02	MW-9 04/04/2002
Alpha-chlordane	0.05 *	--	--	--	--	--	--
beta-BHC	0.04	--	--	--	--	--	--
delta-BHC	0.04	--	--	--	--	--	--
gamma-BHC	0.05	--	--	--	--	--	--
Endosulfan II	none	--	--	--	--	--	--
Endrin aldehyde	5	--	--	--	--	--	--
Heptachlor	0.04	--	--	--	--	R	--

EPA Method 8081A

--- = undetected

J = analyte detected below reporting limits

R = rejected - percent difference between concentration on primary column and confirmation column exceeded 100%

N = Single column analysis

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

* = NYSDEC Standard is for chlordane

Endosulfan II is not regulated by the NYSDEC Principal Organic Contaminant Standard as of June 1998

Table 5-8
Amenia Town Landfill
Pesticide Groundwater Results

Pesticides (ug/L)	NYSDEC GQS	FB-012202 1/22/02	FB040302 04/03/2002	FB-012302 1/23/02	FB040402 04/04/2002	FB-012402 01/24/02	FB040502 04/05/2002	FB-012502 1/25/02	FB-012802 1/28/02
Alpha-chlordane	0.05 *	--	--	--	--	--	--	--	--
beta-BHC	0.04	--	--	--	--	--	--	--	--
delta-BHC	0.04	--	--	--	--	--	--	--	--
gamma-BHC	0.05	--	--	--	--	--	--	--	--
Endosulfan II	none	--	--	--	--	--	--	--	--
Endrin aldehyde	5	--	--	--	--	--	--	--	--
Heptachlor	0.04	--	--	--	--	--	--	--	--

EPA Method 8081A

--- = undetected

J = analyte detected below reporting limits

R = rejected - percent difference between concentration on primary column and confirmation column exceeded 100%

N = Single column analysis

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

* = NYSDEC Standard is for chlordane

Endosulfan II is not regulated by the NYSDEC Principal Organic Contaminant Standard as of June 1998

Table 5-9
Amenia Town Landfill RI/FS
PCB Groundwater Results

PCBs (ug/L)	NYSDEC GQS	MW-1 1/23/02	MW-1 4/3/2002	MW-2 1/24/02	MW-2 04/04/2002	MW-2B 1/24/02	MW-2B 04/04/2002	MW-3 1/23/02	MW-3 04/05/2002	MW-4 1/22/02	MW-4 04/04/2002
Aroclor 1016	0.09 ug/l applies to the sum of these substances	--	--	--	--	--	--	--	--	--	--
Aroclor 1221		--	--	--	--	--	--	--	--	--	--
Aroclor 1232		--	--	--	--	--	--	--	--	--	--
Aroclor 1242		--	--	--	--	--	--	--	--	--	--
Aroclor 1248		--	--	--	--	--	--	--	--	--	--
Aroclor 1254		--	--	--	--	--	--	--	--	--	--
Aroclor 1260		--	--	--	--	--	--	--	--	--	--
PCBs Total	0.09	---	---	---	---	---	---	---	---	---	---

PCBs = Polychlorinated biphenyls

--- = undetected

EPA Method 8082

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

Table 5-9
Amenia Town Landfill RI/FS
PCB Groundwater Results

PCBs (ug/L)	NYSDEC GQS	Dup-012202 **Duplicate** (MW-4)	Dup-040502 **MW-4** 04/04/2002	**MW-4B** 1/22/02	**MW-4B** 04/05/2002	**MW-5** 1/24/02	**MW-5** 04/04/2002	**MW-6** 01/28/02	**MW-6** 04/05/2002	**MW-7** 01/25/02	**MW-7** 04/04/2002
Aroclor 1016	0.09 ug/l GQS	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	applies to the	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	sum of these	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	substances	--	--	--	--	--	--	--	--	--	--
Aroclor 1248		--	--	--	--	--	--	--	--	--	--
Aroclor 1254		--	--	--	--	--	--	--	--	--	--
Aroclor 1260		--	--	--	--	--	--	--	--	--	--
PCBs Total	0.09	---	---	---	---	---	---	---	---	---	---

PCBs = Polychlorinated biphenyls

--- = undetected

EPA Method 8082

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

Table 5-9
Amenia Town Landfill RI/FS
PCB Groundwater Results

PCBs (ug/L)	NYSDEC GQS	MW-8 01/24/02	MW-8 04/03/2002	MW-8B 01/24/02	MW-8B 04/03/2002	MW-9 01/28/02	MW-9 04/04/2002
Aroclor 1016	0.09 ug/l GQS applies to the sum of these substances	--	--	--	--	--	--
Aroclor 1221		--	--	--	--	--	--
Aroclor 1232		--	--	--	--	--	--
Aroclor 1242		--	--	--	--	--	--
Aroclor 1248		--	--	--	--	--	--
Aroclor 1254		--	--	--	--	--	--
Aroclor 1260		--	--	--	--	--	--
PCBs Total	0.09	---	---	---	---	---	---

PCBs = Polychlorinated biphenyls

--- = undetected

EPA Method 8082

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

Table 5-9
Amenia Town Landfill RI/FS
PCB Groundwater Results

PCBs (ug/L)	NYSDEC GQS	FB-012202 1/22/02	FB040302 04/03/2002	FB-012302 1/23/02	FB040402 04/04/2002	FB-012402 1/24/02	FB040502 04/05/2002	FB-012502 1/25/02	FB-012802 1/28/02
Aroclor 1016	0.09 ug/l GQS applies to the sum of these substances	--	--	--	--	--	--	--	--
Aroclor 1221		--	--	--	--	--	--	--	--
Aroclor 1232		--	--	--	--	--	--	--	--
Aroclor 1242		--	--	--	--	--	--	--	--
Aroclor 1248		--	--	--	--	--	--	--	--
Aroclor 1254		--	--	--	--	--	--	--	--
Aroclor 1260		--	--	--	--	--	--	--	--
PCBs Total	0.09	---	---	---	---	---	---	---	---

PCBs = Polychlorinated biphenyls

--- = undetected

EPA Method 8082

NYSDEC Groundwater Quality Standards (GQS): TOGS 1.1.1, June 1998 and 6 NYCRR Part 703, August 1999

Table 5-10
Amenia Town Landfill RI/FS
Inorganic Groundwater Results

Inorganic Constituents (ug/L)	NYSDEC GQS	MW-1 1/23/02	MW-1 4/3/2002	MW-2 1/24/02	MW-2 04/04/2002	MW-2B 1/24/02	MW-2B 04/04/2002	MW-3 1/23/02	MW-3 04/05/2002	MW-4 1/22/02	MW-4 04/04/2002
Aluminum	200 (1)	67.2 B	56.3 U	1,240	710	95.3 B	368	42.8 B	56.3 U	358	5,180
Antimony	3	4.2 U	6.8 B	14.5	2.7 B	47.8	7.5 B	4.2 U	8.0 B	14.9	4.4 B
Arsenic	25	7.6 UN	12.2 B	40.7	49.3	12.1 B	15 B	7.6 UN	9.4 B	42.3	58.8
Barium	1,000	2.4 B	20.5	285	270	24.1	26.3	0.2 U	32.3	109	129
Beryllium	3	0.3 U	1.3 U	0.3 U	1.3 U	0.3 U	1.3 U	0.3 U	1.3 U	0.3 U	1.3 U
Cadmium	5	0.2 U	1.5 U	0.2 U	1.5 U	0.28 B	1.5 U	0.2 U	1.5 U	0.2 U	1.5 U
Calcium	---	130,000	133,000	82,400	87,800	326,000	354,000	113,000	111,000	87,800	113,000
Chromium	50	4.7 B	3.2 U	1.2 B	3.2 U	2.7 B	3.5 B	2.3 B	3.2 U	0.91 B	7.9 B
Cobalt	730 (2)	0.5 U	3.0 U	15.6 B	16.4 B	0.5 U	3.0 U	0.5 U	3.0 U	3.1 B	12.5 B
Copper	200	2.0 B	7.8 B	4.5 B	5.8 B	7.4 B	10.3 B	5.2 B	3.8 U	7.6 B	36.8
Iron *	300	95.6 BE	75.9 B	16,300	15,000	649	2,470	93.8 BE	72.7 B	11,100	26,200
Lead	25	7.6	2.9 U	1.7 U	2.9 U	1.7 U	3.7 B	1.7 U	2.9 U	1.7 U	15.4
Magnesium **	35,000	37,800	34,900	58,500	61,800	66,100	72,800	31,600	31,000	80,400	91,500
Manganese *	300	613	329	781	699	85.0	85.8	5.9 B	13.8	162	501
Mercury	0.7	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	100	3.6 B	3.6 U	25.5	25	0.6 U	3.6 U	2.6 B	3.6 U	5.3 B	23.1
Potassium	---	945 B	1,090 BJ	28,100	30,400 J	9,870	8,590 J	2,440	2,340 J	16,800 E	19,100 J
Selenium	10	26.2	6.9 U	4.2 U	7.3 B	11.4 B	6.9 U	15.2 B	6.9 U	4.2 U	13.0 B
Silver	50	2.9 U	2.1 U	2.9 U	2.1 U	2.9 U	2.1 U	2.9 U	2.1 U	2.9 U	2.1 U
Sodium	20,000	6,210 E	5,620	35,200	40,600	22,300	31,300	7,880 E	7,280	33,600 E	31,000
Thallium	0.5	16.5	7.6 B	8.8 U	6.9 U	8.8 U	10.8 B	20.9	6.9 U	8.8 U	6.9 U
Vanadium	260 (2)	0.7 U	2.9 U	3.8 B	3.6 B	0.7 U	2.9 U	0.7 U	2.9 U	2.2 B	11.8 B
Zinc	2,000	1.0 UE	R	R	R	R	R	1.9 BE	R	1.1 B	R
Cyanide	200	10 U	10 U	1.2 B	10 U	1.0 B	10 U	10 U	10 U	R	10 U

E = estimated value because of interference

N = spike analysis not within control limits

B = value less than PQL but greater than MDL

U = undetected

J = estimated concentration

R= Rejected - concentrations were less than five times the concentration detected in the associated field blanks

* total iron and manganese standard = 500 ug/l

** concentration of magnesium is a NYSDEC guidance value, not a standard

(1) EPA secondary drinking water standard (Summer 2000)

(2) EPA Region III Risk-Based Criteria for Tap Water (9/25/2001)

Table 5-10
Amenia Town Landfill RI/FS
Inorganic Groundwater Results

Inorganic Constituents (ug/L)	NYSDEC GQS	Dup-012202 **MW-4** 1/22/02	Dup-040502 **MW-4** 04/04/2002	**MW-4B** 1/22/02	**MW-4B** 04/05/2002	**MW-5** 1/24/02	**MW-5** 04/04/2002	**MW-6** 01/28/02	**MW-6** 04/05/2002	**MW-7** 01/25/02	**MW-7** 04/04/2002
Aluminum	200 (1)	297	2,890	545	2,680	501	206	6,920	197 B	540	527
Antimony	3	16.3	6.0 B	9.1 B	2.5 B	27.5	7.7 B	29.3	3.7 B	14.5	8.6 B
Arsenic	25	45.3	58.9	9.4 B	10.8 B	32.6	33.6	18.3 B	18.3 B	8.9 B	10.1 B
Barium	1,000	112	116	89.7	79.1	133	136	207	166	59.2	67.6
Beryllium	3	0.3 U	1.3 U	0.3 U	1.3 U	0.3 U	1.3 U	0.31 B	1.3 U	0.3 U	1.3 U
Cadmium	5	0.2 U	1.5 U	0.2 U	1.5 U	0.2 U	1.5 U	0.2 U	1.5 U	0.2 U	1.5 U
Calcium	---	92,400	103,000	44,400	20,800	182,000	197,000	175,000	194,000	86,700	86,600
Chromium	50	1.6 B	5.2 B	2.9 B	3.2 U	0.5 U	3.2 U	4.1 B	4.3 B	1.2 B	3.2 U
Cobalt	730 (2)	3.2 B	9.4 B	0.5 U	3.0 U	1.0 B	3.0 U	20.7	7.0 B	1.8 B	3.0 U
Copper	200	3.1 B	30.2	11.2 B	5.4 B	1.8 U	3.8 U	42.8	3.8 U	1.8 U	6.9 B
Iron *	300	11,400	26,500	733	1,600	18,300	15,200	59,600	42,700	2,440	2,480
Lead	25	1.7 U	13.6	1.7 U	3.5 B	1.7 U	2.9 U	24.0	5.6	1.7 U	2.9 U
Magnesium	35,000	84,400	92,800	6,960	5,360	69,300	70,400	322,000	351,000	29,400	27,900
Manganese	300	162	418	17.8	18.3	822	1,010	3,150	1,320	1,350	1,260
Mercury	0.7	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	100	6.5 B	16.8 B	1.3 B	3.6 U	8.7 B	8.1 B	48.2	28.3	5.8 B	5.8 B
Potassium	---	17,900	17,000 J	70,200 E	114,000 J	12,300	12,500 E	225,000	233,000 J	3,520	3,710 J
Selenium	10	11.9 B	11.4	4.2 U	6.9 U	4.2 U	6.9 U	8.4 B	6.9 U	4.2 U	6.9 U
Silver	50	2.9 U	2.1 U	2.9 U	2.1 U	2.9 U	2.1 U	2.9 U	2.1 U	2.9 U	2.1 U
Sodium	20,000	35,700 E	28,900	88,200 E	144,000	27,900	27,000	331,000	325,000	3,630	4,170
Thallium	0.5	8.8 U	6.9 U	8.8 U	6.9 U	8.8 U	6.9 U	8.8 U	6.9 U	8.8 U	6.9 U
Vanadium	260 (2)	2.5 B	7.9 B	5.5 B	8.2 B	3.1 B	2.9 B	19.3 B	8.4 B	0.78 B	2.9 U
Zinc	2,000	1.0 U	R	9.4 B	R	R	R	R	4.5 U	R	R
Cyanide	200	R	10 U	R	10 U	1.0 U	10 U	1.4 B	10 U	1.0 U	10 U

Table 5-10
Amenia Town Landfill RI/FS
Inorganic Groundwater Results

Inorganic Constituents (ug/L)	NYSDEC GQS	MW-8 01/24/02	MW-8 04/03/2002	MW-8B 01/24/02	MW-8B 04/03/2002	MW-9 01/28/02	MW-9 04/04/2002
Aluminum	200 (1)	253	618	222	101 B	214	91.5 B
Antimony	3	14.8	5.0 B	51.8	8.0 B	23.3	10.4
Arsenic	25	7.6 U	8.0 B	8.7 B	13.6 B	12.2 B	12.0 B
Barium	1,000	33.3	33.4	17.1 B	18.8 B	60.9	49.8
Beryllium	3	0.3 U	1.3 U	0.3 U	1.3 U	0.3 U	1.3 U
Cadmium	5	0.2 U	1.5 U	0.58 B	1.5 U	0.5 B	1.5 U
Calcium	---	83,100	81,600	377,000	385,000	141,000	125,000
Chromium	50	0.83 B	3.2 U	1.9 B	3.6 B	1.5 B	3.2 U
Cobalt	730 (2)	0.5 U	3.0 U	0.5 U	3.0 U	0.5 U	3.0 U
Copper	200	1.8 U	4.3 B	1.8 U	4.2 B	2.3 B	7.2 B
Iron *	300	1,940	3,200	1,650	1,690	500	71.7 B
Lead	25	1.7 U	2.9 U	1.7 U	2.9 U	1.7 U	2.9 U
Magnesium **	35,000	24,900	25,300	66,500	68,500	55,600	45,700
Manganese *	300	582	472	130	110	38.3	6.0 B
Mercury	0.7	0.1 U	0.1 U	0.1 U	R	0.1 U	0.1 U
Nickel	100	0.83 B	3.6 U	0.6 U	3.6 U	0.92 B	3.6 U
Potassium	---	4,170	3,460 J	2,940	3,080 J	4,270	1,170 BJ
Selenium	10	4.2 U	6.9 U	19.7 B	6.9 U	4.8 B	6.9 U
Silver	50	2.9 U	2.1 U	2.9 U	2.1 U	2.9 UN	2.1 U
Sodium	20,000	4,080	4,230	7,650	8,850	13,300	8,130
Thallium	0.5	8.8 U	6.9 U	8.8 U	15.4 B	8.8 U	6.9 U
Vanadium	260 (2)	0.7 U	2.9 U	0.7 U	2.9 U	0.7 U	2.9 U
Zinc	2,000	R	R	R	R	R	R
Cyanide	200	1.0 U	10 U	1.0 U	10 U	1.0 U	10 U

Table 5-10
Amenia Town Landfill RI/FS
Inorganic Groundwater Results

Inorganic Constituents (ug/L)	NYSDEC GQS	FB-012202 1/22/02	FB040302 04/03/2002	FB-012302 1/23/02	FB040402 04/04/2002	FB-012402 1/24/02	FB040502 04/05/2002	FB-012502 1/25/02	FB-012802 1/28/02
Aluminum	200 (1)	25.8 U	56.3 U	25.8 U	56.3 U	25.8 U	56.3 U	25.8 U	25.8 U
Antimony	3	4.2 U	2.5 U	4.2 U	2.5 U	4.2 U	2.5 U	4.2 U	4.2 U
Arsenic	25	7.6 U	7.6 U	7.6 UN	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U
Barium	1,000	0.2 U	6.0 U	0.2 U	6.0 U	1.3 B	6.0 U	0.2 U	0.23 B
Beryllium	3	0.3 U	1.3 U	0.3 U	1.3 U	0.3 U	1.3 U	0.3 U	0.33 B
Cadmium	5	0.2 U	1.5 U	0.2 U	1.5 U	0.2 U	1.5 U	0.2 U	0.2 U
Calcium	---	108 B	279 U	44.6 B	279 U	147 B	279 U	69.7 B	81.7 B
Chromium	50	0.5 U	3.2 U	1.0 B	3.2 U	5.9 B	3.2 U	5.8 B	0.64 B
Cobalt	730 (2)	0.5 U	3.0 U	0.5 U	3.0 U	0.5 U	3.0 U	0.5 U	0.5 U
Copper	200	1.8 U	3.8 U	2.4 B	3.8 U	1.8 U	3.8 U	1.8 U	1.8 U
Iron *	300	15.9 U	52.5 U	15.9 UE	52.5 U	23.6 B	52.5 U	19.5 B	23.6 B
Lead	25	1.7 U	2.9 U	1.7 U	2.9 U	1.7 U	2.9 U	1.7 U	1.7 U
Magnesium **	35,000	41.3 B	190 U	29.8 U	190 U	29.8 U	190 U	29.8 U	29.8 U
Manganese *	300	0.5 U	2.7 U	0.87 B	2.7 U	0.59 B	2.7 U	0.7 B	7.7 B
Mercury	0.7	0.1 U	0.19 B	0.1 U	0.25	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	100	0.6 U	3.6 U	2.5 B	3.6 U	3.4 B	3.6 U	3.2 B	0.6 U
Potassium	---	599 BE	17.9 U	118 U	17.9 U	118 U	325 BJ	118 U	552 B
Selenium	10	4.2 U	6.9 U	5.5 B	6.9 U	4.2 U	6.9 U	4.2 U	4.2 U
Silver	50	2.9 U	2.1 U	2.9 U	2.1 U	2.9 U	2.1 U	2.9 U	2.9 UN
Sodium	20,000	630 BE	391 U	153 BE	391 U	49.9 U	391 U	49.9 U	49.9 U
Thallium	0.5	8.8 U	6.9 U	8.8 U	6.9 U	8.8 U	6.9 U	8.8 U	8.8 U
Vanadium	260 (2)	0.7 U	2.9 U	0.7 U	2.9 U	0.7 U	2.9 U	0.7 U	0.7 U
Zinc	2,000	2.1 B	11.3	5.0 BE	12.4	R	12.1	1.0 U	R
Cyanide	200	R	10 U	10 U	10 U	1.0 U	10 U	1.0 U	1.0 U

Table 5-23
Amenia Town Landfill RI/FS
Organic Surface Water Results - May 14 to May 16, 2002

VOCs (ug/L)	NYSDEC AWQS (ug/L)	SW-1 5/15/02	SW-2 5/15/02	SW-3 5/16/02	SW-4 5/16/02	SW-5 5/16/02	SW-6 5/14/02	SW-7 5/14/02	Duplicate SW-7A 5/14/02	SW-8 5/14/02
VOCs	---	---	---	---	---	---	---	---	---	---
SVOCs	---	---	---	---	---	---	---	---	---	---
Pesticides										
alpha-Chlordane	2×10^{-5}	---	---	---	0.0100 J	---	---	---	---	---
delta-BHC	0.008	---	---	---	---	0.00897 J	---	---	---	---
gamma-Chlordane	2×10^{-5}	---	---	0.0110 J	---	---	---	---	---	---
Total PCBs	0.09	--	--	--	--	--	--	--	--	--

VOCs = volatile organic compounds
SVOCs = semivolatile organic compounds
PCBs = polychlorinated biphenyls
J = analyte detected below reporting limits
--- = undetected
NYSDEC Ambient Water Quality Standards and Guidance Values, Water Class C: TOGS 1.1.1, June 1998

Table 5-24
Amenia Town Landfill RI/FS
Inorganic Surface Water Results - May 14 to May 16, 2002

Inorganic Constituents (ug/L)	NYSDEC AWQS	SW-1 5/15/02	SW-2 5/15/02	SW-3 5/16/02	SW-4 5/16/02	SW-5 5/16/02	SW-6 5/14/02	SW-7 5/14/02	Duplicate SW-7A 5/14/02	SW-8 5/14/02	FB051502 5/15/02
Aluminum	100	123 B	243	65.5 B	56.3 U	56.3 U	203	110 B	64.4 B	1020	56.3 U
Antimony	---	4.1 B	4.2 B	4.1 B	3.6 B	2.9 B	5.0 B	5.4 B	4.4 B	5.3 B	2.5 U
Arsenic	150	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U
Barium	---	7.3 B	10.5 B	6.0 U	8.8 B	8.1 B	9.0 B	7.3 B	6.8 B	17.0 B	6.0 U
Beryllium	*	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Cadmium	*	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Calcium	---	35700	44400	38700	43600	46000	41900	42500	41400	38900	279 U
Chromium	*	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U
Cobalt	5	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Copper	*	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	4.0 B	3.8 U
Iron	300	R	R	R	R	R	1480	835	633	2110	52.5 U
Lead	*	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	3.5 B	2.9 U
Magnesium	---	15200	15300	15900	17200	18000	15600	15600	15300	16800	190 U
Manganese	---	R	R	151	R	141	142	105	86.3	293	25.8
Mercury	0.77	0.10 U	0.10 U	0.10 U	0.10 U	0.11 B	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Nickel	*	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U
Potassium	---	1460 B	1550	1420 B	1360 B	1260 B	1530	1420 B	1350 B	1710	17.9 U
Selenium	4.6	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U
Silver	0.1	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
Sodium	---	5260	4110	4490	4990	5180	5740	5810	5680	14600	391 U
Thallium	8	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U
Vanadium	14	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U
Zinc	*	R	R	R	4.5 U	4.5 U	12.0	6.9 B	4.5 U	12.6	10.9
Cyanide	5.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NA

(1) NYSDEC Fish Propagation (Fresh Waters)/Fish Survival (Fresh Waters)

B = value less than PQL but greater than MDL

U = undetected

--- = criterion not available

* = criterion dependent on hardness of water

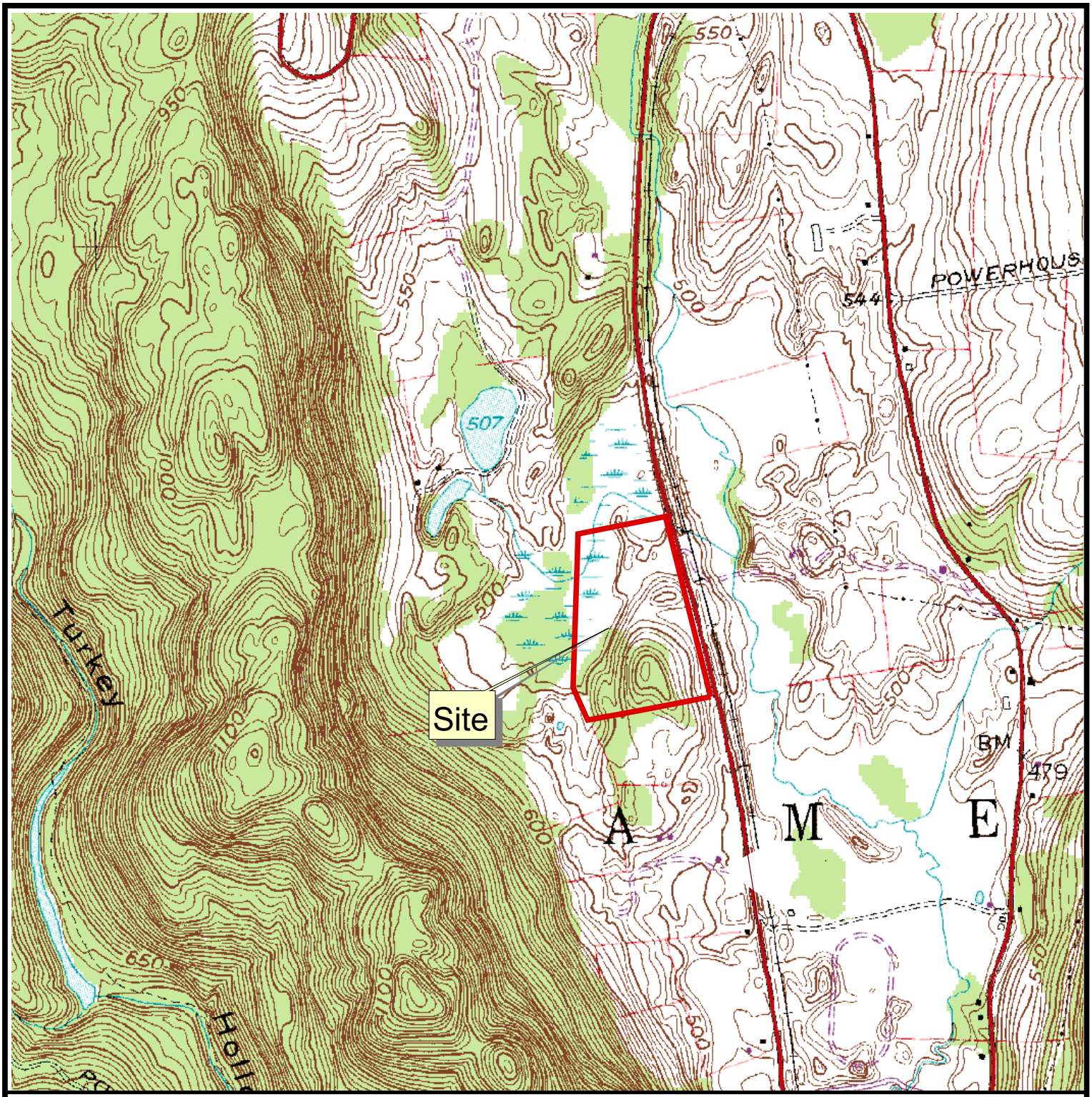
NA = not analyzed

R = Rejected data, see Appendix J for explanation

FIGURES

FIGURE 1

Site Location Map



MAP REFERENCE:
USGS Topographic Map
Amenia, New York Quadrangle, Dated 2000
7.5 Minute Series, DRG, NAD 83
Downloaded from CUGIR on 1/10/2011

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FIGURE 1 - SITE LOCATION MAP

Amenia Town Landfill

TOWN OF AMENIA	DUTCHESS COUNTY, NY
SCALE: 1"= 1,000'	
DRAFTER: JLM	
PROJECT No: 07.7052	

FIGURE 2

Final Cover Topographic Survey and Record Drawing, Amenia Town Landfill (C.T. Male Drawing No. 15-382)

XREFS: NONE

PROJECT NUMBER: 07.7052

FINAL COVER TOPOGRAPHIC SURVEY.dwg

CAD DWG. FILE NAME: K:\Projects\077052\Survey\2014 Final Asbuilt Survey\FINAL COVER TOPOGRAPHIC SURVEY.dwg

MAP REFERENCES:

1. "FINAL SUBDIVISION OF LANDS OF JOHN SEGALLA" TOWN OF AMENIA, DUTCHESS COUNTY, NEW YORK, PREPARED BY MICHAEL A DALBO, DATED FEBRUARY 24, 1992 AND REVISED TO MARCH 11, 1992 AND FILED IN THE DUTCHESS COUNTY CLERK'S OFFICE ON APRIL 15, 1992 AS MAP NO. 9458.
2. TOPOGRAPHIC SURVEY PREPARED BY ROBINSON AERIAL SURVEYS, INC. PREPARED FOR URS/WOODWARD CLYDE DATED MARCH 2000, FLIGHT DATE OF DECEMBER 24, 1999, JOB NUMBER 99114.
3. "BOUNDARY SURVEY LANDS NOW OR FORMERLY OF TOWN OF AMENIA 4541 NEW YORK STATE ROUTE 22" PREPARED BY C.T. MALE ASSOCIATES, P.C., DATED AUGUST 10, 2007, DWG. NO. 07-620.

TITLE REFERENCES:

THIS SURVEY DOES NOT CONSTITUTE A RECORD SEARCH BY C.T. MALE ASSOCIATES, ENGINEERING, SURVEYING, ARCHITECTURE & LANDSCAPE ARCHITECTURE, D.P.C. TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHTS OF WAY AND TITLE OF RECORD, THE SURVEYOR RELIED UPON TITLE COMMITMENTS:

1. TAX PARCEL 7066-00-885633, TITLE COMMITMENT NUMBER RGD 18118, PREPARED BY WASHINGTON TITLE INSURANCE COMPANY, DATED JANUARY 22, 2007.
2. TAX PARCEL 7066-00-882575, TITLE COMMITMENT NUMBER RGD 17855, PREPARED BY WASHINGTON TITLE INSURANCE COMPANY, DATED SEPTEMBER 28, 2006.

MAP NOTES:

1. BOUNDARY INFORMATION SHOWN HEREON IS SHOWN FROM MAP REFERENCE NO. 3.
2. TOPOGRAPHIC INFORMATION SHOWN HEREON WAS COMPILED FROM AN ACTUAL FIELD SURVEY CONDUCTED ON NOVEMBER 10, 2014 AND JULY 1, 2015.
3. NORTH ORIENTATION AND BEARINGS ARE BASED ON THE NEW YORK STATE PLANE COORDINATE SYSTEM, EASTERN ZONE, NAD 1983 OBTAINED THROUGH GPS OBSERVATIONS. THE DISTANCES SHOWN ARE HORIZONTAL GRID DISTANCES.
4. VERTICAL DATUM SHOWN HEREON IS NAVD 88 PER MAP REFERENCE NO. 2.
5. THE LOCATIONS, AS SHOWN HEREON, OF THE PERFORATED GAS COLLECTION LATERALS, UNDERGROUND LANDFILL GAS COLLECTION POINTS AND THE LIMIT OF GEOMEMBRANE LINER ANCHOR TRENCH (INSIDE EDGE) WERE OBTAINED FROM A MAP ENTITLED "TOPOGRAPHIC AS-BUILT MAP OF THE INTERMEDIATE GRADING - AMENIA TOWN LANDFILL PREPARED FOR SEVENSON ENVIRONMENTAL SITUATE IN TOWN OF AMENIA, DUTCHESS CO., N.Y." PREPARED BY TERRY BERGENDORFF COLLINS, P.L.S. DATED DECEMBER 2, 2013 AND REVISED TO JULY 22, 2015.
6. THE 6" AND 8" PERFORATED HDPE UNDERDRAIN PIPE LOCATION ON THE EAST, NORTH AND WEST SIDES, AS SHOWN HEREON, WAS OBTAINED FROM A MAP ENTITLED "TOPOGRAPHIC AS-BUILT MAP OF THE GEOCOMPOSITE DRAINAGE LAYER - AMENIA TOWN LANDFILL PREPARED FOR SEVENSON ENVIRONMENTAL SITUATE IN TOWN OF AMENIA, DUTCHESS CO., N.Y." PREPARED BY TERRY BERGENDORFF COLLINS, P.L.S. DATED DECEMBER 2, 2013 AND REVISED TO JULY 22, 2015.
7. THE FORMER DRUM REMOVAL AREA LOCATION, AS SHOWN HEREON, WAS OBTAINED FROM A MAP ENTITLED " EXISITING CONDITIONS PLAN AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION" TOWN OF AMENIA, DUTCHESS COUNTY, NEW YORK PREPARED BY C.T. MALE ASSOCIATES, P.C. DATED JANUARY 19, 2012, PROJECT NO. 07.7052, DRAWING NO. 11-0390, SHEET P1, SHEET 3 OF 16.
8. SURFACE FEATURES SUCH AS DRAIN BASIN RIMS, PIPE INVERTS, ETC. ARE THE RESULT OF FIELD SURVEY UNLESS NOTED OTHERWISE. THERE MAY BE UNDERGROUND UTILITIES, THE EXISTENCE OF WHICH ARE NOT KNOWN TO THE UNDERSIGNED. SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES MUST BE VERIFIED BY THE APPROPRIATE AUTHORITIES. DIG SAFELY NEW YORK MUST BE NOTIFIED PRIOR TO CONDUCTING TEST BORINGS, EXCAVATION AND CONSTRUCTION.
9. PARCELS MAY BE SUBJECT TO UNPLOTTABLE EASEMENTS DESCRIBED IN BOOK 490 PAGE 497, BOOK 494 PAGE 150, BOOK 498 PAGE 220, BOOK 817 PAGE 508, BOOK 877 PAGE 441, BOOK 965 PAGE 596, BOOK 1229 PAGE 156 AND BOOK 1594 PAGE 301.

LEGEND

MW-5	EXISTING MONITORING WELL LOCATION AND ID (TYPICAL)
MW-10	REPLACEMENT MONITORING WELL LOCATION AND ID, INSTALLED JUNE 2015
TOP OF CASING ELEV=	TOP OF MONITORING WELL GUARD PIPE ELEVATION (TYPICAL)
4" PVC TOP ELEV=	TOP OF MONITORING WELL PVC RISER ELEVATION (TYPICAL)
	UTILITY POLE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
PVC	POLYVINYL CHLORIDE PIPE
DB	PVC DRAIN BASIN
TF	TOP OF DRAIN BASIN RIM ELEVATION
GAS VENT GV-1	UNDERGROUND LANDFILL GAS COLLECTION POINT AND GAS VENTING STRUCTURE (TYPICAL)
UG GCP-1	UNDERGROUND LANDFILL GAS COLLECTION POINT (TYPICAL)
G	PERFORATED GAS COLLECTION LATERAL WITH SOCK IN 2' WIDE BY 2' DEEP CRUSHED STONE TRENCH WRAPPED IN NON-WOVEN GEOTEXTILE BELOW TWO SIDED GEOCOMPOSITE GAS VENTING LAYER
	SURVEY BOUNDARY PROPERTY LINE
	CONTROLLED PROPERTY BOUNDARY
	LIMIT OF GEOMEMBRANE LINER (40 MIL TEXTURED LLDPE) ANCHOR TRENCH (INSIDE EDGE)
	6" OR 8" PERFORATED HDPE UNDERDRAIN PIPE BELOW DRAINAGE SWALE
	BOTTOM OF DRAINAGE SWALE AND DIRECTION OF FLOW
	EXISTING CONTOUR
	EXISTING INDEX CONTOUR
SILT FENCE OR SILTSOXX	SILT FENCE OR SILTSOXX (REMOVED 2015)
ACB SWALE	ARTICULATING CONCRETE BLOCK LINED DRAINAGE SWALE
	STONE FILLING (RIP-RAP)
TRM	TURF REINFORCEMENT MAT
	ALUMINUM END SECTION AT CULVERT
534.74	SPOT ELEVATION
8" HDPE	CULVERT PIPE AND SIZE (TYPICAL)

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

BAR SCALE
30 0 15 30 60
1 inch = 30 ft.

JAMES F. COOK
P.L.S. NO. 49260
LICENSED LAND SURVEYOR

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
10/28/15	1	ADDED & DEFINED THE CONTROLLED PROPERTY AREA	MDD	EWR	
5/4/16	2	ADDED ENVIRONMENTAL EASEMENT STATEMENT AND PARCEL DOCUMENT NUMBERS	MDD	EWR	
	3				
	4				
	5				
	6				
	7				
	8				
	9				

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW.

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APPROVED: WJN
DRAFTED : GLB
CHECKED : JFC
PROJ. NO : 07.7052
SCALE : 1" = 30'
DATE : JULY 1, 2015

FINAL COVER TOPOGRAPHIC SURVEY AND RECORD DRAWING

AMENIA TOWN LANDFILL

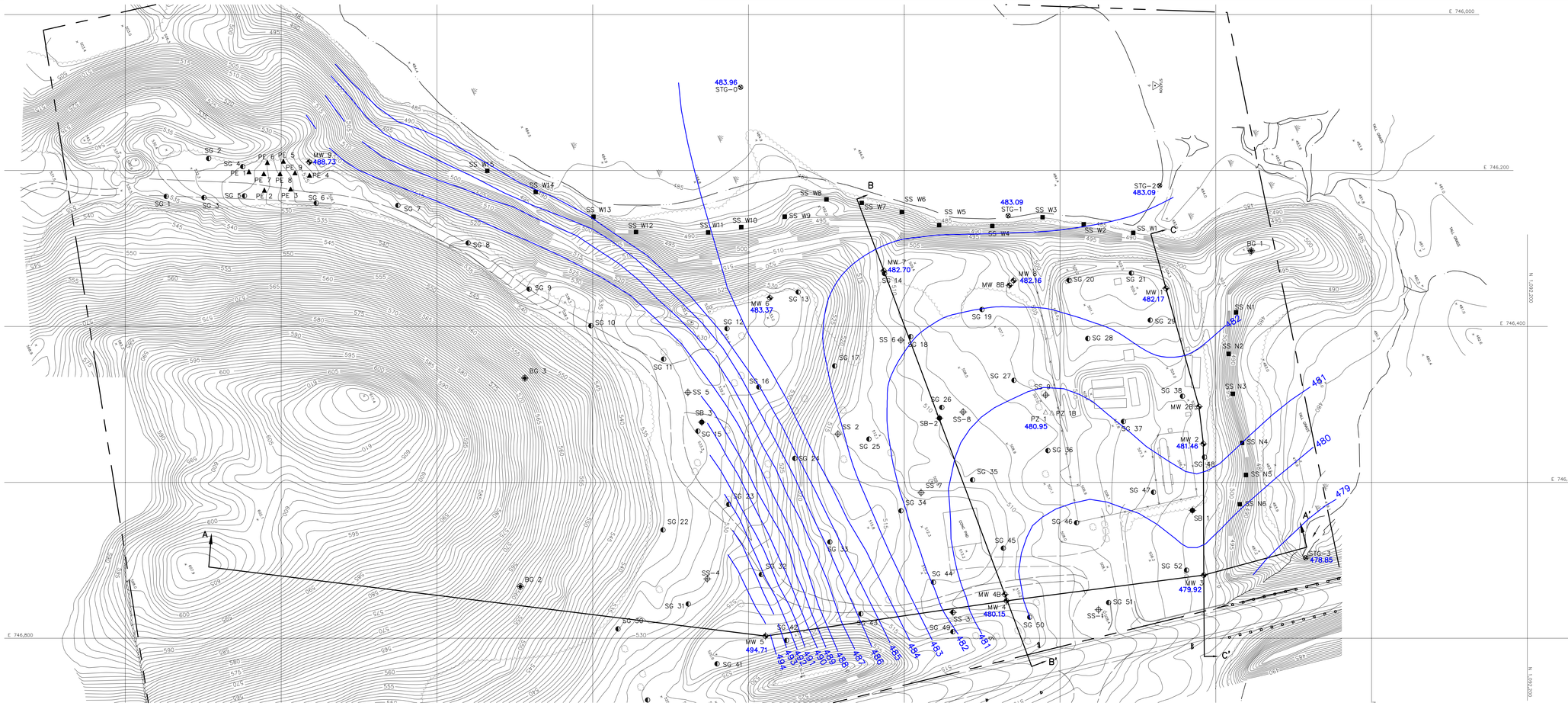
TOWN OF AMENIA — DUTCHESS COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299

SHEET 1 OF 1
DWG. NO: 15-382

FIGURE 3

Stratigraphic Cross Sections and Shallow Groundwater Contours (April 3, 2002) (URS Drawing No. 14141005)

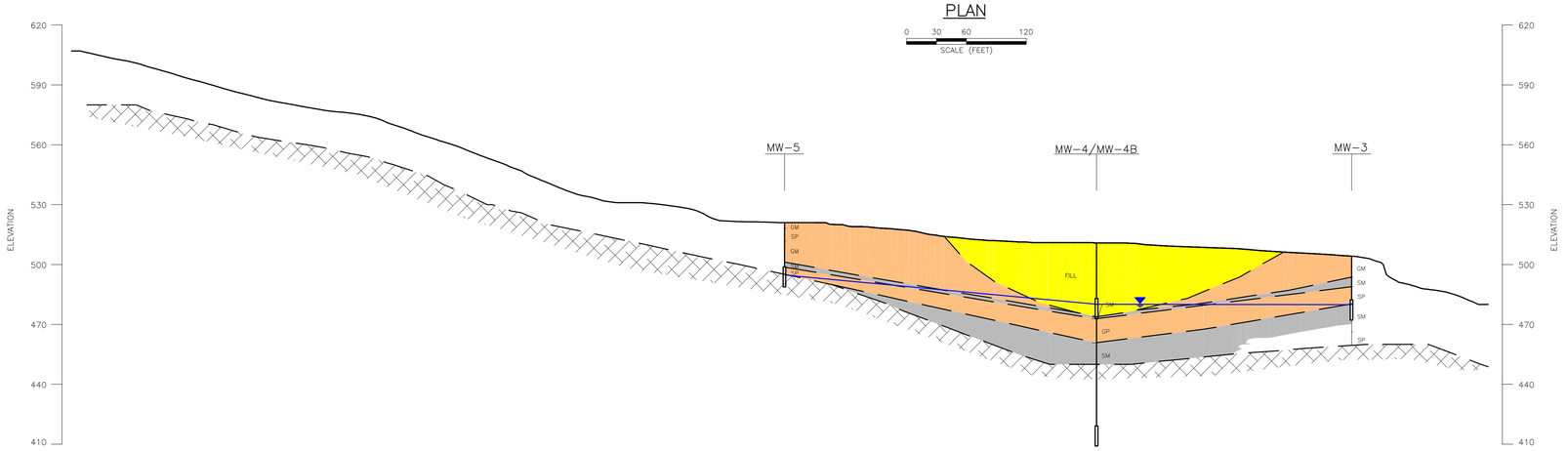


PLAN

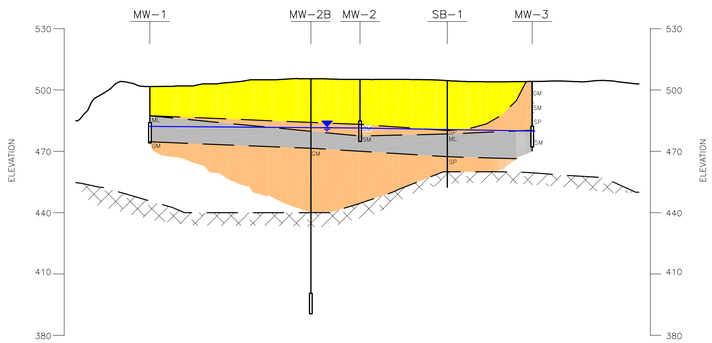
0 30 60 120
SCALE (FEET)

LEGEND

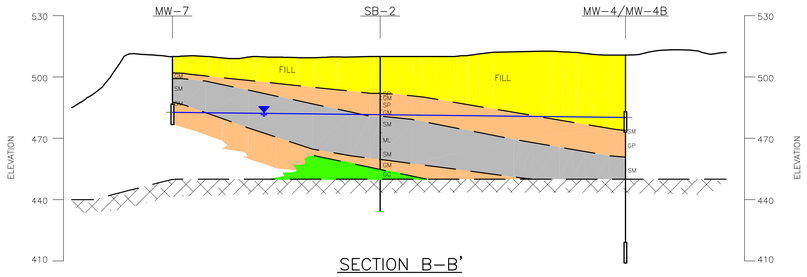
- MONITORING WELL LOCATION
- SURFACE SOIL SAMPLE LOCATION
- SOIL BORING LOCATION
- PIEZOMETERS LOCATION
- POST EXCAVATION SAMPLE LOCATION
- SOIL GAS SAMPLE LOCATION
- BACKGROUND SOIL SAMPLE LOCATION
- LANDFILL PERIMETER SAMPLE LOCATION
- STAFF GAUGE
- FILL
- SAND AND GRAVEL
- SILT OR CLAY
- BEDROCK
- TILL
- 480 GROUNDWATER CONTOURS
- WATER LEVEL
- GP CLEAN GRAVEL
- GM GRAVEL WITH SANDY FINES
- GC GRAVEL WITH CLAYEY FINES
- SP CLEAN SAND
- SM SAND WITH FINES
- ML SILT
- CL CLAY



SECTION A–A'



SECTION C–C'



SECTION B–B'

0 30 60 120
HORIZONTAL SCALE (FEET)

0 15 30 60
VERTICAL SCALE (FEET)

STRATIGRAPHIC CROSS SECTIONS AND SHALLOW GROUNDWATER CONTOURS (APRIL 3, 2002) AMENIA TOWN LANDFILL AMENIA, NEW YORK

URS
WAYNE, NEW JERSEY

DR. BY	JL	SCALE	AS SHOWN	DWG. NO. 14141005	PROJ. NO. 1E04141
CK'D. BY	MC	DATE	APR. 3, 2002	FIG. NO.	4-1

K:\Cadd\1E04141\AMENIA\14141005.dwg, 5/23/2005 12:54:49 PM

FIGURE 4

Summary of Soil Analytical Results
(URS Drawing No. 14141002)

Sample ID	NYSDEC 4046	PE-8
Sample Date	OR SB	11/8/2001
Inorganics (mg/kg)		
Arsenic	7.5	9.0
Manganese	1,030	2,400

Sample ID	NYSDEC 4046	PE-3
Sample Date	OR SB	11/9/2001
SVOCs (ug/kg)		
Phenol	30	84.2

Sample ID	NYSDEC 4046	PE-6
Sample Date	OR SB	11/9/2001
Inorganics (mg/kg)		
Calcium	3,890	36,700
Magnesium	7,920	23,600

Sample ID	NYSDEC 4046	PE-5
Sample Date	OR SB	11/9/2001
Inorganics (mg/kg)		
Calcium	3,890	27,400
Magnesium	7,920	16,600

Sample ID	NYSDEC 4046	PE-2
Sample Date	OR SB	11/9/2001
Inorganics (mg/kg)		
Calcium	3,890	25,000

Sample ID	NYSDEC 4046	SS-W11
Sample Date	ug/kg	11/27/2001
Parameters (ug/kg)		
PCBs Total	1000	2,680
INORGANICS (mg/kg)	4046 OR SB	
Antimony	0.56 U	5.9
Cadmium	1	1.1
Calcium	3,890	34,800
Magnesium	7,920	24,800
Sodium	37.3 U	101
Zinc	82.9	266

Sample ID	NYSDEC 4046	SS-W7
Sample Date	ug/kg	11/27/2001
Parameters (ug/kg)		
PCBs Total	1000	1,410
INORGANICS (mg/kg)	4046 OR SB	
Antimony	0.56 U	44.3
Cadmium	1	7.7
Calcium	3,890	8,720
Chromium	16.4	72.9
Copper	43.8	335
Mercury	0.18	7.0
Sodium	37.3 U	201
Zinc	82.9	943

Sample ID	NYSDEC 4046	SS-W6	Duplicate (SS-W6) SS-DUP-1
Sample Date	ug/kg	11/27/2001	11/27/2001
Parameters (ug/kg)			
PCBs Total	1000	2,652	2,848
INORGANICS (mg/kg)	4046 OR SB		
Antimony	0.56 U	6.1	5.3
Calcium	3,890	18,700	30,500
Magnesium	7,920	18,700	22,800
Zinc	82.9	178	213

Sample ID	NYSDEC 4046	SS-6
Sample Date	OR SB	11/27/2001
Inorganics (mg/kg)		
Calcium	3,980	8,700

Sample ID	NYSDEC 4046	SS-W10
Sample Date	OR SB	11/27/2001
Inorganics (mg/kg)		
Antimony	0.56 U	5.3
Calcium	3,890	18,900
Magnesium	7,920	17,500
Zinc	82.9	221

POND

APPROXIMATE PROPERTY BOUNDARY

Sample ID	NYSDEC 4046	SS-W4
Sample Date	ug/kg	11/27/2001
Parameters (ug/kg)		
PCBs Total	1000	63,600
INORGANICS (mg/kg)	4046 OR SB	
Antimony	0.56 U	6.3
Cadmium	1	1.7
Calcium	3,890	28,800
Magnesium	7,920	23,900
Zinc	82.9	218

Sample ID	NYSDEC 4046	SS-W3
Sample Date	ug/kg	11/27/2001
Parameters (ug/kg)		
PCBs Total	1000	20,400
INORGANICS (mg/kg)	4046 OR SB	
Antimony	0.56 U	9.3
Cadmium	1	1.3
Calcium	3,890	27,900
Magnesium	7,920	24,500
Zinc	82.9	288

Sample ID	NYSDEC 4046	SS-W12
Sample Date	OR SB	11/27/2001
Inorganics (mg/kg)		
Antimony	0.56 U	13.3
Cadmium	1	1.6
Calcium	3,890	15,400
Magnesium	7,920	17,100
Zinc	82.9	369

Sample ID	NYSDEC 4046	SS-W5
Sample Date	ug/kg	11/27/2001
Parameters (ug/kg)		
PCBs Total	1000	25,170
INORGANICS (mg/kg)	4046 OR SB	
Antimony	0.56 U	5.8
Calcium	3,890	42,200
Magnesium	7,920	23,500
Selenium	2	3.6
Zinc	82.9	260

Sample ID	NYSDEC 4046	SS-W2
Sample Date	ug/kg	11/27/2001
Parameters (ug/kg)		
PCBs Total	1000	6,410
INORGANICS (mg/kg)	4046 OR SB	
Antimony	0.56 U	3.5
Calcium	3,890	24,100
Magnesium	7,920	20,800

Sample ID	NYSDEC 4046	SS-W1
Sample Date	ug/kg	11/27/2001
Parameters (ug/kg)		
PCBs Total	1000	13,660
INORGANICS (mg/kg)	4046 OR SB	
Antimony	0.56 U	7.3
Cadmium	1	1.1
Calcium	3,890	30,900
Magnesium	7,920	23,800
Selenium	2	3.3
Sodium	37.3 U	110

Sample ID	NYSDEC 4046	SS-N2
Sample Date	OR SB	11/28/2001
Inorganics (mg/kg)		
Calcium	3,890	35,300
Magnesium	7,920	20,000

Sample ID	NYSDEC 4046	SS-N3
Sample Date	OR SB	11/28/2001
Inorganics (mg/kg)		
Calcium	3,890	23,100
Magnesium	7,920	14,500

Sample ID	NYSDEC 4046	SS-N4
Sample Date	ug/kg	11/28/2001
Parameters (ug/kg)		
PCBs Total	1000	4,190
INORGANICS (mg/kg)	4046 OR SB	
Calcium	3,890	29,700 E
Magnesium	7,920	18,700 E

Sample ID	NYSDEC 4046	SS-N5
Sample Date	OR SB	11/28/2001
Inorganics (mg/kg)		
Calcium	3,890	46,100
Magnesium	7,920	22,200

Sample ID	NYSDEC 4046	SS-N6
Sample Date	OR SB	11/28/2001
Inorganics (mg/kg)		
Calcium	3,890	21,400
Magnesium	7,920	15,700

Sample ID	NYSDEC 4046	SS-9
Sample Date	ug/kg	11/28/2001
Parameters (ug/kg)		
SVOCs		
Phenol	30	4,090
PCBs Total	1000	1,140
INORGANICS (mg/kg)	4046 OR SB	
Calcium	3,890	46,300
Magnesium	7,900	22,800

Sample ID	NYSDEC 4046	SS-W15
Sample Date	OR SB	11/27/2001
Inorganics (mg/kg)		
Antimony	0.56 U	10.8

Sample ID	NYSDEC 4046	SS-W14
Sample Date	OR SB	11/27/2001
Inorganics (mg/kg)		
Antimony	0.56 U	11.1

Sample ID	NYSDEC 4046	SS-W13
Sample Date	OR SB	11/27/2001
Inorganics (mg/kg)		
Antimony	0.56 U	8.2

Sample ID	NYSDEC 4046	SS-W9
Sample Date	OR SB	11/27/2001
Inorganics (mg/kg)		
Antimony	0.56 U	15.0
Barium	300	1,240
Cadmium	1	4.9
Calcium	3,890	13,800
Chromium	16.4	40.9
Copper	43.8	260
Mercury	0.18	3.3
Silver	0.69	18.0
Sodium	37.3 U	265
Zinc	82.9	3,010

Sample ID	NYSDEC 4046	SS-W8
Sample Date	OR SB	11/27/2001
Inorganics (mg/kg)		
Antimony	0.56 U	28.3
Cadmium	1	5.9
Calcium	3,890	17,100
Chromium	16.4	83.5
Copper	43.8	609
Mercury	0.18	5.9
Sodium	37.3 U	246
Zinc	82.9	1,800

Sample ID	NYSDEC 4046	SS-2
Sample Date	OR SB	11/28/2001
Inorganics (mg/kg)		
Calcium (mg/kg)	3,890	21,400

Sample ID	NYSDEC 4046	SS-7
Sample Date	OR SB	11/28/2001
Inorganics (mg/kg)		
Calcium	3,890	30,800
Magnesium	7,900	22,300

Sample ID	NYSDEC 4046	SS-8
Sample Date	ug/kg	11/28/2001
Parameters (ug/kg)		
PCBs Total	1000	2,760
INORGANICS (mg/kg)	4046 OR SB	
Calcium	3,890	10,400
Zinc	83	281

Sample ID	NYSDEC 4046	SS-3
Sample Date	OR SB	11/28/2001
Inorganics (mg/kg)		
Calcium	3,890	27,800
Magnesium	7,900	18,800

Sample ID	NYSDEC 4046	SS-1
Sample Date	OR SB	11/28/2001
Inorganics (mg/kg)		
Calcium	3,890	18,300
Magnesium	7,900	16,300

△PZ 2

△PZ 3

STG-1 STG-2 STG-3 STG-6 STG-7

AMENIA STREAM

LEGEND

- MONITORING WELL LOCATION
- SURFACE SOIL SAMPLE LOCATION
- SOIL BORING LOCATION
- △ PIEZOMETER LOCATION
- ▲ POST EXCAVATION SAMPLE LOCATION
- ◐ SOIL GAS SAMPLE LOCATION
- BACKGROUND SOIL SAMPLE LOCATION
- ■ LANDFILL PERIMETER SAMPLE LOCATION
- STAFF GAUGE
- SVOCs SEMIVOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8270C
- PCBs POLYCHLORINATED BIPHENYLS BY EPA METHOD 8082
- SB SITE BACKGROUND

NOTES:

1. ONLY THOSE ORGANIC ANALYTES WHOSE CONCENTRATIONS EXCEED THE NYSDEC TAGM 4046, JANUARY 24, 1994 CLEANUP OBJECTIVES ARE SHOWN.
2. INORGANIC CONCENTRATIONS SHOWN WHEN THEY EXCEED TWICE THE BACKGROUND CONCENTRATION.

0 30 60 120
SCALE (FEET)

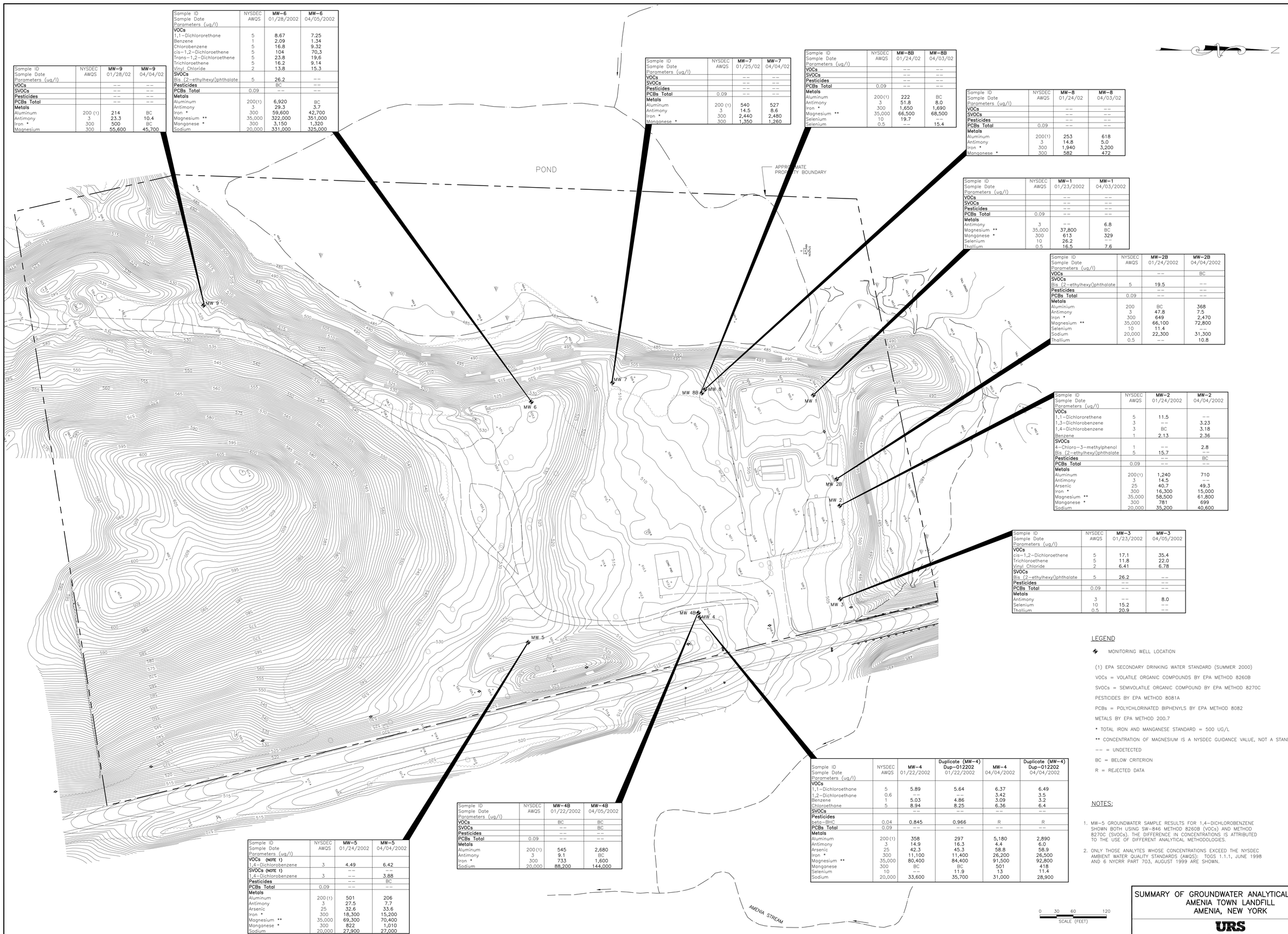
SUMMARY OF SOIL ANALYTICAL RESULTS AMENIA TOWN LANDFILL AMENIA, NEW YORK

URS
WAYNE, NEW JERSEY

DR. BY ET	SCALE AS SHOWN	DWG. NO. 14141002	PROJ. NO. 1E04141
CK'D. BY PN	DATE MAR. 15, 2002	FIG. NO. 5-1	

FIGURE 5

Summary of Groundwater Analytical Results
(URS Drawing No. 14141003)



Sample ID Sample Date Parameters (ug/l)	NYSDEC AWQS	MW-9 01/28/02	MW-9 04/04/02
VOCs		--	--
SVOCs		--	--
Pesticides		--	--
PCBs Total		--	--
Metals			
Aluminum	200 (1)	214	BC
Antimony	3	23.3	10.4
Iron *	300	500	BC
Magnesium	300	55,600	45,700

Sample ID Sample Date Parameters (ug/l)	NYSDEC AWQS	MW-6 01/28/2002	MW-6 04/05/2002
VOCs			
1,1-Dichlororethane	5	8.67	7.25
Benzene	1	2.09	1.34
Chlorobenzene	5	16.8	9.32
cis-1,2-Dichloroethene	5	104	70.3
Trans-1,2-Dichloroethene	5	23.8	19.6
Trichloroethene	5	16.2	9.14
Vinyl Chloride	2	13.8	15.3
SVOCs			
Bis (2-ethylhexyl)phthalate	5	26.2	--
Pesticides		BC	--
PCBs Total	0.09	--	--
Metals			
Aluminum	200(1)	6,920	BC
Antimony	3	29.3	3.7
Iron *	300	59,600	42,700
Magnesium **	35,000	322,000	351,000
Manganese *	300	3,150	1,320
Sodium	20,000	331,000	325,000

Sample ID Sample Date Parameters (ug/l)	NYSDEC AWQS	MW-7 01/25/02	MW-7 04/04/02
VOCs		--	--
SVOCs		--	--
Pesticides		--	--
PCBs Total	0.09	--	--
Metals			
Aluminum	200 (1)	540	527
Antimony	3	14.5	8.6
Iron *	300	2,440	2,480
Manganese *	300	1,350	1,260

Sample ID Sample Date Parameters (ug/l)	NYSDEC AWQS	MW-8B 01/24/02	MW-8B 04/03/02
VOCs		--	--
SVOCs		--	--
Pesticides		--	--
PCBs Total	0.09	--	--
Metals			
Aluminum	200(1)	222	BC
Antimony	3	51.8	8.0
Iron *	300	1,650	1,690
Magnesium **	35,000	66,500	68,500
Selenium	10	19.7	--
Selenium	0.5	--	15.4

Sample ID Sample Date Parameters (ug/l)	NYSDEC AWQS	MW-8 01/24/02	MW-8 04/03/02
VOCs		--	--
SVOCs		--	--
Pesticides		--	--
PCBs Total	0.09	--	--
Metals			
Aluminum	200(1)	253	618
Antimony	3	14.8	5.0
Iron *	300	1,940	3,200
Manganese *	300	582	472

Sample ID Sample Date Parameters (ug/l)	NYSDEC AWQS	MW-1 01/23/2002	MW-1 04/03/2002
VOCs		--	--
SVOCs		--	--
Pesticides		--	--
PCBs Total	0.09	--	--
Metals			
Antimony	3	--	6.8
Magnesium **	35,000	37,800	BC
Manganese *	300	613	329
Selenium	10	26.2	--
Thallium	0.5	16.5	7.6

Sample ID Sample Date Parameters (ug/l)	NYSDEC AWQS	MW-2B 01/24/2002	MW-2B 04/04/2002
VOCs		--	BC
SVOCs			
Bis (2-ethylhexyl)phthalate	5	19.5	--
Pesticides		--	--
PCBs Total	0.09	--	--
Metals			
Aluminum	200	BC	368
Antimony	3	47.8	7.5
Iron *	300	649	2,470
Magnesium **	35,000	66,100	72,800
Selenium	10	11.4	--
Sodium	20,000	22,300	31,300
Thallium	0.5	--	10.8

Sample ID Sample Date Parameters (ug/l)	NYSDEC AWQS	MW-2 01/24/2002	MW-2 04/04/2002
VOCs			
1,1-Dichlororethene	5	11.5	--
1,3-Dichlorobenzene	3	--	3.23
1,4-Dichlorobenzene	3	BC	3.18
Benzene	1	2.13	2.36
SVOCs			
4-Chloro-3-methylphenol	1	--	2.8
Bis (2-ethylhexyl)phthalate	5	15.7	--
Pesticides		--	BC
PCBs Total	0.09	--	--
Metals			
Aluminum	200(1)	1,240	710
Antimony	3	14.5	--
Arsenic	25	40.7	49.3
Iron *	300	16,300	15,000
Magnesium **	35,000	58,500	61,800
Manganese *	300	781	699
Sodium	20,000	35,200	40,600

Sample ID Sample Date Parameters (ug/l)	NYSDEC AWQS	MW-3 01/23/2002	MW-3 04/05/2002
VOCs			
cis-1,2-Dichloroethene	5	17.1	35.4
Trichloroethene	5	11.8	22.0
Vinyl Chloride	2	6.41	6.78
SVOCs			
Bis (2-ethylhexyl)phthalate	5	26.2	--
Pesticides		--	--
PCBs Total	0.09	--	--
Metals			
Antimony	3	--	8.0
Selenium	10	15.2	--
Thallium	0.5	20.9	--

Sample ID Sample Date Parameters (ug/l)	NYSDEC AWQS	MW-4B 01/22/2002	MW-4B 04/05/2002
VOCs		BC	BC
SVOCs		--	BC
Pesticides		--	--
PCBs Total	0.09	--	--
Metals			
Aluminum	200(1)	545	2,680
Antimony	3	9.1	BC
Iron *	300	733	1,600
Sodium	20,000	88,200	144,000

Sample ID Sample Date Parameters (ug/l)	NYSDEC AWQS	MW-5 01/24/2002	MW-5 04/04/2002
VOCs (NOTE 1)			
1,4-Dichlorobenzene	3	4.49	6.42
SVOCs (NOTE 1)		--	--
1,4-Dichlorobenzene	3	--	3.88
Pesticides		--	BC
PCBs Total	0.09	--	--
Metals			
Aluminum	200(1)	501	206
Antimony	3	27.5	7.7
Arsenic	25	32.6	33.6
Iron *	300	18,300	15,200
Magnesium **	35,000	69,300	70,400
Manganese *	300	822	1,010
Sodium	20,000	27,900	27,000

Sample ID Sample Date Parameters (ug/l)	NYSDEC AWQS	MW-4 01/22/2002	Duplicate (MW-4) Dup-012202 01/22/2002	MW-4 04/04/2002	Duplicate (MW-4) Dup-012202 04/04/2002
VOCs					
1,1-Dichloroethane	5	5.89	5.64	6.37	6.49
1,2-Dichloroethane	0.6	--	--	3.42	3.5
Benzene	1	5.03	4.86	3.09	3.2
Chloroethane	5	8.94	8.25	6.36	6.4
SVOCs		--	--	--	--
Pesticides					
beta-BHC	0.04	0.845	0.966	R	R
PCBs Total	0.09	--	--	--	--
Metals					
Aluminum	200(1)	358	297	5,180	2,890
Antimony	3	14.9	16.3	4.4	6.0
Arsenic	25	42.3	45.3	58.8	58.9
Iron *	300	11,100	11,400	26,200	26,500
Magnesium **	35,000	80,400	84,400	91,500	92,800
Manganese	300	BC	BC	501	418
Selenium	10	--	11.9	13	11.4
Sodium	20,000	33,600	35,700	31,000	28,900

LEGEND

◆ MONITORING WELL LOCATION

(1) EPA SECONDARY DRINKING WATER STANDARD (SUMMER 2000)

VOCs = VOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8260B

SVOCs = SEMIVOLATILE ORGANIC COMPOUND BY EPA METHOD 8270C

PESTICIDES BY EPA METHOD 8081A

PCBs = POLYCHLORINATED BIPHENYLS BY EPA METHOD 8082

METALS BY EPA METHOD 200.7

* TOTAL IRON AND MANGANESE STANDARD = 500 UG/L

** CONCENTRATION OF MAGNESIUM IS A NYSDEC GUIDANCE VALUE, NOT A STANDARD

-- = UNDETECTED

BC = BELOW CRITERION

R = REJECTED DATA

NOTES:

1. MW-5 GROUNDWATER SAMPLE RESULTS FOR 1,4-DICHLOROBENZENE SHOWN BOTH USING SW-846 METHOD 8260B (VOCs) AND METHOD 8270C (SVOCs). THE DIFFERENCE IN CONCENTRATIONS IS ATTRIBUTED TO THE USE OF DIFFERENT ANALYTICAL METHODOLOGIES.
2. ONLY THOSE ANALYTES WHOSE CONCENTRATIONS EXCEED THE NYSDEC AMBIENT WATER QUALITY STANDARDS (AWQS): TOGS 1.1.1, JUNE 1998 AND 6 NYCRR PART 703, AUGUST 1999 ARE SHOWN.

0 30 60 120
SCALE (FEET)

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
AMENIA TOWN LANDFILL
AMENIA, NEW YORK

URS
WAYNE, NEW JERSEY

DR. BY ET	SCALE AS SHOWN	DWG. NO. 14141003	PROJ. NO. 1E04141
CK'D. BY PN	DATE MAR. 15, 2002	FIG. NO. 5-2	

FIGURE 6

Summary of Sediment Analytical Results
(URS Drawing No. 14141013)

ONLY THOSE ANALYTES THAT EXCEED THE CITED CRITERIA ARE SHOWN.

LEGEND

◎ SEDIMENT SAMPLE LOCATION

◩ SEDIMENT SAMPLE LOCATION WITH SURFACE WATER SAMPLE LOCATION

SEDIMENT SAMPLES COLLECTED FROM 0 TO 6 INCHES.
"A" SAMPLES (E.G., SD-2A) COLLECTED FROM 18 TO 24 INCHES.

NYSDEC SEDIMENT CRITERIA

	NYSDEC HHC (ug/kgOC)	NYSDEC WC (ug/kgOC)
VOCs (ug/kg)	*	
SVOCs (ug/kg)		
BEHP	NC	199.5
Total PCBs (ug/kg)	0.8	1,400
Inorganics (mg/kg)	**LEL**	**SEL**
Antimony	2	25
Arsenic	6	33
Cadmium	0.6	9
Chromium	26	110
Copper	16	110
Iron	2%	4%
Lead	31	110
Manganese	460	1100
Mercury	0.15	1.3
Nickel	16	50
Silver	1	2.2
Zinc	120	270

* OF THE DETECTED VOCS – THERE WERE EITHER NO NYSDEC CRITERIA OR CONCENTRATIONS WERE BELOW CRITERIA

KEY

--- = UNDETECTED
BC = BELOW CRITERION
NC = NO CRITERION
HHC = HUMAN HEALTH BIOACCUMULATION CRITERIA
WC = WILDLIFE BIOACCUMULATION CRITERIA
LEL = LOWEST EFFECT LEVEL
SEL = SEVERE EFFECT LEVEL
NYSDEC TECHNICAL GUIDANCE FOR SCREENING CONTAMINATED SEDIMENTS, LAST REVISED JANUARY 25, 1999

NOTE:

(1) % MOISTURE OF SAMPLES SD-11-2 THROUGH SD-15-2 AND SD-12-3/SD-14-3 RANGED FROM 90.1 TO 91.8%. EPA REGION II VALIDATION GUIDELINES RECOMMENDS REJECTING DATA IN SOIL SAMPLES WITH % MOISTURE GREATER THAN 90%.

	SD-12-3 5/15/02
(1) Inorganics (mg/kg)	
Antimony	4.1
Arsenic	6.1
Copper	21.3
Iron	2.3%
Lead	51.2
Mercury	0.19

	SD-11-3 5/15/02
Inorganics (mg/kg)	
Antimony	5.2
Copper	22.1
Iron	2.7%
Manganese	522
Nickel	17.3

	SD-9-3 5/15/02
Inorganics (mg/kg)	
Antimony	6.2
Arsenic	9.1
Copper	31.6
Iron	3.1%
Manganese	842
Mercury	0.20
Nickel	31.1

	SD-UP1 05/14/02
VOCs (ug/kg)	---
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Arsenic	8.4
Copper	28.7
Iron	7.6%
Manganese	1120
Nickel	78.5
Zinc	225

	SD-UP2 05/14/02
VOCs (ug/kg)	NA
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Arsenic	6.7
Copper	26.2
Iron	6.0%
Manganese	1270
Nickel	59.2
Zinc	170

	SD-UP2A 05/14/02
VOCs (ug/kg)	NA
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Arsenic	6.3
Copper	23.8
Iron	6.6%
Manganese	958
Nickel	75.3
Zinc	206

	SD-3-3 5/15/02
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Antimony	2.8
Arsenic	7.3
Cadmium	0.64
Copper	20.9
Iron	2.9%
Lead	44.6
Manganese	634
Mercury	0.23
Nickel	27.8
Zinc	144

	SD-4-2 5/15/2002
Total PCBs (ug/kg)	5,280
Inorganics (mg/kg)	
Arsenic	10.5
Copper	34.3
Iron	3.3%
Lead	78.6
Mercury	0.23
Nickel	30.1
Zinc	233

	SD-11-2 5/15/2002
(1) Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Arsenic	12.1
Copper	22.6
Iron	2.9%
Lead	48.0
Mercury	0.19
Nickel	18
Silver	1.0
Zinc	125

	SD-10-2 5/15/2002
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Copper	29.6
Iron	2.9%
Manganese	711
Nickel	28.7

	SD-9-2 5/15/2002
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Arsenic	9.3
Copper	31.5
Iron	3.1%
Lead	33.2
Manganese	511
Nickel	28.7

	SD-7-3 5/15/02
Inorganics (mg/kg)	
Antimony	7.0
Arsenic	8.1
Copper	25.3
Iron	2.8%
Manganese	967
Mercury	0.15
Nickel	22.0

	SD-6-3 5/15/02
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Antimony	7.6
Arsenic	8.8
Copper	25.9
Iron	2.9%
Lead	38.3
Manganese	1310
Nickel	21.8

	SD-4-3 5/15/02
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Manganese	565

	SD-10-3 5/15/02
Inorganics (mg/kg)	
Antimony	4.7
Copper	31.5
Iron	2.7%
Manganese	764
Nickel	28.3

	SD-8-3 5/15/02
Inorganics (mg/kg)	
Antimony	6.1
Arsenic	9.6
Copper	25.1
Iron	2.7%
Lead	34.2
Manganese	774
Nickel	24.1

	SD-6-2 5/15/2002
Total PCBs (ug/kg)	403
Inorganics (mg/kg)	
Arsenic	8.5
Copper	36.7
Iron	3.6%
Lead	70.1
Manganese	627
Mercury	0.21
Nickel	30.4
Silver	1.1
Zinc	186

	SD-5-3 5/15/02
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Antimony	2.0
Arsenic	6.8
Manganese	496
Nickel	22.5

	SD-5-2 5/15/2002
Total PCBs (ug/kg)	2,100
Inorganics (mg/kg)	
Arsenic	8.2
Copper	28.5
Iron	3.0%
Lead	70.3
Manganese	478
Mercury	0.15
Nickel	24.8
Silver	1.6
Zinc	233

	SD-2-3 5/15/02
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Antimony	3.5
Arsenic	9.7
Copper	24.2
Iron	2.8%
Lead	45.2
Manganese	729
Mercury	0.16
Nickel	26.5
Zinc	131

	SD-1-3 5/15/02
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Antimony	5.9
Arsenic	9.1
Copper	28.1
Iron	4.7%
Lead	33.6
Manganese	2060
Nickel	50.4
Zinc	169

	SD-14-3 5/15/02
(1) Inorganics (mg/kg)	
Antimony	7.5
Arsenic	6.1
Lead	33.1

	SD-15-3 5/15/02
Inorganics (mg/kg)	
Antimony	4.8

	SD-3-2 5/15/2002
Total PCBs (ug/kg)	4,930
Inorganics (mg/kg)	
Arsenic	9.2
Copper	48.2
Iron	3.3%
Lead	58.3
Manganese	1500
Nickel	37.9
Zinc	163

	SD-2-2 5/15/2002
Total PCBs (ug/kg)	4,300
Inorganics (mg/kg)	
Arsenic	12.4
Copper	52.2
Iron	4.2%
Lead	70.4
Nickel	39.4
Zinc	201

	SD-N3 05/16/02
Total PCBs (ug/kg)	555
Inorganics (mg/kg)	
Arsenic	6.3
Iron	7.9%
Manganese	2540
Nickel	62.7
Zinc	205

	SD-N3A 05/16/02
Total PCBs (ug/kg)	251
Inorganics (mg/kg)	
Arsenic	6.5
Iron	8.8%
Manganese	1850
Nickel	85.4
Zinc	242

	SD-13-3 5/15/02
Inorganics (mg/kg)	
Antimony	6.8
Arsenic	6.8
Copper	22.8
Iron	2.2%
Nickel	18.2

	SD-15-2 5/15/2002
(1) Total PCBs (ug/kg)	---
(1) Inorganics (mg/kg)	
Cadmium	0.87
Lead	67.9

	SD-1-2 5/15/2002
Total PCBs (ug/kg)	1,273
Inorganics (mg/kg)	
Arsenic	10.6
Copper	35.7
Iron	3.6%
Lead	69.9
Manganese	756
Mercury	0.22
Nickel	40.7
Zinc	219

	SD-14-2 5/15/2002
(1) Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Copper	16.9
Lead	44.3
Mercury	0.31
Zinc	141

	SD-15 5/13/02
Total PCBs (ug/kg)	797
Inorganics (mg/kg)	
Cadmium	0.89
Copper	17.6
Lead	59.0
Mercury	0.20

	SD-N2 05/16/02
Total PCBs (ug/kg)	103.3
Inorganics (mg/kg)	
Copper	21.3
Iron	2.1%
Nickel	24.2

	SD-N4 05/16/02
Total PCBs (ug/kg)	333
Inorganics (mg/kg)	
Arsenic	7.2
Iron	8.1%
Manganese	5070
Nickel	80.2
Zinc	190

	SD-13-2 5/15/2002
(1) Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Cadmium	0.99
Copper	44.4
Lead	54.7
Mercury	0.46
Silver	2.0
Zinc	339

	SD-N1 05/16/02
Total PCBs (ug/kg)	1195
Inorganics (mg/kg)	
Iron	3.4%
Nickel	36.5
Zinc	128

	SD-N5 05/16/02
Total PCBs (ug/kg)	29
Inorganics (mg/kg)	
Arsenic	9.1
Iron	11.2%
Manganese	874
Nickel	142
Zinc	350

	SD-14 5/13/02
Total PCBs (ug/kg)	1,850
Inorganics (mg/kg)	
Cadmium	2.5
Copper	87.8
Lead	70.8
Mercury	1.2
Silver	3.3
Zinc	575

	SD-12-2 5/15/2002
(1) Total PCBs (ug/kg)	---
(1)Inorganics (mg/kg)	
Copper	20.3
Lead	42.3
Mercury	0.29
Zinc	133

	SD-1 5/13/02
Total PCBs (ug/kg)	4,800
Inorganics (mg/kg)	
Copper	21.8
Nickel	22.2

	SD-N5A 05/16/02
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Arsenic	13.9
Iron	3.9%
Nickel	36.4

	SD-2 5/13/02
Total PCBs (ug/kg)	13,790
Inorganics (mg/kg)	
Arsenic	7.5
Cadmium	0.66
Copper	42.0
Iron	2.4%
Lead	49.0
Manganese	570
Nickel	30.7
Zinc	155

	SD-N6 05/16/02
Total PCBs (ug/kg)	193
Inorganics (mg/kg)	
Arsenic	6.1
Iron	6.2%
Manganese	2970
Nickel	60.6
Zinc	158

	SD-N7 05/16/02
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Arsenic	6.1
Iron	6.7%
Manganese	3210
Nickel	66.2
Zinc	172

	SD-13A
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Cadmium	3.8
Copper	180
Lead	131
Mercury	2.5
Silver	7.3
Zinc	603

	SD-13 5/13/02
Total PCBs (ug/kg)	553
Inorganics (mg/kg)	
Arsenic	7.3
Cadmium	3.2
Copper	166
Lead	121
Mercury	1.9
Silver	5.4
Zinc	977

	SD-2A 5/13/02
Total PCBs (ug/kg)	11,990
Inorganics (mg/kg)	
Arsenic	6.5
Cadmium	0.75
Copper	39.6
Iron	2.5%
Lead	54.8
Manganese	624
Nickel	29.2
Zinc	150

	SD-N8 05/16/02
Total PCBs (ug/kg)	291
Inorganics (mg/kg)	
Arsenic	6.0
Copper	21.0
Iron	6.5%
Manganese	2270
Nickel	69.6
Zinc	182

	SD-3 5/13/02
Total PCBs (ug/kg)	18,440
Inorganics (mg/kg)	
Arsenic	7.3
Cadmium	0.80
Copper	35.9
Lead	64.5
Manganese	609
Nickel	16.4
Zinc	177

	SD-12 5/13/02
Total PCBs (ug/kg)	253
Inorganics (mg/kg)	
Cadmium	2.9
Copper	49.7
Lead	71.4
Mercury	0.81
Silver	2.4
Zinc	587

	SD-10 5/13/02
Total PCBs (ug/kg)	94
Inorganics (mg/kg)	
Arsenic	11.3

	SD-11 5/13/02
Total PCBs (ug/kg)	318
Inorganics (mg/kg)	
Arsenic	11.5
Cadmium	1.8
Copper	86.4
Iron	2.8%
Lead	205
Mercury	0.58
Nickel	35.3
Silver	5.0
Zinc	377

	SD-9 5/13/02
Total PCBs (ug/kg)	334
Inorganics (mg/kg)	
Arsenic	8.4
Cadmium	0.66
Iron	2.0%
Lead	46.0
Manganese	1740
Mercury	0.26

	SD-8-2 5/15/2002
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Arsenic	6.3
Copper	19.5
Iron	2.9%
Manganese	991
Nickel	20.6

	SD-8 5/13/02
Total PCBs (ug/kg)	851
Inorganics (mg/kg)	
Arsenic	14.4
Cadmium	1.0
Copper	27.1
Iron	3.3%
Lead	63.4
Manganese	733
Mercury	0.53
Nickel	21.3
Zinc	150

	SD-7 5/13/02
Total PCBs (ug/kg)	1,052
Inorganics (mg/kg)	
Cadmium	1.10
Copper	48.9
Iron	2.1%
Lead	95.2
Manganese	474
Mercury	0.53
Nickel	16.1
Zinc	212

	SD-7A 5/13/02
Total PCBs (ug/kg)	129.6
Inorganics (mg/kg)	
Cadmium	0.83
Copper	28.6
Lead	47.3
Mercury	0.27
Zinc	150

	SD-7-2 5/15/2002
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Arsenic	8.1
Copper	17.0
Iron	2.7%
Lead	41.0
Manganese	830
Mercury	0.26
Nickel	16.1

	SD-6 5/13/02
Total PCBs (ug/kg)	6,750
Inorganics (mg/kg)	
Arsenic	6.9
Cadmium	0.70
Copper	39.7
Iron	2.0%
Lead	75.3
Manganese	691
Mercury	0.15
Nickel	17.4
Zinc	141

	SD-OF6 05/14/02
VOCs (ug/kg)	BC
SVOCs (ug/kg)	
BEHP	---
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Arsenic	7.1
Copper	21.2
Iron	2.8%
Manganese	1370
Nickel	24.1

	SD-OF4 05/14/02	Duplicate SD-OF4B 05/14/02
VOCs (ug/kg)	BC	BC
SVOCs (ug/kg)		
BEHP	---	---
Total PCBs (ug/kg)	729	429
Inorganics (mg/kg)		
Arsenic	16.7	17.4
Copper	36.4	36.3
Iron	5.5%	5.8%
Lead	48.9	51.2
Manganese	1610	1880
Mercury	BC	0.16
Nickel	46.3	46.9
Zinc	158	163

	SD-OF4A 05/14/02
VOCs (ug/kg)	BC
SVOCs (ug/kg)	
BEHP	---
Total PCBs (ug/kg)	87.9
Inorganics (mg/kg)	
Arsenic	26.9
Copper	29.5
Iron	4.6%
Lead	46.6
Manganese	967
Mercury	0.17
Nickel	38.0
Zinc	146

	SD-UP4 05/14/02
VOCs (ug/kg)	---
SVOCs (ug/kg)	
BEHP	---
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Copper	20.6
Iron	2.3%
Manganese	1340
Nickel	22.0

	SD-UP4A 05/14/02
VOCs (ug/kg)	BC
SVOCs (ug/kg)	
BEHP	---
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Copper	20.1
Iron	2.1%
Manganese	633
Nickel	21.9

	SD-UP3 05/14/02
VOCs (ug/kg)	---
SVOCs (ug/kg)	
BEHP	---
Total PCBs (ug/kg)	---
Inorganics (mg/kg)	
Arsenic	7.2
Copper	23.0
Iron	2.9%
Manganese	1630
Nickel	27.6

	SD-OF5 05/14/02
VOCs (ug/kg)	BC
SVOCs (ug/kg)	
BEHP	---
Total PCBs (ug/kg)	223
Inorganics (mg/kg)	
Arsenic	23.0
Copper	31.3
Iron	6.0%
Manganese	1310
Nickel	31.0

	SD-OF3 05/14/02
VOCs (ug/kg)	BC
SVOCs (ug/kg)	
BEHP	---
Total PCBs (ug/kg)	815
Inorganics (mg/kg)	
Arsenic	8.0
Copper	23.8
Iron	4.4%
Lead	33.3
Manganese	1940
Nickel	37.0

	SD-OF2 05/14/02
VOCs (ug/kg)	BC
SVOCs (ug/kg)	
BEHP	---
Total PCBs (ug/kg)	590
Inorganics (mg/kg)	
Arsenic	10.3
Copper	31.3
Iron	5.8%
Lead	40.3
Manganese	2830
Nickel	49.8
Zinc	169

	SD-OF1 05/14/02
VOCs (ug/kg)	BC
SVOCs (ug/kg)	
BEHP	---
Total PCBs (ug/kg)	395
Inorganics (mg/kg)	
Arsenic	7.6
Copper	23.9
Iron	7.6 %
Lead	62.7
Manganese	2030
Nickel	87.5
Zinc	231

	SD-4 5/13/02	SD-4C Duplicate 05/14/02
Total PCBs (ug/kg)	19,280	22,400
Inorganics (mg/kg)		
Cadmium	0.93	BC
Copper	41.2	31.2
Iron	2.0%	BC
Lead	73.5	35.6
Manganese	731	BC
Nickel	20.6	17.5
Zinc	130	BC

	SD-5 5/13/02
Total PCBs (ug/kg)	25,100
Inorganics (mg/kg)	
Arsenic	6.4
Cadmium	1.40
Copper	46.1
Lead	83.0
Manganese	620
Mercury	0.24
Nickel	18.3
Zinc	166

POND

APPROXIMATE PROPERTY BOUNDARY

AMENIA STREAM

PZ 2

PZ 3

SD-1 SD-2 SD-2A SD-3 SD-4 SD-5 SD-6 SD-7 SD-8 SD-9 SD-10 SD-11 SD-12 SD-13 SD-13A SD-14 SD-15 SD-1-2 SD-1-3 SD-2-2 SD-2-3 SD-3-2 SD-3-3 SD-4-2 SD-4-3 SD-5-2 SD-5-3 SD-6-2 SD-6-3 SD-7-2 SD-7-3 SD-8-2 SD-8-3 SD-9-2 SD-9-3 SD-10-2 SD-10-3 SD-11-2 SD-11-3 SD-12-2 SD-12-3 SD-14-2 SD-14-3 SD-15-2 SD-15-3 SD-UP1 SD-UP2 SD-UP2A SD-UP3 SD-UP4 SD-4A SD-4B SD-OF1 SD-OF2 SD-OF3 SD-OF4 SD-OF4A SD-OF5 SD-OF6 SD-N1 SD-N2 SD-N3 SD-N3A SD-N4 SD-N5 SD-N5A SD-N6 SD-N7 SD-N8 SW-1 SW-2 SW-3 SW-4 SW-5 SW-6 SW-7 SW-8 STG-6 STG-7

0 40 80 160
SCALE (FEET)

SUMMARY OF SEDIMENT ANALYTICAL RESULTS
AMENIA TOWN LANDFILL
AMENIA, NEW YORK

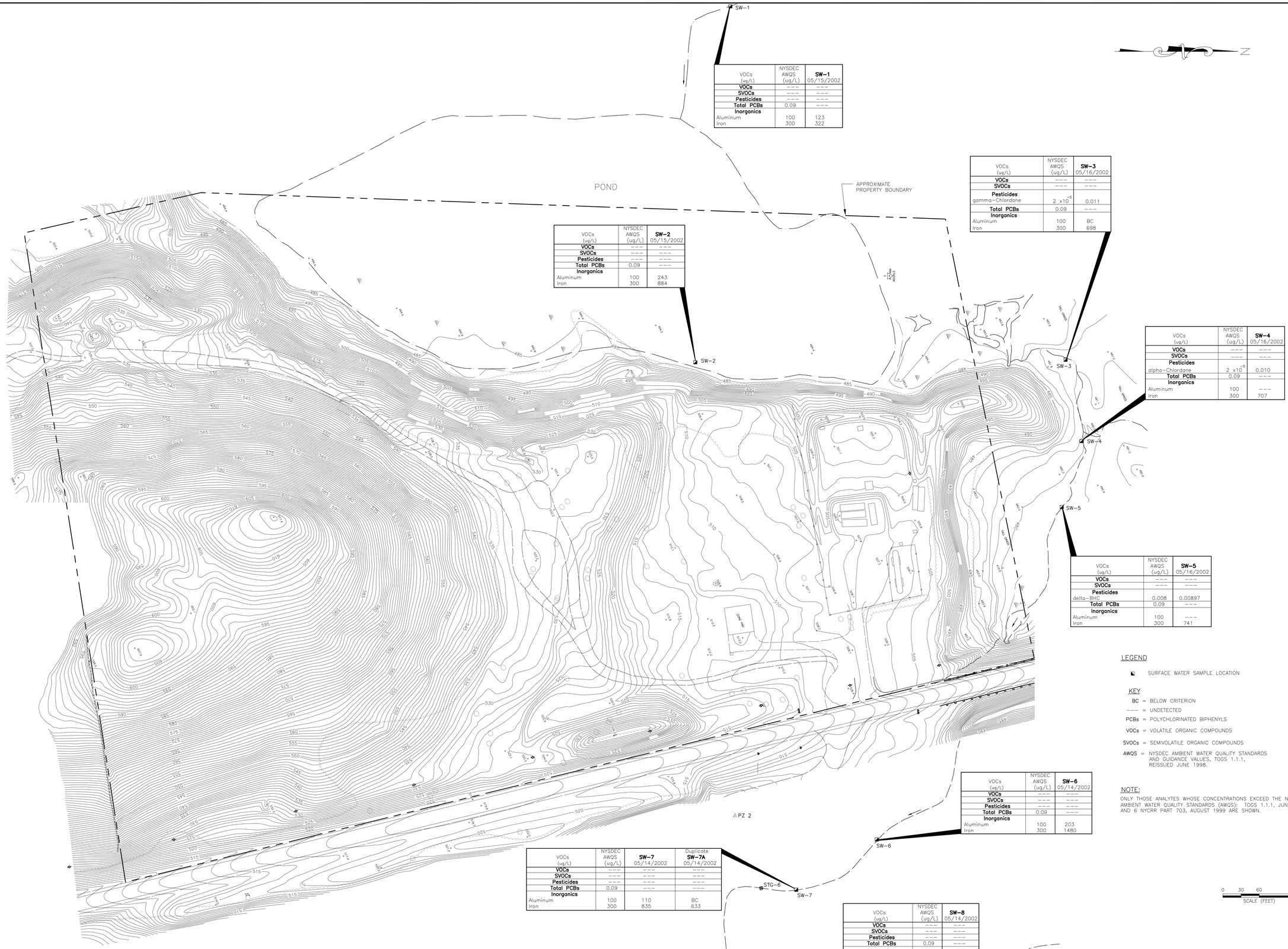
URS
WAYNE, NEW JERSEY

DR. BY	ET	SCALE	AS SHOWN	DWG. NO. 14141013	PROJ. NO. 1E04141
CK'D. BY	PN	DATE	FEB 27, 2002	FIG. NO.	5-4

K:\Cadd\1E04141\AMENIA\14141013.dwg, 5/23/2005 1:33:24 PM

FIGURE 7

Surface Water Analytical Results
(URS Drawing No. 1414011)



VOCs (ug/L)	NYSDEC AWQS (ug/L)	SW-1 05/15/2002
VOCs	---	---
SVOCs	---	---
Pesticides	---	---
Total PCBs	0.09	---
Inorganics		
Aluminum	100	123
Iron	300	322

VOCs (ug/L)	NYSDEC AWQS (ug/L)	SW-2 05/15/2002
VOCs	---	---
SVOCs	---	---
Pesticides	---	---
Total PCBs	0.09	---
Inorganics		
Aluminum	100	243
Iron	300	884

VOCs (ug/L)	NYSDEC AWQS (ug/L)	SW-3 05/16/2002
VOCs	---	---
SVOCs	---	---
Pesticides		
gamma-Chlordane	2×10^{-5}	0.011
Total PCBs	0.09	---
Inorganics		
Aluminum	100	BC
Iron	300	698

VOCs (ug/L)	NYSDEC AWQS (ug/L)	SW-4 05/16/2002
VOCs	---	---
SVOCs	---	---
Pesticides		
alpha-Chlordane	2×10^{-5}	0.010
Total PCBs	0.09	---
Inorganics		
Aluminum	100	---
Iron	300	707

VOCs (ug/L)	NYSDEC AWQS (ug/L)	SW-5 05/16/2002
VOCs	---	---
SVOCs	---	---
Pesticides		
delta-BHC	0.008	0.00897
Total PCBs	0.09	---
Inorganics		
Aluminum	100	---
Iron	300	741

VOCs (ug/L)	NYSDEC AWQS (ug/L)	SW-6 05/14/2002
VOCs	---	---
SVOCs	---	---
Pesticides	---	---
Total PCBs	0.09	---
Inorganics		
Aluminum	100	203
Iron	300	1480

VOCs (ug/L)	NYSDEC AWQS (ug/L)	SW-7 05/14/2002	Duplicate SW-7A 05/14/2002
VOCs	---	---	---
SVOCs	---	---	---
Pesticides	---	---	---
Total PCBs	0.09	---	---
Inorganics			
Aluminum	100	110	BC
Iron	300	835	633

VOCs (ug/L)	NYSDEC AWQS (ug/L)	SW-8 05/14/2002
VOCs	---	---
SVOCs	---	---
Pesticides	---	---
Total PCBs	0.09	---
Inorganics		
Aluminum	100	1020
Iron	300	2110

LEGEND

SURFACE WATER SAMPLE LOCATION

KEY

BC = BELOW CRITERION

--- = UNDETECTED

PCBs = POLYCHLORINATED BIPHENYLS

VOCs = VOLATILE ORGANIC COMPOUNDS

SVOCs = SEMIVOLATILE ORGANIC COMPOUNDS

AWQS = NYSDEC AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES, TOGS 1.1.1, REISSUED JUNE 1998.

NOTE:

ONLY THOSE ANALYTES WHOSE CONCENTRATIONS EXCEED THE NYSDEC AMBIENT WATER QUALITY STANDARDS (AWQS): TOGS 1.1.1, JUNE 1998 AND 6 NYCRR PART 703, AUGUST 1999 ARE SHOWN.

0 30 60 120

SCALE (FEET)

SURFACE WATER ANALYTICAL RESULTS
AMENIA TOWN LANDFILL
AMENIA, NEW YORK

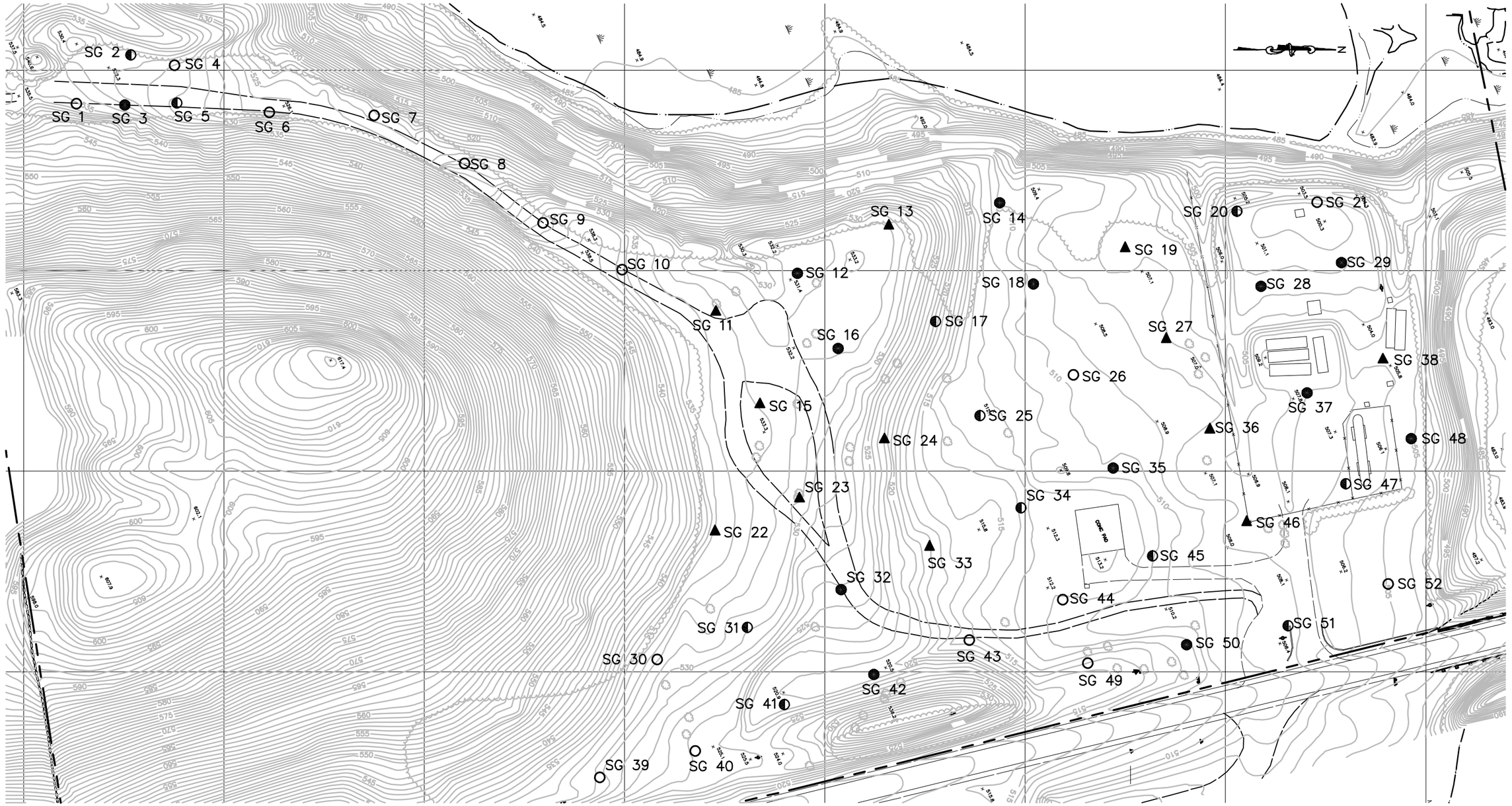
URS

WAYNE, NEW JERSEY

DR. BY	ET	SCALE	AS SHOWN	DWG. NO.	14141011	PROJ. NO. 1E04141
CK'D. BY	PN	DATE	AUG. 12, 2002	FIG. NO.	5-5

FIGURE 8

Soil Gas Data (URS Drawing No. 14141012)



SOIL GAS – TOTAL VOC CONCENTRATION
(mg/cubic meter)

- ○ 0 – 0.2
- ◐ 0.21 – 1
- ● 1.1 – 5
- ▲ 5 – 200

DATA COLLECTED
DECEMBER 2001

0 50 100 200
SCALE (FEET)

SOIL GAS DATA AMENIA TOWN LANDFILL AMENIA, NEW YORK			
URS WAYNE, NEW JERSEY			
DR. BY JL	SCALE AS SHOWN	DWG. NO. 14141012	PROJ. NO. 1E04141
CK'D. BY PN	DATE AUG 13, 2002	FIG. NO. 5-3	

FIGURE 9

Existing Conditions Plan
(C.T. Male Drawing No. 11-0390, Sheet 3 of 16)

LEGEND

ASTs	ABOVE GROUND STORAGE TANKS
CB	CATCH BASIN
EPED	ELECTRIC PEDESTAL
)	END SECTION
IPF	IRON PIPE FOUND
IRF	IRON ROD FOUND
MW	MONITORING WELL
OHWM	ORDINARY HIGH WATER MARK IDENTIFIED DURING WETLANDS DELINEATION ON SITE
PZ-1	PIEZOMETER LOCATION
SMON	SQUARE CONCRETE MONUMENT FOUND
TEL. MARKER	TELEPHONE MARKER
NYT43	UTILITY POLE
W2-5	WETLAND FLAG ID, TYPICAL
VS1-6	VEGETATIVE SHALLOWS WETLAND FLAG ID, TYPICAL
	EXISTING GRADE CONTOURS (1 FOOT INTERVAL)
	EXISTING GRADE CONTOURS (5 FOOT INTERVAL)
	APPROXIMATE EXISTING LIMIT OF LANDFILL WASTE BASED ON TEST PITS ADVANCED DURING RI/FS AND PDI
	SEDIMENT TOP ELEVATION CONTOURS (1 FOOT INTERVAL) APRIL AND MAY 2008, AND APRIL, AUG. AND OCT. 2009 (TYPICAL)
TP-PDI2	TEST PIT LOCATION AND ID ADVANCED DURING PRE-DESIGN INVESTIGATION IN MARCH 2008 (3± FEET WIDE), TYPICAL
TP-PDI6-S3	TEST PIT ID STAKE CORRESPONDING TO PRE-DESIGN INVESTIGATION (PDI) TEST PIT LOG, TYPICAL
	LIMIT OF STRAW EROSION BLANKET, MARCH 2008
TP-2	TEST PIT LOCATION AND ID ADVANCED BY OTHERS DURING RI/FS IN OCTOBER 2003 (2± FEET WIDE), TYPICAL
SS-W4	EXISTING SURFACE SOIL SAMPLING LOCATION EVALUATED PER TSCA REQUIREMENTS
	LIMIT OF CONTAMINATED SEDIMENT
AREA #2	APPROXIMATE LOCATION AND ID OF DRUMS AND/OR CONTAINERS OF WASTE IDENTIFIED DURING THE PRE-DESIGN INVESTIGATION, TYPICAL

MAP NOTES

1. NORTH ORIENTATION AND BEARINGS ARE GRID NORTH BASED ON THE NEW YORK STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD 83 OBTAINED THROUGH GPS OBSERVATIONS. THE COORDINATES SHOWN HEREON ARE GRID COORDINATES.
2. VERTICAL DATUM SHOWN HEREON IS NAVD 88 PER TOPOGRAPHIC SURVEY PREPARED BY ROBINSON AERIAL SURVEYS, INC. FOR URS/WOODWARD CLYDE DATED MARCH 2000, FLIGHT DATE OF DECEMBER 24, 1999, JOB NUMBER 99114.
3. UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED FROM DATA OBTAINED FROM PREVIOUS MAPS AND RECORD DRAWINGS. SURFACE FEATURES SUCH AS CATCH BASIN RIMS, MANHOLE COVERS, WATER VALVES, GAS VALVES, ETC. ARE THE RESULT OF FIELD SURVEY UNLESS NOTED OTHERWISE. THERE MAY BE OTHER UNDERGROUND UTILITIES, THE EXISTENCE OF WHICH IS NOT KNOWN TO THE UNDERSIGNED. SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES MUST BE VERIFIED BY THE APPROPRIATE AUTHORITIES. DIG SAFELY NEW YORK MUST BE NOTIFIED PRIOR TO CONDUCTING TEST BORINGS, EXCAVATION AND CONSTRUCTION.
4. WETLANDS AND OTHER WATERS OF THE U.S. WERE DELINEATED ON JULY 24 AND JULY 26, 2007 BY A C.T. MALE ASSOCIATES, P.C. REPRESENTATIVE IN ACCORDANCE WITH THE 1987 CORPS OF ENGINEERS WETLAND DELINEATION MANUAL. THE LIMIT/EXTENT OF THE WETLANDS WERE NOT DELINEATED TO THE WEST AND NORTH OF THE PROPERTY. WETLAND FLAGS WERE FIELD LOCATED BY A C.T. MALE ASSOCIATES, P.C. SURVEY CREW ON AUGUST 6 THROUGH 10, 2007.

MAP REFERENCES

1. "BOUNDARY SURVEY LANDS NOW OR FORMERLY OF TOWN OF AMENIA 4541 NEW YORK STATE ROUTE 22" TOWN OF AMENIA, DUTCHESS COUNTY, NEW YORK, PREPARED BY C.T. MALE ASSOCIATES, P.C. DATED AUGUST 10, 2007, DWG. NO. 07-820.
2. TOPOGRAPHIC SURVEY PREPARED BY ROBINSON AERIAL SURVEYS, INC. PREPARED FOR URS/WOODWARD CLYDE DATED MARCH 2000, FLIGHT DATE OF DECEMEBER 24, 1999, JOB NUMBER 99114.
3. "OCTOBER 2003 TEST PIT LOCATIONS AMENIA TOWN LANDFILL RI/FS AMENIA, NEW YORK" PREPARED BY URS, WAYNE NEW JERSEY DATED 11/2003, PROJECT NO. 19683595.003B1, FIGURE 2-1.
4. "PROPOSED AREAL EXTENT OF LANDFILL CAP, AMENIA TOWN LANDFILL, AMENIA, NEW YORK" PREPARED BY URS, WAYNE, NEW JERSEY DATED APRIL 12, 2005, PROJECT NO. 1E04141, DRAWING NO. 5-1.

BAR SCALE
50 0 25 50 100
1 inch = 50 ft.

ELIZABETH W. ROVERS
P.E. 72442
STATE OF NEW YORK
ELIZABETH WILLEY ROVERS
072442
LICENSED PROFESSIONAL ENGINEER

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
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PROJ. NO: 07.7052
SCALE : 1"=50'
DATE : JAN. 19, 2012

EXISTING CONDITIONS PLAN

AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

TOWN OF AMENIA — DUTCHESS COUNTY, NEW YORK

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Engineering, Surveying, Architecture & Landscape Architecture, P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110
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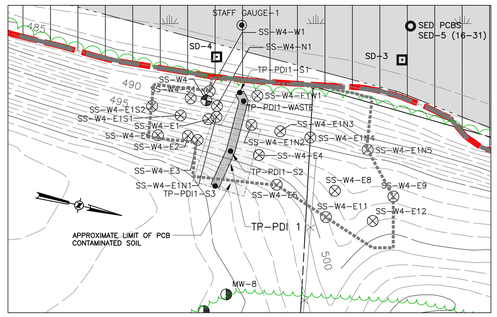
P1

SHEET 3 OF 16
DWG. NO: 11-0390

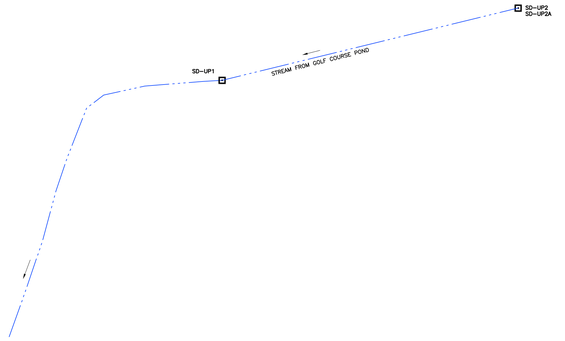
CAD DWG. FILE NAME: 03-ALF-RC-P1 EX COND.DWG

FIGURE 10

Sampling Locations Map Pre-Design Investigation (C.T. Male Drawing No. 11-0390, Sheet 4 of 16)



1 / P2 **PCB CONTAMINATED SOIL SAMPLING LOCATIONS**
SCALE: 1"=20'
CROSS REFERENCE: NONE



LEGEND

ASTs	ABOVE GROUND STORAGE TANKS
CB	CATCH BASIN
EPED	ELECTRIC PEDESTAL
)	END SECTION
IPF	IRON PIPE FOUND
IRF	IRON ROD FOUND
MW	MONITORING WELL
OHWM	ORDINARY HIGH WATER MARK IDENTIFIED DURING WETLANDS DELINEATION ON SITE
SMON	SQUARE CONCRETE MONUMENT FOUND
TEL. MARKER	TELEPHONE MARKER
NYT43	UTILITY POLE
W2-5	WETLAND FLAG ID, TYPICAL
VS1-6	VEGATATIVE SHALLOWS WETLAND FLAG ID, TYPICAL
TP-PDI 2	TEST PIT LOCATION AND ID ADVANCED DURING PRE-DESIGN INVESTIGATION (PDI) IN MARCH 2008 (3± FEET WIDE), TYPICAL
TP-PD6-S3	TEST PIT ID STAKE CORRESPONDING TO PRE-DESIGN INVESTIGATION (PDI) TEST PIT LOG, TYPICAL
	LIMIT OF STRAW EROSION BLANKET, MARCH 2008
TP-2	TEST PIT LOCATION AND ID ADVANCED BY OTHERS DURING RI/FS IN OCTOBER 2003 (2± FEET WIDE), TYPICAL
	APPROXIMATE LIMIT OF LANDFILL WASTE BASED ON TEST PITS ADVANCED DURING RI/FS AND PDI
	EXISTING GRADE CONTOURS (1 FOOT INTERVAL)
	EXISTING GRADE CONTOURS (5 FOOT INTERVAL)
SS-W4	EXISTING SURFACE SOIL SAMPLING LOCATION EVALUATED PER TSCA REQUIREMENTS
SS-W4-N1	PRE-DESIGN INVESTIGATION (PDI) SURFACE SOIL SAMPLING LOCATION AND ID, ANALYZED FOR PCBS, MAY 2008, APRIL 2009, AUGUST 2009, OCTOBER 2009 AND NOVEMBER 2009 (TYPICAL)
SED PCBS SED-11 (0-13) SED-11 (13-27)	PRE-DESIGN INVESTIGATION (PDI) SEDIMENT SAMPLE LOCATION AND ID, AND DEPTH INTERVAL FROM TOP OF SEDIMENT SURFACE IN INCHES, ANALYZED FOR TCL PCBS, MAY 2008 AND APRIL 2009 (TYPICAL)
SED METALS SED-17 (0-10) SED-17 (10-19)	PRE-DESIGN INVESTIGATION (PDI) SEDIMENT SAMPLE LOCATION AND ID, AND DEPTH INTERVAL, FROM TOP OF SEDIMENT SURFACE IN INCHES, ANALYZED FOR TAL METALS, MAY 2008, APRIL 2009, AUGUST 2009 AND OCTOBER 2009 (TYPICAL)
SD-10	SEDIMENT SAMPLE LOCATION AND ID COLLECTED BY OTHERS DURING RI IN MAY AND AUGUST 2002, TYPICAL
	AREA ESTIMATED DURING RI/FS AND PRE-DESIGN INVESTIGATION THAT REQUIRES INORGANICS CLEANUP
	AREA ESTIMATED DURING RI/FS AND PRE-DESIGN INVESTIGATION THAT REQUIRES PCB CLEANUP
	LIMIT OF CONTAMINATED SEDIMENT

VEGETATIVE SHALLOWS (OPEN WATER)

PROPERTY LINE

LANDS NOW OR FORMERLY OF **HIGHER GROUND COUNTRY CLUB, LLC**

EDGE OF WETLAND

WETLAND NO. 2 (EMERGENT)

WEST POND

VEGETATIVE SHALLOWS (OPEN WATER)

LIMIT OF CONTAMINATED SEDIMENT

APPROX. EDGE OF WETLAND BETWEEN FLAGS W2-9 AND W2-10

EDGE OF WOODS

LANDS NOW OR FORMERLY OF **TOWN OF AMENIA**

AMENIA TOWN LANDFILL

PCB CONTAMINATED SOIL SAMPLING LOCATIONS 1 / P2

EDGE OF WOODS PER FIELD LOCATION

GRAVEL AREA

AREA OF ASTs

AREA OF 55 GAL. DRUMS

SHED

LANDS NOW OR FORMERLY OF **HIGHER GROUND COUNTRY CLUB, LLC**

APPROX. EDGE OF WETLAND BETWEEN FLAGS W1-14 AND W2-15

APPROX. EDGE OF WETLAND BETWEEN FLAGS W1-7 AND W2-17

APPROXIMATE LOCATION OF UPPER BEAVER DAM TOP ELEV.=487.9± MAX.

APPROXIMATE LOCATION OF LOWER BEAVER DAM TOP ELEV.=484.7± MAX.

BEAVER DAM LOW POINT ELEV.=483.41

BEAVER DAM LOW POINT ELEV.=483.04

BENCHMARK SET SPIKE IN UP NYT 2 ELEV.=504.02

ELIZABETH W. ROVERS P.E. 72442
STATE OF NEW YORK — ELIZABETH WILLA ROVERS — 072443 — LICENSED PROFESSIONAL ENGINEER

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PROJ. NO: 07.7052
SCALE : 1"=30'
DATE : JAN. 19, 2012

SAMPLING LOCATIONS MAP PRE-DESIGN INVESTIGATION

AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

TOWN OF AMENIA — DUTCHESS COUNTY, NEW YORK

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P2
SHEET 4 OF 16
DWG. NO: 11-0390

FIGURE 11

Explosive Gas Temporary Subsurface Monitoring Points Sketch Map

XREFS: NONE

PROJECT NUMBER: 07.7052

LEGEND

EG-10 — APPROXIMATE LOCATION OF TEMPORARY SUBSURFACE EXPLOSIVE GAS MONITORING POINT LOCATION AND ID ADVANCED ON MARCH 22 AND 23, 2012 PRIOR TO START OF REMEDIAL CONSTRUCTION (TYPICAL)

10% LEL — PERCENT LOWER EXPLOSIVE LIMIT READING OBTAINED WITH Q-RAE 4-GAS METER (TYPICAL)

MAP REFERENCE:

1. "EXISTING CONDITIONS PLAN AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION", TOWN OF AMENIA, DUTCHESS COUNTY, NEW YORK PREPARED BY C.T. MALE ASSOCIATES, P.C. DATED JAN. 19, 2012, PROJECT NO. 07.7052, DRAWING NO. 11-0390.

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.
10/26/15	1	ADDED % LEL READINGS	MDD	EWR	EWR
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	3				
	4				
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SCALE : 1"=100'
DATE : SEPT. 1, 2015

EXPLOSIVE GAS TEMPORARY SUBSURFACE MONITORING POINTS SKETCH MAP

AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

TOWN OF AMENIA — DUTCHESS COUNTY, NEW YORK

C.T. MALE ASSOCIATES
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FIGURE

SHEET 1 OF 6

DWG. NO: 15-497

CAD DWG. FILE NAME: K:\Projects\07052\Env\Post-Construction Sampling Maps\Expl Gas Points 2012\EXPLOSIVE GAS TEMP SUBSURFACE MONITOR POINTS.dwg

CAD DWG. FILE NAME: EXPLOSIVE GAS TE

FIGURE 12

PCB Contaminated Soil and Contaminated Sediment Remediation Plan (C.T. Male Drawing No. 11-0390, Sheet 6 of 16, Revised 7/6/12)

1/P4 TYPICAL SECTION - NEAR DRY REMOVAL CONDITION USING EARTHEN BERM AS A HYDRAULIC BARRIER

SCALE: NTS
CROSS REFERENCE: P4

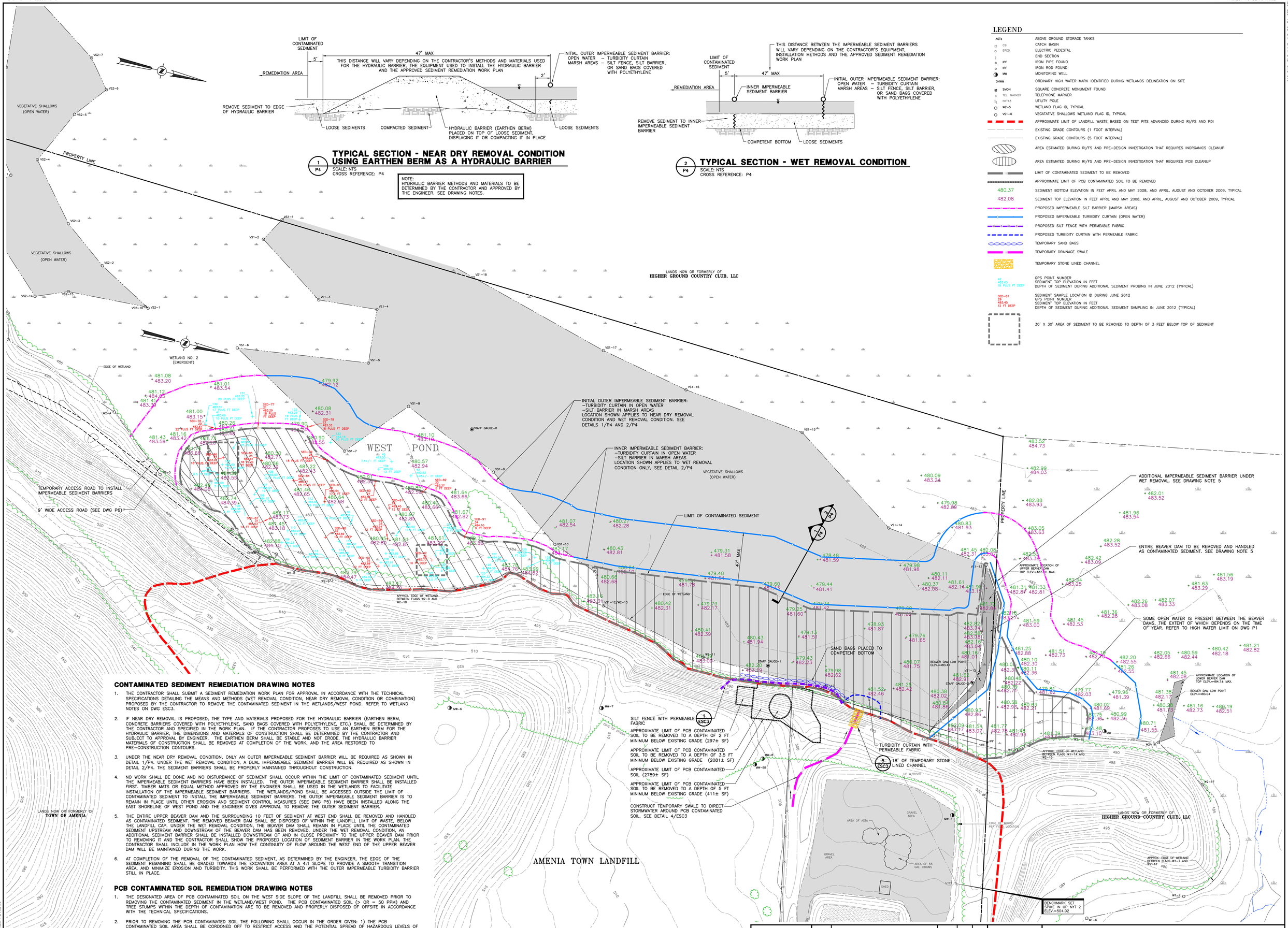
NOTE:
HYDRAULIC BARRIER METHODS AND MATERIALS TO BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. SEE DRAWING NOTES.

2/P4 TYPICAL SECTION - WET REMOVAL CONDITION

SCALE: NTS
CROSS REFERENCE: P4

LEGEND

- ASTs — ABOVE GROUND STORAGE TANKS
- CB — CATCH BASIN
- EPED — ELECTRIC PEDESTAL
- END SECTION
- IPF — IRON PIPE FOUND
- IRF — IRON ROD FOUND
- MW — MONITORING WELL
- OHWM — ORDINARY HIGH WATER MARK IDENTIFIED DURING WETLANDS DELINEATION ON SITE
- SMON — SQUARE CONCRETE MONUMENT FOUND
- TEL. MARKER — TELEPHONE MARKER
- NYT43 — UTILITY POLE
- W2-5 — WETLAND FLAG ID, TYPICAL
- VS1-6 — VEGATATIVE SHALLOWS WETLAND FLAG ID, TYPICAL
- APPROXIMATE LIMIT OF LANDFILL WASTE BASED ON TEST PITS ADVANCED DURING RI/FS AND PDI
- EXISTING GRADE CONTOURS (1 FOOT INTERVAL)
- EXISTING GRADE CONTOURS (5 FOOT INTERVAL)
- AREA ESTIMATED DURING RI/FS AND PRE-DESIGN INVESTIGATION THAT REQUIRES INORGANICS CLEANUP
- AREA ESTIMATED DURING RI/FS AND PRE-DESIGN INVESTIGATION THAT REQUIRES PCB CLEANUP
- LIMIT OF CONTAMINATED SEDIMENT TO BE REMOVED
- APPROXIMATE LIMIT OF PCB CONTAMINATED SOIL TO BE REMOVED
- 480.37 — SEDIMENT BOTTOM ELEVATION IN FEET APRIL AND MAY 2008, AND APRIL, AUGUST AND OCTOBER 2009, TYPICAL
- 482.08 — SEDIMENT TOP ELEVATION IN FEET APRIL AND MAY 2008, AND APRIL, AUGUST AND OCTOBER 2009, TYPICAL
- PROPOSED IMPERMEABLE SILT BARRIER (MARSH AREAS)
- PROPOSED IMPERMEABLE TURBIDITY CURTAIN (OPEN WATER)
- PROPOSED SILT FENCE WITH PERMEABLE FABRIC
- PROPOSED TURBIDITY CURTAIN WITH PERMEABLE FABRIC
- TEMPORARY SAND BAGS
- TEMPORARY DRAINAGE SWALE
- TEMPORARY STONE LINED CHANNEL
- 42 / 483.65 / 18 PLUS FT DEEP — GPS POINT NUMBER / SEDIMENT TOP ELEVATION IN FEET / DEPTH OF SEDIMENT DURING ADDITIONAL SEDIMENT PROBING IN JUNE 2012 (TYPICAL)
- SED-81 / 29 / 483.45 / 12 FT DEEP — SEDIMENT SAMPLE LOCATION ID DURING JUNE 2012 / GPS POINT NUMBER / SEDIMENT TOP ELEVATION IN FEET / DEPTH OF SEDIMENT DURING ADDITIONAL SEDIMENT SAMPLING IN JUNE 2012 (TYPICAL)
- 30' X 30' AREA OF SEDIMENT TO BE REMOVED TO DEPTH OF 3 FEET BELOW TOP OF SEDIMENT



CONTAMINATED SEDIMENT REMEDIATION DRAWING NOTES

1. THE CONTRACTOR SHALL SUBMIT A SEDIMENT REMEDIATION WORK PLAN FOR APPROVAL IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS DETAILING THE MEANS AND METHODS (WET REMOVAL CONDITION, NEAR DRY REMOVAL CONDITION OR COMBINATION) PROPOSED BY THE CONTRACTOR TO REMOVE THE CONTAMINATED SEDIMENT IN THE WETLANDS/WEST POND. REFER TO WETLAND NOTES ON DWG ESC3.
2. IF NEAR DRY REMOVAL IS PROPOSED, THE TYPE AND MATERIALS PROPOSED FOR THE HYDRAULIC BARRIER (EARTHEN BERM, CONCRETE BARRIERS COVERED WITH POLYETHYLENE, SAND BAGS COVERED WITH POLYETHYLENE, ETC.) SHALL BE DETERMINED BY THE CONTRACTOR AND SPECIFIED IN THE WORK PLAN. IF THE CONTRACTOR PROPOSES TO USE AN EARTHEN BERM FOR THE HYDRAULIC BARRIER, THE DIMENSIONS AND MATERIALS OF CONSTRUCTION SHALL BE DETERMINED BY THE CONTRACTOR AND SUBJECT TO APPROVAL BY ENGINEER. THE EARTHEN BERM SHALL BE STABLE AND NOT ERODE. THE HYDRAULIC BARRIER MATERIALS OF CONSTRUCTION SHALL BE REMOVED AT COMPLETION OF THE WORK, AND THE AREA RESTORED TO PRE-CONSTRUCTION CONTOURS.
3. UNDER THE NEAR DRY REMOVAL CONDITION, ONLY AN OUTER IMPERMEABLE SEDIMENT BARRIER WILL BE REQUIRED AS SHOWN IN DETAIL 1/P4. UNDER THE WET REMOVAL CONDITION, A DUAL IMPERMEABLE SEDIMENT BARRIER WILL BE REQUIRED AS SHOWN IN DETAIL 2/P4. THE SEDIMENT BARRIERS SHALL BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION.
4. NO WORK SHALL BE DONE AND NO DISTURBANCE OF SEDIMENT SHALL OCCUR WITHIN THE LIMIT OF CONTAMINATED SEDIMENT UNTIL THE IMPERMEABLE SEDIMENT BARRIERS HAVE BEEN INSTALLED. THE OUTER IMPERMEABLE SEDIMENT BARRIER SHALL BE INSTALLED FIRST. TIMBER MATS OR EQUAL METHOD APPROVED BY THE ENGINEER SHALL BE USED IN THE WETLANDS TO FACILITATE INSTALLATION OF THE IMPERMEABLE SEDIMENT BARRIERS. THE WETLANDS/POND SHALL BE ACCESSED OUTSIDE THE LIMIT OF CONTAMINATED SEDIMENT TO INSTALL THE IMPERMEABLE SEDIMENT BARRIERS. THE OUTER IMPERMEABLE SEDIMENT BARRIER IS TO REMAIN IN PLACE UNTIL OTHER EROSION AND SEDIMENT CONTROL MEASURES (SEE DWG P5) HAVE BEEN INSTALLED ALONG THE EAST SHORELINE OF WEST POND AND THE ENGINEER GIVES APPROVAL TO REMOVE THE OUTER SEDIMENT BARRIER.
5. THE ENTIRE UPPER BEAVER DAM AND THE SURROUNDING 10 FEET OF SEDIMENT AT WEST END SHALL BE REMOVED AND HANDLED AS CONTAMINATED SEDIMENT. THE REMOVED BEAVER DAM SHALL BE DISPOSED OF WITHIN THE LANDFILL LIMIT OF WASTE, BELOW THE LANDFILL CAP. UNDER THE WET REMOVAL CONDITION, THE BEAVER DAM SHALL REMAIN IN PLACE UNTIL THE CONTAMINATED SEDIMENT UPSTREAM AND DOWNSTREAM OF THE BEAVER DAM HAS BEEN REMOVED. UNDER THE WET REMOVAL CONDITION, AN ADDITIONAL SEDIMENT BARRIER SHALL BE INSTALLED DOWNSTREAM OF AND IN CLOSE PROXIMITY TO THE UPPER BEAVER DAM PRIOR TO REMOVING IT AND THE CONTRACTOR SHALL SHOW THE PROPOSED LOCATION OF SEDIMENT BARRIER IN THE WORK PLAN. THE CONTRACTOR SHALL INCLUDE IN THE WORK PLAN HOW THE CONTINUITY OF FLOW AROUND THE WEST END OF THE UPPER BEAVER DAM WILL BE MAINTAINED DURING THE WORK.
6. AT COMPLETION OF THE REMOVAL OF THE CONTAMINATED SEDIMENT, AS DETERMINED BY THE ENGINEER, THE EDGE OF THE SEDIMENT REMAINING SHALL BE GRADED TOWARDS THE EXCAVATION AREA AT A 4:1 SLOPE TO PROVIDE A SMOOTH TRANSITION AREA, AND MINIMIZE EROSION AND TURBIDITY. THIS WORK SHALL BE PERFORMED WITH THE OUTER IMPERMEABLE TURBIDITY BARRIER STILL IN PLACE.

PCB CONTAMINATED SOIL REMEDIATION DRAWING NOTES

1. THE DESIGNATED AREA OF PCB CONTAMINATED SOIL ON THE WEST SIDE SLOPE OF THE LANDFILL SHALL BE REMOVED PRIOR TO REMOVING THE CONTAMINATED SEDIMENT IN THE WETLAND/WEST POND. THE PCB CONTAMINATED SOIL (> OR = 50 PPM) AND TREE STUMPS WITHIN THE DEPTH OF CONTAMINATION ARE TO BE REMOVED AND PROPERLY DISPOSED OF OFFSITE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS.
2. PRIOR TO REMOVING THE PCB CONTAMINATED SOIL THE FOLLOWING SHALL OCCUR IN THE ORDER GIVEN: 1) THE PCB CONTAMINATED SOIL AREA SHALL BE CORDONED OFF TO RESTRICT ACCESS AND THE POTENTIAL SPREAD OF HAZARDOUS LEVELS OF PCBS, 2) THE TURBIDITY CURTAIN WITH PERMEABLE FABRIC SHALL BE INSTALLED WHERE SHOWN IN WEST POND, 3) THE TEMPORARY SWALE TO DIVERT STORMWATER AROUND THE PCB CONTAMINATED SOIL AND ITS ASSOCIATED STONED LINED CHANNEL SHALL BE CONSTRUCTED WHERE SHOWN, 4) THE SAND BAGS AND SILT FENCE WITH PERMEABLE FABRIC SHALL BE INSTALLED DOWNGRADIENT OF THE PCB CONTAMINATED SOIL AREA WHERE SHOWN, AND 5) THE SAND BAGS OR EQUAL METHOD APPROVED BY ENGINEER SHALL BE INSTALLED SO AS TO PREVENT THE WATER IN WEST POND FROM ENTERING THE SOIL EXCAVATION. AT COMPLETION OF USE, THE SAND BAGS SHALL BE DISPOSED OF WITHIN THE LANDFILL LIMIT OF WASTE, BELOW THE LANDFILL CAP.
3. EQUIPMENT UTILIZED WITHIN THE PCB CONTAMINATED SOIL AREA SHALL BE DECONTAMINATED PRIOR TO USE IN ANY OTHER AREA OF THE PROJECT SITE TO MINIMIZE THE POTENTIAL SPREAD OF HAZARDOUS LEVELS OF PCBS.

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PROJ. NO: 07.7052
SCALE : 1"=30'
DATE : JAN. 19, 2012

PCB CONTAMINATED SOIL AND CONTAMINATED SEDIMENT REMEDIATION PLAN

AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

TOWN OF AMENIA — DUTCHESS COUNTY, NEW YORK

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P4

SHEET 6 OF 16

DWG. NO: 11-0390

CAD DWG. FILE NAME: ALF-RC-P4-SED REM PLAN.DWG

FIGURE 13

PCB Soil Post-Excavation Soil Sampling Locations and Results Map

SAMPLE I.D.: SOIL-PCB-SW-6	
ELEVATION feet	485.88
TOTAL PCBs mg/kg	81

SAMPLE I.D.: SOIL-PCB-SW-20	
ELEVATION feet	483.8
TOTAL PCBs mg/kg	18.3

SAMPLE I.D.: SOIL-PCB-SW-10	
ELEVATION feet	487.12
TOTAL PCBs mg/kg	<0.057

SAMPLE I.D.: SOIL-PCB-FL-1	
ELEVATION feet	481.23
TOTAL PCBs mg/kg	<0.086

SAMPLE I.D.: SOIL-PCB-SW-4	
ELEVATION feet	487.08
TOTAL PCBs mg/kg	145

SAMPLE I.D.: SOIL-PCB-SW-1	
ELEVATION feet	482.97
TOTAL PCBs mg/kg	45

SAMPLE I.D.: SOIL-PCB-FL-6	
ELEVATION feet	485.31
TOTAL PCBs mg/kg	0.11

SAMPLE I.D.: SOIL-PCB-SW-13	
ELEVATION feet	484.44
TOTAL PCBs mg/kg	<0.056

SAMPLE I.D.: SOIL-PCB-FL-2	
ELEVATION feet	490.87
TOTAL PCBs mg/kg	5.2

SAMPLE I.D.: SOIL-PCB-FL-7	
ELEVATION feet	484.37
TOTAL PCBs mg/kg	<0.056

SAMPLE I.D.: SOIL-PCB-SW-2	
ELEVATION feet	493.89
TOTAL PCBs mg/kg	16

SAMPLE I.D.: SOIL-PCB-SW-18	
ELEVATION feet	486.18
TOTAL PCBs mg/kg	15.9

SAMPLE I.D.: SOIL-PCB-SW-5	
ELEVATION feet	491.06
TOTAL PCBs mg/kg	9.3

SAMPLE I.D.: SOIL-PCB-SW-12	
ELEVATION feet	488.97
TOTAL PCBs mg/kg	0.095

SAMPLE I.D.: SOIL-PCB-FL-3	
ELEVATION feet	490.13
TOTAL PCBs mg/kg	0.94

SAMPLE I.D.: SOIL-PCB-SW-17	
ELEVATION feet	491.63
TOTAL PCBs mg/kg	28

SAMPLE I.D.: SOIL-PCB-SW-3	
ELEVATION feet	499.99
TOTAL PCBs mg/kg	3.1

SAMPLE I.D.: SOIL-PCB-SW-16	
ELEVATION feet	499.24
TOTAL PCBs mg/kg	31

SAMPLE I.D.: SOIL-PCB-SW-7	
ELEVATION feet	500.05
TOTAL PCBs mg/kg	12

SAMPLE I.D.: SOIL-PCB-SW-15	
ELEVATION feet	498.88
TOTAL PCBs mg/kg	217

SAMPLE I.D.: SOIL-PCB-FL-4	
ELEVATION feet	496.56
TOTAL PCBs mg/kg	19.8

SAMPLE I.D.: SOIL-PCB-SW-19	
ELEVATION feet	499.77
TOTAL PCBs mg/kg	37

SAMPLE I.D.: SOIL-PCB-SW-9	
ELEVATION feet	494.41
TOTAL PCBs mg/kg	3.2

SAMPLE I.D.: SOIL-PCB-FL-9	
ELEVATION feet	494.11
TOTAL PCBs mg/kg	8.0

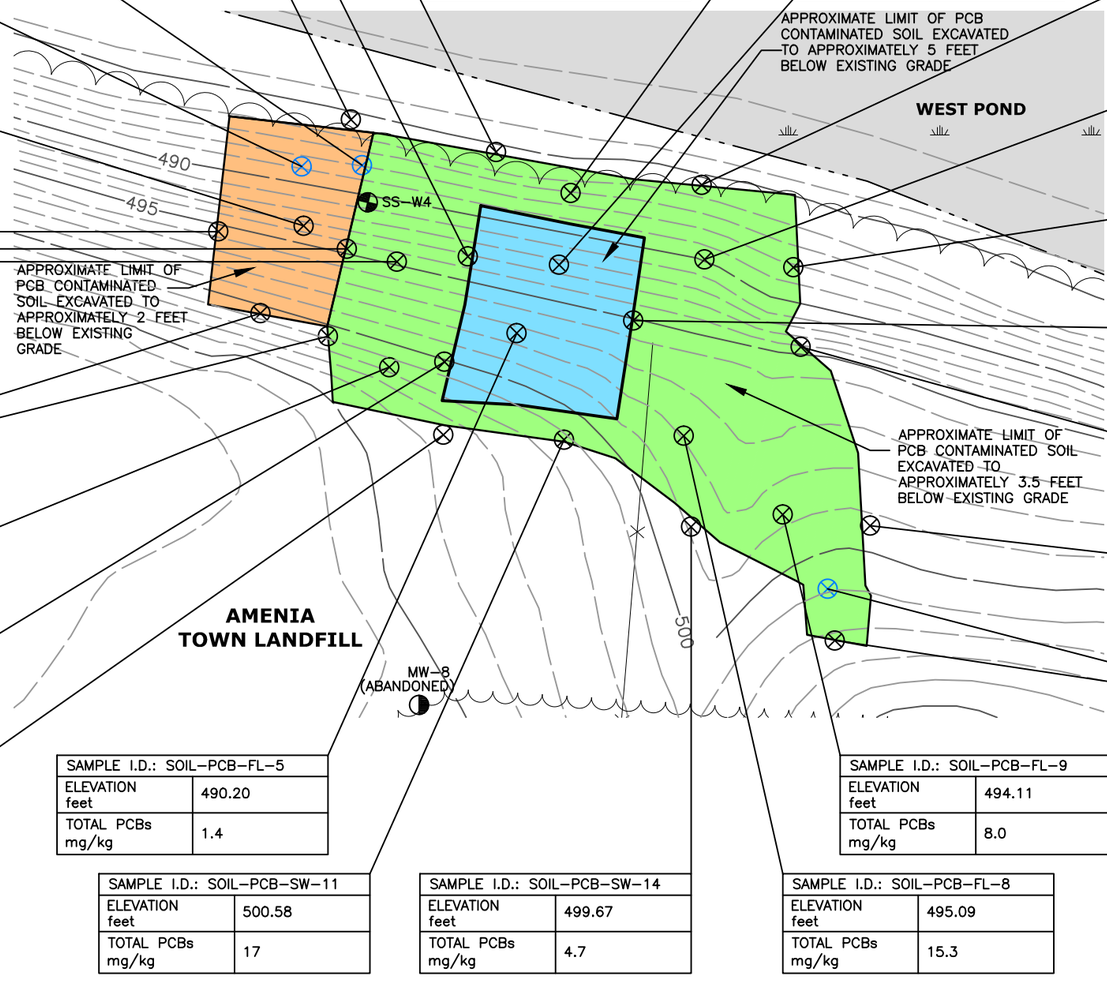
SAMPLE I.D.: SOIL-PCB-SW-8	
ELEVATION feet	501.39
TOTAL PCBs mg/kg	2.5

SAMPLE I.D.: SOIL-PCB-FL-5	
ELEVATION feet	490.20
TOTAL PCBs mg/kg	1.4

SAMPLE I.D.: SOIL-PCB-SW-11	
ELEVATION feet	500.58
TOTAL PCBs mg/kg	17

SAMPLE I.D.: SOIL-PCB-SW-14	
ELEVATION feet	499.67
TOTAL PCBs mg/kg	4.7

SAMPLE I.D.: SOIL-PCB-FL-8	
ELEVATION feet	495.09
TOTAL PCBs mg/kg	15.3



LEGEND

SS-W4	EXISTING SURFACE SOIL SAMPLING LOCATION EVALUATED PER TSCA REQUIREMENTS
SOIL-PCB-SW-20 SOIL-PCB-FL-1	POST-EXCAVATION SOIL SAMPLING LOCATION AND I.D., SW SIGNIFIES SIDEWALL SAMPLE AND FL SIGNIFIES FLOOR SAMPLE (TYPICAL)
	* THE BLUE TEXT SIGNIFIES THE PCB CONCENTRATION IN SOIL PRIOR TO ADDITIONAL SOIL BEING REMOVED (TYPICAL)
	* THE BLACK TEXT SIGNIFIES THE PCB CONCENTRATION IN THE SOIL REMAINING IN PLACE (TYPICAL)
	* THE SOIL REGULATORY LEVEL IS <50 MG/KG TOTAL PCBs FOR SOIL REMAINING BELOW THE LANDFILL LOW PERMEABILITY COVER SYSTEM/CAP
ELEVATION 490.13	GRADE/SURFACE ELEVATION WHERE SOIL SAMPLE COLLECTED IN FEET ABOVE MEAN SEA LEVEL (TYPICAL)
TOTAL PCBs 2.5	PCB CONCENTRATION IN SOIL IN MG/KG (TYPICAL)

NOTE:
THE CONTOURS SHOWN REFLECT PRE-EXCAVTION CONDITIONS.

BAR SCALE
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1 inch = 20 ft.

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PCB SOIL POST-EXCAVATION SOIL SAMPLING LOCATIONS AND RESULTS MAP

AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

TOWN OF AMENIA — DUTCHESS COUNTY, NEW YORK

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FIGURE 13
SHEET 2 OF 6
DWG. NO: 15-497

CAD DWG. FILE NAME:PCB POST-EXCAVATION SOIL SAMPLING LOCATIONS AND RESULTS MAP.DWG

CAD DWG. FILE NAME:PCB POST-EXCAVATIC

FIGURE 14

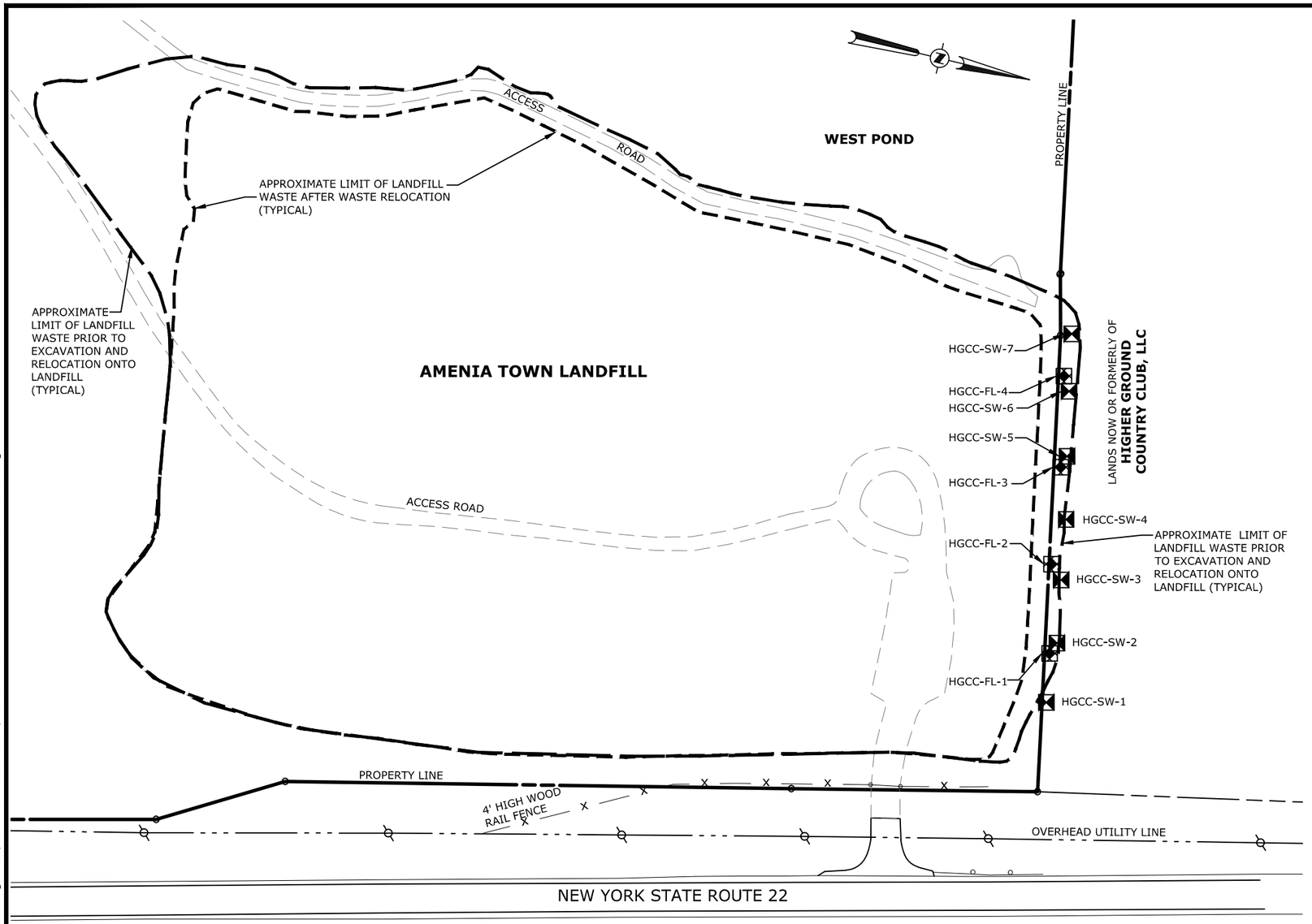
Higher Ground Country Club Post-Waste Excavation Soil Sampling Locations Map

XREFS: NONE

PROJECT NUMBER: 07.7052

CAD DWG. FILE NAME: K:\Projects\07052\Env\Post-Construction Sa□ling Ma□s\Post-Waste E□cavation\HIGHER GROUND PWE SAMPLING LOCATIONS.dwg

CAD DWG. FILE NAME: HIGHER GROUND PWE SAMPLING LOCATIONS.dwg



LEGEND

- HGCC-SW-4 — POST-WASTE EXCAVATION SIDEWALL SOIL SAMPLING LOCATION AND I.D., TYPICAL
- HGCC-FL-2 — POST-WASTE EXCAVATION FLOOR SOIL SAMPLING LOCATION AND I.D., TYPICAL
- OVERHEAD UTILITY LINE
- UTILITY POLE
- 4' HIGH WOOD RAIL FENCE

MAP REFERENCES:

1. "EXISTING CONDITIONS PLAN AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION", TOWN OF AMENIA, DUTCHESS COUNTY, NEW YORK PREPARED BY C.T. MALE ASSOCIATES, P.C. DATED JAN. 19, 2012, PROJECT NO. 07.7052, DRAWING NO. 11-0390.
2. "FINAL COVER TOPOGRAPHIC SURVEY AND RECORD DRAWING AMENIA TOWN LANDFILL", TOWN OF AMENIA, DUTCHESS COUNTY, NEW YORK PREPARED BY C.T. MALE ASSOCIATES ENGINEERING, SURVEYING, ARCHITECTURE & LANDSCAPE ARCHITECTURE, D.P.C. DATED JULY 1, 2015, PROJECT NO. 07.7052, DRAWING NO. 15-382.

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DATE : SEPT. 1, 2015

HIGHER GROUND COUNTRY CLU□
POST□WASTE E□CAVATION
SOIL SAMPLING LOCATIONS MAP

AMENIA TOWN LANDFILL
REMEDIAL CONSTRUCTION

TOWN OF AMENIA — DUTCHESS COUNTY, NEW YORK

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FIGURE □□

SHEET 3 OF 6

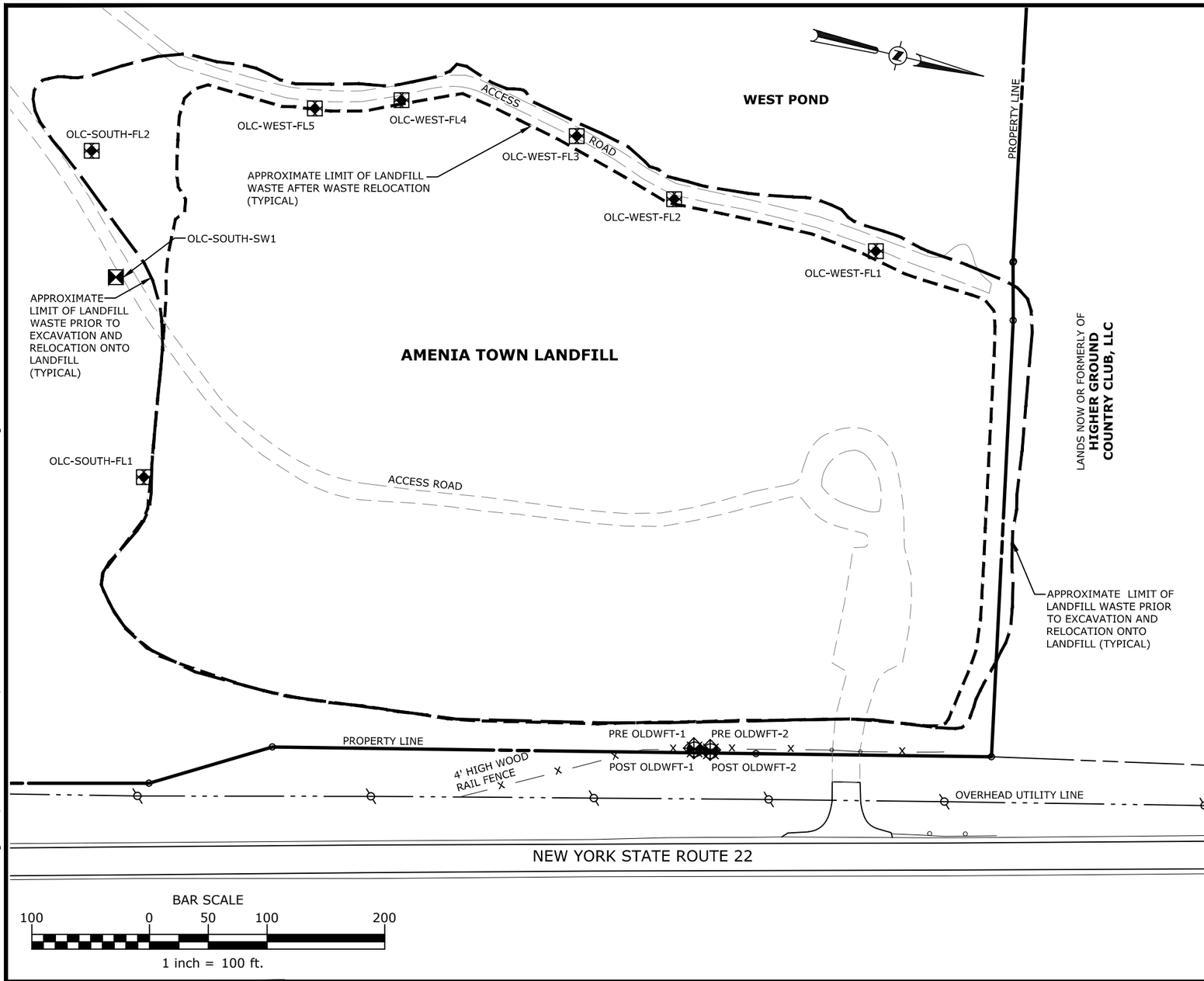
DWG. NO: 15-497

FIGURE 15

South & West Post-Waste Excavation and Pre & Post Decon Water Frac Tank Soil Sampling Locations Map

XREFS: NONE

PROJECT NUMBER: 07.7052



LEGEND

OLC-SOUTH-SW1	POST-WASTE EXCAVATION SIDEWALL SOIL SAMPLING LOCATION AND I.D., TYPICAL
OLC-WEST-FL1 OLC-SOUTH-FL2	POST-WASTE EXCAVATION FLOOR SOIL SAMPLING LOCATION AND I.D., TYPICAL
PRE OLDWFT-1	SOIL SAMPLE COLLECTED PRIOR TO PLACEMENT OF DECON WATER FRAC TANK OUTSIDE LIMITS OF LANDFILL SAMPLING LOCATION AND I.D., TYPICAL
POST OLDWFT-1	SOIL SAMPLE COLLECTED AFTER REMOVAL OF DECON WATER FRAC TANK OUTSIDE LIMITS OF LANDFILL SAMPLING LOCATION AND I.D., TYPICAL
	OVERHEAD UTILITY LINE
	UTILITY POLE
X	4' HIGH WOOD RAIL FENCE

MAP REFERENCES:

1. "EXISTING CONDITIONS PLAN AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION", TOWN OF AMENIA, DUTCHESS COUNTY, NEW YORK PREPARED BY C.T. MALE ASSOCIATES, P.C. DATED JAN. 19, 2012, PROJECT NO. 07.7052, DRAWING NO. 11-0390.
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SCALE : 1"=100'
DATE : SEPT. 1, 2015

SOUTH & WEST POST-WASTE EXCAVATION AND PRE & POST DECON WATER FRAC TANK SOIL SAMPLING LOCATIONS MAP

AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

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FIGURE

SHEET 4 OF 6

DWG. NO: 15-497

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CAD DWG. FILE NAME: SOUTH AND WEST P

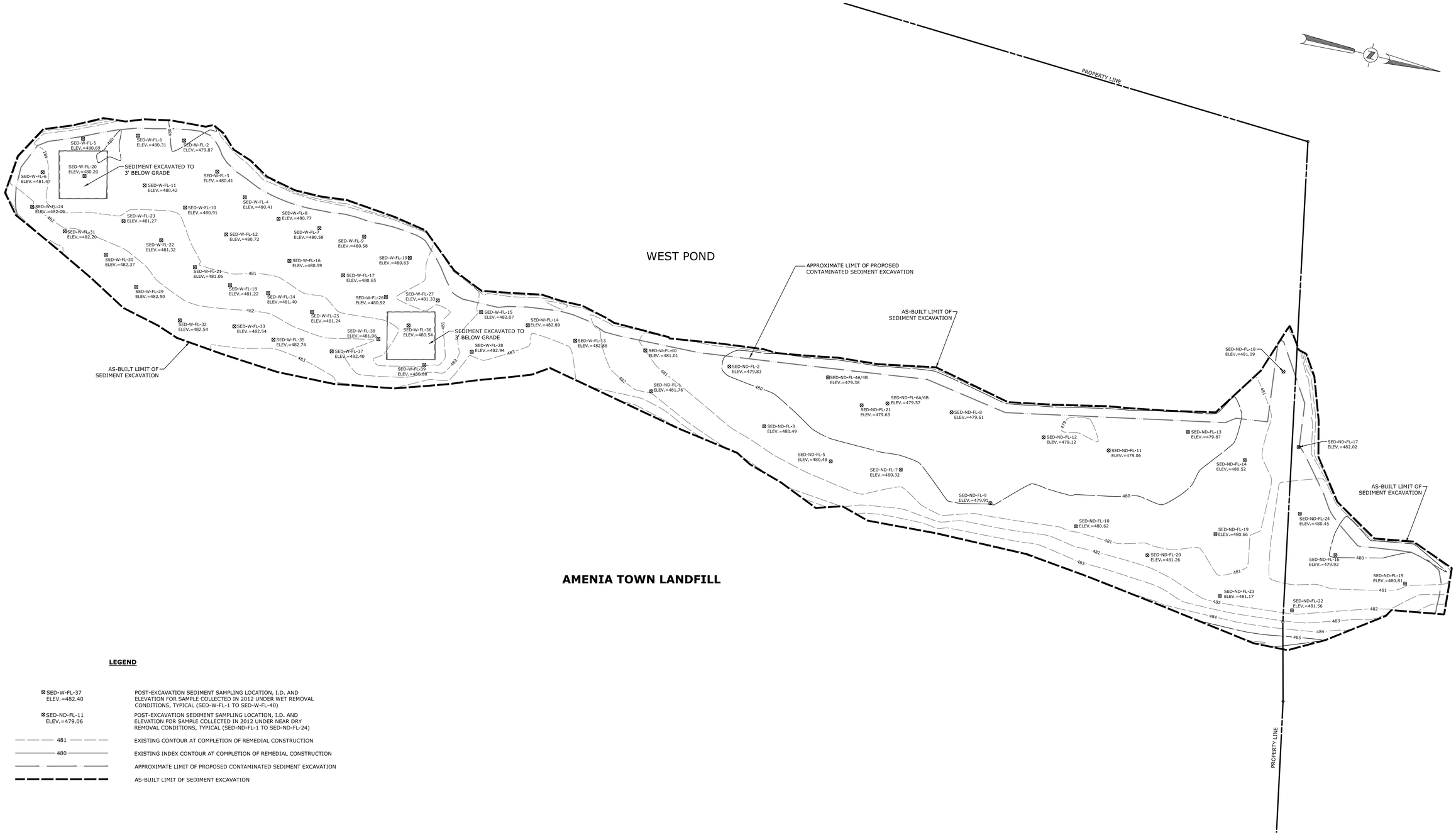
FIGURE 16

Sediment Post-Excavation Sampling Locations Map

XREFS: NONE

PROJECT NUMBER: 07.7052

CAD DWG. FILE NAME: SEDIMENT POST EXCAVATION SAM LOC MAP.dwg



AMENIA TOWN LANDFILL

LEGEND

⊠SED-W-FL-37 ELEV.=482.40	POST-EXCAVATION SEDIMENT SAMPLING LOCATION, I.D. AND ELEVATION FOR SAMPLE COLLECTED IN 2012 UNDER WET REMOVAL CONDITIONS, TYPICAL (SED-W-FL-1 TO SED-W-FL-40)
⊠SED-ND-FL-11 ELEV.=479.06	POST-EXCAVATION SEDIMENT SAMPLING LOCATION, I.D. AND ELEVATION FOR SAMPLE COLLECTED IN 2012 UNDER NEAR DRY REMOVAL CONDITIONS, TYPICAL (SED-ND-FL-1 TO SED-ND-FL-24)
481	EXISTING CONTOUR AT COMPLETION OF REMEDIAL CONSTRUCTION
480	EXISTING INDEX CONTOUR AT COMPLETION OF REMEDIAL CONSTRUCTION
	APPROXIMATE LIMIT OF PROPOSED CONTAMINATED SEDIMENT EXCAVATION
	AS-BUILT LIMIT OF SEDIMENT EXCAVATION

MAP REFERENCE

1. "TOPOGRAPHIC AS-BUILT MAP OF THE CONTAMINATED SEDIMENT REMEDIATION AREA - AMENIA TOWN LANDFILL PREPARED FOR SEVENSON ENVIRONMENTAL SITUATE IN TOWN OF AMENIA, DUTCHESS CO., N.Y.", PREPARED BY TERRY BERGENDORFF COLLINS DATED DECEMBER 2, 2013 AND REVISED AUGUST 10, 2015.

BAR SCALE
30 0 15 30 60
1 inch = 30 ft.

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SEDIMENT POST EXCAVATION SAMPLING LOCATIONS MAP

AMENIA TOWN LANDFILL
REMEDIAL CONSTRUCTION

TOWN OF AMENIA — DUTCHESS COUNTY, NEW YORK

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FIGURE

SHEET 5 OF 6

DWG. NO: 15-497

FIGURE 17

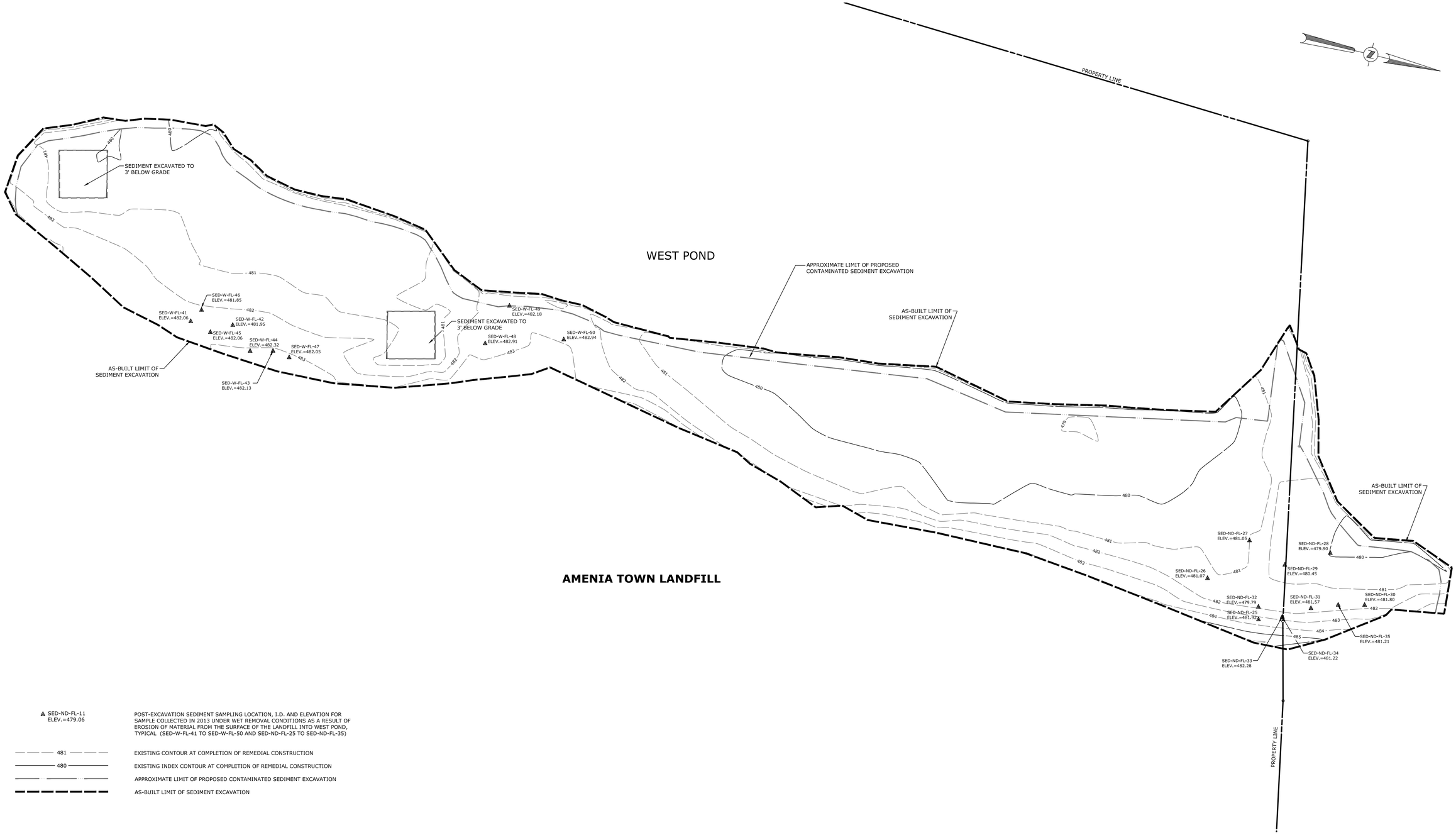
Sediment Washouts Post-Excavation Sampling Locations Map

XREFS: NONE

PROJECT NUMBER: 07.7052

CAD DWG. FILE NAME: SEDIMENT WASH-OUTS POST EXCAVATION SAMPLING LOCATION MAP.dwg

CAD DWG. FILE NAME: K:\Projects\07052\Env\Post-Construction Sa□□ing Ma□\Post-Se□ment E□avation\SEDIMENT WASH-OUTS POST EXCAVATION SAM LOC MAP.dwg.dwg



AMENIA TOWN LANDFILL

SED-ND-FL-11 ELEV.=479.06 — POST-EXCAVATION SEDIMENT SAMPLING LOCATION, I.D. AND ELEVATION FOR SAMPLE COLLECTED IN 2013 UNDER WET REMOVAL CONDITIONS AS A RESULT OF EROSION OF MATERIAL FROM THE SURFACE OF THE LANDFILL INTO WEST POND, TYPICAL (SED-W-FL-41 TO SED-W-FL-50 AND SED-ND-FL-25 TO SED-ND-FL-35)

481 — EXISTING CONTOUR AT COMPLETION OF REMEDIAL CONSTRUCTION

480 — EXISTING INDEX CONTOUR AT COMPLETION OF REMEDIAL CONSTRUCTION

APPROXIMATE LIMIT OF PROPOSED CONTAMINATED SEDIMENT EXCAVATION

AS-BUILT LIMIT OF SEDIMENT EXCAVATION

BAR SCALE

30 0 15 30 60

1 inch = 30 ft.

MAP RE□ERENCE□

1. "TOPOGRAPHIC AS-BUILT MAP OF THE CONTAMINATED SEDIMENT REMEDIATION AREA - AMENIA TOWN LANDFILL PREPARED FOR SEVENSON ENVIRONMENTAL SITUATE IN TOWN OF AMENIA, DUTCHESS CO., N.Y.", PREPARED BY TERRY BERGENDORFF COLLINS DATED DECEMBER 2, 2013 AND REVISED AUGUST 10, 2015.

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DATE : SEPT. 1, 2015

SEDIMENT WASHOUTS POST E□ CAVATION SAMPLING LOCATIONS MAP

AMENIA TOWN LANDFILL REMEDIAL CONSTRUCTION

TOWN OF AMENIA — DUTCHESS COUNTY, NEW YORK

C.T. MALE ASSOCIATES
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FIGURE □□

SHEET 6 OF 6

DWG. NO: 15-497

FIGURE 18

Groundwater Monitoring Well Network Map

XREFS: NONE

PROJECT NUMBER: 07.7052

FIG 18 GROUNDWATER MONITORING WELL NETWORK MAP

AMENIA TOWN LANDFILL

TOTAL CAPPED LANDFILL AREA = 7.49± ACRES
CONTROLLED PROPERTY AREA = 10.21± ACRES
TOTAL TOWN PROPERTY AREA = 29.86± ACRES

LANDS NOW OR FORMERLY OF
TOWN OF AMENIA
BOOK 22006 PAGE 8111
TAX MAP PARCEL NO. 7066-00-882575

AREA = 27.82± ACRES OR 1,211,928± SQ. FT.

LANDS NOW OR FORMERLY OF
HIGHER GROUND COUNTRY CLUB, LLC
BOOK 22004 PAGE 10224
TAX MAP PARCEL NO. 7066-00-732810

LANDS NOW OR FORMERLY OF
TOWN OF AMENIA
DOCUMENT NO. 02 2007 6441
TAX MAP PARCEL NO. 7066-00-885633

AREA = 2.04± ACRES OR 88,823± SQ. FT.

LANDS NOW OR FORMERLY OF
HIGHER GROUND COUNTRY CLUB, LLC
BOOK 22004 PAGE 9417
TAX MAP PARCEL NO. 7066-00-860725

WEST POND

EXCLUSION AREA = 0.79± ACRES

MATCH LINE "A"

MATCH LINE "B"

MAP REFERENCE:

1. "FINAL COVER TOPOGRAPHIC SURVEY AND RECORD DRAWING AMENIA TOWN LANDFILL" TOWN OF AMENIA, DUTCHESS COUNTY, NEW YORK PREPARED BY C.T. MALE ASSOCIATES, ENGINEERING, SURVEYING, ARCHITECTURE & LANDSCAPE ARCHITECTURE, D.P.C. DATED JULY 1, 2015 AND LAST REVISED OCTOBER 28, 2015, PROJECT NO. 07.7052, DRAWING NO. 15-382.

LEGEND

MW-5	EXISTING MONITORING WELL LOCATION AND ID (TYPICAL)
MW-10	REPLACEMENT MONITORING WELL LOCATION AND ID, INSTALLED JUNE 2015
TOP OF CASING ELEV=	TOP OF MONITORING WELL GUARD PIPE ELEVATION (TYPICAL)
4" PVC TOP ELEV=	TOP OF MONITORING WELL PVC RISER ELEVATION (TYPICAL)
	UTILITY POLE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
PVC	POLYVINYL CHLORIDE PIPE
DR	PVC DRAIN BASIN
TF	TOP OF DRAIN BASIN RIM ELEVATION
GAS VENT GV-1	UNDERGROUND LANDFILL GAS COLLECTION POINT AND GAS VENTING STRUCTURE (TYPICAL)
UG GCP-1	UNDERGROUND LANDFILL GAS COLLECTION POINT (TYPICAL)
G	PERFORATED GAS COLLECTION LATERAL WITH SOCK IN 2' WIDE BY 2' DEEP CRUSHED STONE TRENCH WRAPPED IN NON-WOVEN GEOTEXTILE BELOW TWO SIDED GEOCOMPOSITE GAS VENTING LAYER
	SURVEY BOUNDARY PROPERTY LINE
	CONTROLLED PROPERTY BOUNDARY
	LIMIT OF GEOMEMBRANE LINER (40 MIL TEXTURED LLDPE) ANCHOR TRENCH (INSIDE EDGE)
	6" OR 8" PERFORATED HDPE UNDERDRAIN PIPE BELOW DRAINAGE SWALE
	BOTTOM OF DRAINAGE SWALE AND DIRECTION OF FLOW
	EXISTING CONTOUR
	EXISTING INDEX CONTOUR
ACB SWALE	ARTICULATING CONCRETE BLOCK LINED DRAINAGE SWALE
	STONE FILLING (RIP-RAP)
TRM	TURF REINFORCEMENT MAT
	ALUMINUM END SECTION AT CULVERT
8" HDPE	CULVERT PIPE AND SIZE (TYPICAL)

BAR SCALE
30 0 15 30 60
1 inch = 30 ft.

N.Y.S. ROUTE 22

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
1/14/16	1	UPDATED MAP REFERENCE	MDD	EWR	EWR
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				

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APPROVED: EWR
DRAFTED : GLB/MDD
CHECKED : EWR
PROJ. NO : 07.7052
SCALE : 1" = 30'
DATE : SEPT.1, 2015

GROUNDWATER MONITORING WELL NETWOR□ MAP

AMENIA TOWN LANDFILL

TOWN OF AMENIA — DUTCHESS COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299

FIGURE □□

SHEET 1 OF 1
DWG. NO: 15-586

CAD DWG. FILE NAME: K:\Projects\07705\Survey\2014 Final Asbuilt Survey\FIG 18 GROUNDWATER MONITORING WELL NETWORK MAP.dwg

APPENDIX A

Metes and Bounds Description

METES AND BOUNDS DESCRIPTION
CONTROLLED PROPERTY AREA
AMENIA TOWN LANDFILL
NEW YORK STATE ROUTE 22
TOWN OF AMENIA, COUNTY OF DUTCHESS, STATE OF NEW YORK
AREA = 10.21± ACRES OF LAND

All that certain tract, piece or parcel of land situate in the Town of Amenia, County of Dutchess, State of New York, lying Westerly of New York State Route 22, and being more particularly bounded and described as follows:

BEGINNING at the point of intersection of the division line between the lands now or formerly of the Town of Amenia as described in Document No. 02 2007 6441 (Book 22007 of Deeds at Page 6441) and Document No. 02 2006 8111 (Book 22006 of Deeds at Page 8111) on the South and the lands now or formerly of Higher Ground Country Club, LLC as described in Document No. 02 2004 9417 (Book 22004 of Deeds at Page 9417) on the North with the Westerly highway boundary of New York State Route 22 and runs thence from said point of beginning along said Westerly highway boundary the following two (2) courses: 1) South 12 deg. 39 min. 35 sec. East 200.05 feet to a point; and 2) South 12 deg. 36 min. 09 sec. East 411.32 feet to a point; thence through the said lands now or formerly of the Town of Amenia as described in Document No. 02 2006 8111 (Book 22006 of Deeds at Page 8111) the following thirty (30) courses: 1) South 12 deg. 36 min. 09 sec. East 203.65 feet to a point; 2) South 76 deg. 36 min. 10 sec. West 72.88 feet to a point; 3) North 67 deg. 50 min. 34 sec. West 93.36 feet to a point; 4) North 86 deg. 00 min. 04 sec. West 55.26 feet to a point; 5) South 77 deg. 01 min. 59 sec. West 160.78 feet to a point; 6) South 57 deg. 24 min. 03 sec. West 54.96 feet to a point; 7) South 42 deg. 51 min. 59 sec. West 185.82 feet to a point; 8) South 31 deg. 01 min. 15 sec. West

105.02 feet to a point; 9) South 17 deg. 23 min. 49 sec. West 83.15 feet to a point; 10) South 11 deg. 30 min. 02 sec. East 118.97 feet to a point; 11) South 13 deg. 08 min. 19 sec. West 150.22 feet to a point; 12) North 86 deg. 03 min. 36 sec. West 88.75 feet to a point; 13) North 16 deg. 03 min. 19 sec. East 98.56 feet to a point; 14) North 12 deg. 35 min. 06 sec. West 91.14 feet to a point; 15) North 46 deg. 17 min. 19 sec. East 41.45 feet to a point; 16) North 46 deg. 05 min. 47 sec. West 43.23 feet to a point; 17) North 11 deg. 02 min. 21 sec. West 41.14 feet to a point; 18) North 01 deg. 37 min. 45 sec. East 38.51 feet to a point; 19) North 20 deg. 38 min. 30 sec. East 70.02 feet to a point; 20) North 62 deg. 56 min. 41 sec. West 20.51 feet to a point; 21) North 33 deg. 46 min. 58 sec. East 54.50 feet to a point; 22) North 24 deg. 59 min. 44 sec. East 179.58 feet to a point; 23) North 01 deg. 00 min. 42 sec. East 99.82 feet to a point; 24) North 15 deg. 56 min. 26 sec. West 62.15 feet to a point; 25) North 23 deg. 43 min. 43 sec. West 61.62 feet to a point; 26) North 04 deg. 24 min. 43 sec. West 27.24 feet to a point; 27) North 13 deg. 52 min. 55 sec. East 113.39 feet to a point; 28) North 16 deg. 07 min. 37 sec. East 75.10 feet to a point; 29) North 03 deg. 34 min. 25 sec. West 100.53 feet to a point; and 30) North 06 deg. 14 min. 38 sec. East 123.80 feet to a point, said point also being on the division line between the said lands now or formerly of the Town of Amenia as described in Document No. 02 2007 6441 (Book 22007 of Deeds at Page 6441) on the East and said other lands now or formerly of the Town of Amenia as described in Document No. 02 2006 8111 (Book 22006 of Deeds at Page 8111) on the West; thence continuing through the said lands now or formerly of

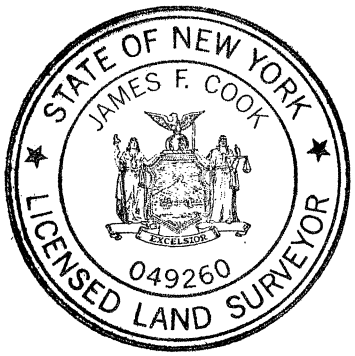
the Town of Amenia as described in Document No. 02 2006 8111 (Book 22006 of Deeds at Page 8111) the following two (2) courses: 1) North 40 deg. 36 min. 09 sec. West 22.61 feet to a point; and 2) North 01 deg. 47 min. 20 sec. East 48.64 feet to its point of intersection with the division line between the said lands now or formerly of the Town of Amenia as described in Document No. 02 2006 8111 (Book 22006 of Deeds at Page 8111) on the South and the said lands now or formerly of Higher Ground Country Club, LLC as described in Document No. 02 2004 9417 (Book 22004 of Deeds at Page 9417) on the North; thence along said division line North 79 deg. 35 min. 22 sec. East 16.47 feet to its point of intersection with the above first mentioned division line; thence along said above first mentioned division line North 79 deg. 28 min. 17 sec. East 371.31 feet to the point or place of beginning and containing 10.21 acres of land, more or less.

Excepting and reserving from the above described parcel, the following:

COMMENCING at the point of intersection of the division line between the lands now or formerly of the Town of Amenia as described in Document No. 02 2007 6441 (Book 22007 of Deeds at Page 6441) on the South and the lands now or formerly of Higher Ground Country Club, LLC as described in Document No. 02 2004 9417 (Book 22004 of Deeds at Page 9417) on the North with the Westerly highway boundary of New York State Route 22; thence from said point of commencement through the said lands now or formerly of the Town of Amenia as described in Document No. 02 2007 6441 (Book

22007 of Deeds at Page 6441) and other lands now or formerly of the Town of Amenia as described in Document No. 02 2006 8111 (Book 22006 of Deeds at Page 8111) South 15 deg. 29 min. 38 sec. West 819.48 feet to the point or place of beginning and runs thence from said point of beginning through the said lands now or formerly of the Town of Amenia as described in Document No. 02 2006 8111 (Book 22006 of Deeds at Page 8111) the following twenty-one (21) courses: 1) South 46 deg. 05 min. 03 sec. West 95.22 feet to a point; 2) South 42 deg. 28 min. 34 sec. West 64.68 feet to a point; 3) South 38 deg. 56 min. 32 sec. West 60.21 feet to a point; 4) North 54 deg. 03 min. 35 sec. West 11.55 feet to a point; 5) South 35 deg. 44 min. 10 sec. West 46.46 feet to a point; 6) South 37 deg. 24 min. 56 sec. East 12.65 feet to a point; 7) South 31 deg. 12 min. 51 sec. West 47.15 feet to a point; 8) South 25 deg. 25 min. 01 sec. West 52.02 feet to a point; 9) South 15 deg. 39 min. 38 sec. West 77.89 feet to a point; 10) South 14 deg. 01 min. 09 sec. West 26.28 feet to a point; 11) South 66 deg. 54 min. 28 sec. West 9.69 feet to a point; 12) North 54 deg. 11 min. 56 sec. West 28.25 feet to a point; 13) North 26 deg. 04 min. 54 sec. West 32.18 feet to a point; 14) North 06 deg. 59 min. 27 sec. West 34.14 feet to a point; 15) North 12 deg. 50 min. 12 sec. East 46.64 feet to a point; 16) North 23 deg. 47 min. 17 sec. East 57.01 feet to a point; 17) North 04 deg. 15 min. 34 sec. East 11.01 feet to a point; 18) North 24 deg. 56 min. 25 sec. East 56.19 feet to a point; 19) North 23 deg. 58 min. 09 sec. East 50.04 feet to a point; 20) North 24 deg. 32 min. 35 sec. East 87.43 feet to a point; and 21) North 81

deg. 15 min. 03 sec. East 190.90 feet to the point or place of beginning and containing 0.79 acre of land, more or less.



C.T. MALE ASSOCIATES

James F. Cook

James F. Cook, P.L.S.

May 4, 2016
JFC/dsl/amb
C.T. Male Project No. 07.7052

Note: The above described parcel of land is shown in its entirety on a map entitled "Final Cover Topographic Survey And Record Drawing Amenia Town Landfill," Town of Amenia, Dutchess County, New York, prepared by C.T. Male Associates Engineering, Surveying, Architecture & Landscape Architecture, D.P.C., dated July 1, 2015, revised October 28, 2015 and May 4, 2016, Project No. 07.7052, Dwg. No. 15-382.

APPENDIX B

Excavation Work Plan

APPENDIX B – EXCAVATION WORK PLAN

B-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the Department. Currently, this notification will be made to:

Regional Hazardous Waste Remediation Engineer
NYSDEC Region 3
Division of Environmental Remediation
21 South Putt Corners Road
New Paltz, New York 12561-1696

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this Excavation Work Plan (EWP);
- 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, in electronic format, if it differs from the HASP provided in Appendix D of the SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

B-2 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 invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal, material that requires testing, material that can be returned to the subsurface, and material that can be used as cover soil.

B-3 STOCKPILE METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC.

B-4 MATERIALS EXCAVATION AND LOAD OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A stabilized construction entrance and/or truck wash (decontamination pad) or equal method will be operated on-site, as determined necessary by the qualified environmental professional. If there is the potential for trucks encountering contamination while on-site, a decontamination pad will be operated on-site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash or equal method, depending on the circumstance, before leaving the site until the activities performed under this section are complete.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

B-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded. .

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks will be washed prior to leaving the site, as necessary (refer to Section B-4). As applicable, truck wash waters will be collected and disposed of off-site in an appropriate manner.

All trucks loaded with site materials will exit the vicinity of the site using only approved truck routes. The truck routes will 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; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

B-6 MATERIALS DISPOSAL OFF-SITE

All soil/fill/solid waste excavated from below the low permeability cover system/cap over the surface of the landfill and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. A waste manifest or bill of lading will be utilized for each shipment of waste off-site. 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 taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does

not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

B-7 MATERIALS REUSE ON-SITE

Chemical criteria for on-site reuse of material have been approved by NYSDEC and are listed in 6NYCRR Part 375-6.8(a) for Unrestricted Use Soil Cleanup Objectives (SCO). The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil will not be re-used on-site.

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.

B-8 FLUIDS MANAGEMENT

All contaminated liquids to be removed from the site will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations, including 6NYCRR Part 364. A waste manifest or bill of lading will be utilized for each shipment of waste off-site.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES General Permit.

B-9 COVER SYSTEM RESTORATION

If the low permeability cover system/cap over the surface of the landfill is disturbed or damaged, it will be restored in a manner that complies with the NYSDEC approved Remedial Design Report (refer to Section 2.2.1.1 in the SMP for a description of the components of the cover system/cap). If the type of cover system changes from that which exists prior to the excavation, disturbance or damage, this will constitute a modification of the cover element of the remedy and require NYSDEC approval. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the Site Management Plan.

B-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in Table 375-6.8(a) for unrestricted use sites for soils to be used above the low permeability cover system/cap and other areas on the site. Soils that meet 'exempt' fill requirements under 6NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Documentation on the source of the imported material shall be obtained prior to delivery to the site including: the location and address where the material is being obtained; the name and telephone number of the person providing the information and relationship to the source of the material; the identification of any state or local approvals as a fill source, and if no prior approval is available for the source, a brief history of the use of the property which is the source of the material; and NYSDOT certification, where applicable, that imported material is from NYSDOT approved source and that the material is clean and acceptable.

Each source of imported soil shall be tested by a NYSDOH ELAP certified laboratory for TCL VOCs by EPA Method 8260C, TCL SVOCs by EPA Method 8270D, TCL PCBs by EPA Method 8082A, TCL pesticides by EPA Method 8081B, priority pollutant metals (arsenic, barium, beryllium, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver and zinc) by EPA Method 6010C and EPA Method 7471B for mercury, hexavalent chromium by EPA Method 7196A and cyanide by EPA Method 9014. The frequency of testing shall be one composite sample per source per 500 cubic yards of material.

The following sampling procedures shall be followed:

- A new clean pair of sampling gloves shall be worn for each sample collected. The samples shall be collected with a gloved hand.
- Only new pre-cleaned laboratory provided glass sample containers with Teflon lined caps shall be used for the soil samples.
- The sample for VOCs analysis shall be a grab sample placed directly into the sample container, and the sample for the other specified parameters shall be a composite sample. The composite sample shall consist of 3 to 5 discrete samples collected with a new clean gloved hand from the truck load of material being sampled and placed in a new clean zip lock plastic bag. The sample shall be homogenizing within the plastic bag and then placed into the sample container.
- Sample labels shall be prepared prior to sampling and affixed to the sample containers. The client, project name, site location, matrix, sample type (grab or composite) and laboratory analyses to be performed shall be recorded on the sample labels prior to sampling. The sample location, date, sampler's initials and time shall be filled out on the sample label at the time of sampling.
- A chain of custody record to track samples from sample collection to delivery to the analytical laboratory shall be completed.
- Place laboratory containers with samples in cooler with bagged ice and deliver to the analytical laboratory.

The documentation on the source of the imported material and the laboratory analysis reports and chain of custody records on testing of imported material will be included in the Periodic Review Report.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

B-11 STORMWATER POLLUTION PREVENTION

A Final Stormwater Pollution Prevention Plan (SWPPP) for Construction Activities, Remediation, Closure and Capping of Amenia Town Landfill Site, Town of Amenia, Dutchess County, New York, dated June 15, 2011 and last revised January 19, 2012 by C.T. Male was prepared for the site as part of the remedial action construction. If construction activities at the site will disturb greater than one acre, the work shall be performed in accordance with the referenced SWPPP and the requirements of the NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity, General Permit No. GP-0-15-002, effective January 29, 2015 or most recent update.

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

B-12 CONTINGENCY PLAN

If previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed by a NYSDOH ELAP certified laboratory for full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Reports prepared pursuant to Section 5 of the SMP.

B-13 COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Plan (CAMP) will be followed during ground intrusive field activities. The intent of the CAMP is to provide a measure of protection for the downwind community (i.e., off-site receptors and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative or remedial work activities. The CAMP will monitor the air for potentially contaminated dust (Particulate Air Monitoring), particulates with PCBs (PCB Air Monitoring) and volatile organic compound vapors (VOC Air Monitoring) at the downwind perimeter of each designated work area. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

In the event of poor weather such as heavy snow or rain, particulate monitoring will not be performed. These weather conditions would limit the effectiveness of the sensitive monitoring equipment. Work activities will be halted if fugitive dust migration is visually observed. Attempts will be made to continue periodic VOC monitoring, but the weather may also prevent this activity.

Particulate Air Monitoring

During ground intrusive work below the excavation delineation barrier (EDB) geotextile, and during contaminated soil and/or landfill waste disturbance work particulate monitoring shall be performed. At a minimum three real-time particulate monitors capable of continuously measuring concentrations of particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes will be used. The instruments will be placed at temporary monitoring stations based on the prevailing wind direction each day, one upwind and at a minimum two downwind of the work area. The particulate monitoring instruments will be capable of displaying the short term exposure limit (STEL) or 15 minute averaging period, which will be field checked and recorded for comparison to the NYSDOH Generic Community Air Monitoring Plan action levels for PM-10, as listed below. The particulate readings will be manually monitored, but the instruments are programmed to alarm at preset action levels. Instantaneous readings will be recorded periodically throughout the work day. At the end of each day, the readings for each instrument will be downloaded to a PC and retained for future reference and reporting.

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

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work

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

PCB Air Monitoring

During landfill waste disturbance activities particulate monitoring for PCBs shall be performed. PCB monitoring will include collection of particulate samples from particulate monitors. At a minimum, one upwind and two downwind from the work area samples will be collected. The samples will be collected over an 8-hour period (8-hour composite) using low volume sampling pumps and collected during the normal work hours when activities are occurring on-site. The particulate samples will be analyzed for PCBs by EPA Method TO-10A or equal.

If the downwind sampling results for PCBs above show total PCB concentrations approaching (at approximately 80% of) 260 nanograms per cubic meter, then two additional downwind samples will be collected. Also, an evaluation of activities and controls to reduce the airborne PCB levels will be initiated and implemented. If the additional downwind sampling results show total PCB concentrations approaching (at approximately 80% of) 110 nanograms per cubic meter, then a re-evaluation of activities and controls to reduce the airborne PCB levels will be initiated and implemented.

VOC Air Monitoring

During contaminated soil and/or landfill waste disturbance work VOCs shall be monitored at the downwind perimeter of the immediate work area on a continuous basis. Upwind concentrations shall also be measured continuously to establish background conditions. A MiniRAE 2000 handheld VOC monitor or equal will used to perform the VOCs monitoring. This unit is capable of displaying the STEL (15 minute averaging period) which will be field checked and recorded for comparison to the NYSDOH Generic Community Air Monitoring Plan action levels for VOCs, as listed below. The VOC readings (STEL) will be recorded for future reference and reporting. Instantaneous readings will be recorded periodically throughout the work day. At the end of each day,

the readings for the continuous monitoring instrument will be downloaded to a PC and retained for future reference and reporting.

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

Air sampling stations will be based on generally prevailing wind conditions. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

B-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis will include limiting the area of open excavations or covering the excavation with tarps at the end of each work day, and minimizing the size of soil stockpiles or covering soil stockpiles. If nuisance

odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the 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 nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils;. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

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

B-15 DUST CONTROL PLAN

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved though the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Gravel will be used on roadways to provide a clean and dust-free road surface.

- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.
- Other methods of dust suppression to be used, as necessary, include: wetting equipment and excavation faces, spraying water on buckets during excavation and dumping, hauling material in properly tarped containers, restricting vehicle speeds to 10 mph, reducing the excavation size, covering excavated areas, seeding soil stockpiles, and using atomizing sprays to conserve water and prevent overly wet conditions.

B-16 OTHER NUISANCES

A plan for rodent control will be developed and utilized by the contractor, as necessary, during all remedial work.

A plan will be developed and utilized by the contractor, as necessary, for all remedial work to ensure compliance with local noise control ordinances.

APPENDIX C

Environmental Easement

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

THIS INDENTURE made this 14 day of September, 2016, between Owner Town of Amenia, having an office at Town Hall, 4988 Route 22, Amenia, New York 12501, County of Dutchess, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee"), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

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

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

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

WHEREAS, Grantor, is the owner of real property located at the address of Route 22, Town of Amenia, County of Dutchess and State of New York, known and designated on the tax map of the County of Dutchess as follows: Parcel 1: Section 7006, Block 00, Lot 882575 and Parcel 2: Section 7066, Block 00, Lot 885633. Parcel 1 is the same property conveyed to Grantor by deed recorded in the Dutchess County Clerk's Office as Document No. 2206, at Page 8111. Parcel 2 is the same property conveyed to Grantor by deed recorded in the Dutchess County Clerk's Office as Document No. 02-2007-6441. The property subject to this Environment Easement (the "Controlled Property") comprises approximately 10.21 acres, and is hereinafter more fully described in the Land Title Survey dated July 1, 2015, revised October 28, 2015 and May 4, 2016, prepared by C.T. Male Associates Engineering, Surveying, Architecture & Landscape Architecture, D.P.C., which will be attached to the Site Management Plan. The Controlled Property description (Metes and Bounds Description dated January 5, Revised May 4, 2016) is set forth in and attached hereto as Schedule A; and

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

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of State Assistance Contract #C303694, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

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

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

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

"Commercial Use," as described in 6 NYCRR Part 375-1.8(2) (iii), to include passive recreational uses, which are public uses with limited potential for soil contact; and
"Industrial Use," as described in 6 NYCRR Part 375-1.8(2) (iv).

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

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

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

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

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

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

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

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

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

(11) In accordance with the requirements of the federal Toxic Substance Control Act ("TSCA") EPA Self-Implementing Cleanup provisions contained in 40 CFR Part 761.61(a)(i)(8), the Controlled Property has been used for PCB remediation waste containment and disposal and is restricted to use as a Low Occupancy Area as defined in 40 CFR Part 761.3. The PCB remediation waste is located below the low permeability cap cover system over the remediated landfill, within the Controlled Property, and the cap cover system will be maintained in perpetuity as prescribed in the SMP. The applicable soil cleanup level under the cover system/cap is less than 50 mg/kg PCBs.

B. The Controlled Property shall not be used for unrestricted, residential or restricted residential use, and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of Environmental Easement.

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

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

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

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

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

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

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

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

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

(i) are in place;

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

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

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

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

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

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

(7) the information presented is accurate and complete.

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

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

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

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

5. Enforcement

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

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

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

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

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

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

Parties shall address correspondence to:
Site Number: 314006
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:
Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

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

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

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

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

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

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

Town of Amenia

By: Victor Perotti

Victoria Perotti

Title: Supervisor Date: 9/14/16

Grantor's Acknowledgement

STATE OF NEW YORK)
) ss:
COUNTY OF)

On the 14 day of September in the year 2016, before me, the undersigned, personally appeared Victoria Perotti III, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(is), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Annette M Culligan
Notary Public – State of New York

ANNETTE M. CULLIGAN
Notary Public, State of New York
No. 01CU6145751
Qualified in Dutchess County
Term Expires May 8, 2018

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

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

Grantee's Acknowledgement

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

On the 29th day of September, in the year 2016, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/their signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

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

SCHEDULE "A" PROPERTY DESCRIPTION

See Attached

"METES AND BOUNDS DESCRIPTION
CONTROLLED PROPERTY AREA
AMENIA TOWN LANDFILL
NEW YORK STATE ROUTE 22
TOWN OF AMENIA, COUNTY OF DUTCHESS,
STATE OF NEW YORK
AREA = 10.21± ACRES OF LAND"

Prepared by C.T. Male Associates

C. T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, D.P.C.

METES AND BOUNDS DESCRIPTION
CONTROLLED PROPERTY AREA
AMENIA TOWN LANDFILL
NEW YORK STATE ROUTE 22
TOWN OF AMENIA, COUNTY OF DUTCHESS, STATE OF NEW YORK
AREA = 10.21± ACRES OF LAND

All that certain tract, piece or parcel of land situate in the Town of Amenia, County of Dutchess, State of New York, lying Westerly of New York State Route 22, and being more particularly bounded and described as follows:

BEGINNING at the point of intersection of the division line between the lands now or formerly of the Town of Amenia as described in Document No. 02 2007 6441 (Book 22007 of Deeds at Page 6441) and Document No. 02 2006 8111 (Book 22006 of Deeds at Page 8111) on the South and the lands now or formerly of Higher Ground Country Club, LLC as described in Document No. 02 2004 9417 (Book 22004 of Deeds at Page 9417) on the North with the Westerly highway boundary of New York State Route 22 and runs thence from said point of beginning along said Westerly highway boundary the following two (2) courses: 1) South 12 deg. 39 min. 35 sec. East 200.05 feet to a point; and 2) South 12 deg. 36 min. 09 sec. East 411.32 feet to a point; thence through the said lands now or formerly of the Town of Amenia as described in Document No. 02 2006 8111 (Book 22006 of Deeds at Page 8111) the following thirty (30) courses: 1) South 12 deg. 36 min. 09 sec. East 203.65 feet to a point; 2) South 76 deg. 36 min. 10 sec. West 72.88 feet to a point; 3) North 67 deg. 50 min. 34 sec. West 93.36 feet to a point; 4) North 86 deg. 00 min. 04 sec. West 55.26 feet to a point; 5) South 77 deg. 01 min. 59 sec. West 160.78 feet to a point; 6) South 57 deg. 24 min. 03 sec. West 54.96 feet to a point; 7) South 42 deg. 51 min. 59 sec. West 185.82 feet to a point; 8) South 31 deg. 01 min. 15 sec. West

105.02 feet to a point; 9) South 17 deg. 23 min. 49 sec. West 83.15 feet to a point; 10) South 11 deg. 30 min. 02 sec. East 118.97 feet to a point; 11) South 13 deg. 08 min. 19 sec. West 150.22 feet to a point; 12) North 86 deg. 03 min. 36 sec. West 88.75 feet to a point; 13) North 16 deg. 03 min. 19 sec. East 98.56 feet to a point; 14) North 12 deg. 35 min. 06 sec. West 91.14 feet to a point; 15) North 46 deg. 17 min. 19 sec. East 41.45 feet to a point; 16) North 46 deg. 05 min. 47 sec. West 43.23 feet to a point; 17) North 11 deg. 02 min. 21 sec. West 41.14 feet to a point; 18) North 01 deg. 37 min. 45 sec. East 38.51 feet to a point; 19) North 20 deg. 38 min. 30 sec. East 70.02 feet to a point; 20) North 62 deg. 56 min. 41 sec. West 20.51 feet to a point; 21) North 33 deg. 46 min. 58 sec. East 54.50 feet to a point; 22) North 24 deg. 59 min. 44 sec. East 179.58 feet to a point; 23) North 01 deg. 00 min. 42 sec. East 99.82 feet to a point; 24) North 15 deg. 56 min. 26 sec. West 62.15 feet to a point; 25) North 23 deg. 43 min. 43 sec. West 61.62 feet to a point; 26) North 04 deg. 24 min. 43 sec. West 27.24 feet to a point; 27) North 13 deg. 52 min. 55 sec. East 113.39 feet to a point; 28) North 16 deg. 07 min. 37 sec. East 75.10 feet to a point; 29) North 03 deg. 34 min. 25 sec. West 100.53 feet to a point; and 30) North 06 deg. 14 min. 38 sec. East 123.80 feet to a point, said point also being on the division line between the said lands now or formerly of the Town of Amenia as described in Document No. 02 2007 6441 (Book 22007 of Deeds at Page 6441) on the East and said other lands now or formerly of the Town of Amenia as described in Document No. 02 2006 8111 (Book 22006 of Deeds at Page 8111) on the West; thence continuing through the said lands now or formerly of

the Town of Amenia as described in Document No. 02 2006 8111 (Book 22006 of Deeds at Page 8111) the following two (2) courses: 1) North 40 deg. 36 min. 09 sec. West 22.61 feet to a point; and 2) North 01 deg. 47 min. 20 sec. East 48.64 feet to its point of intersection with the division line between the said lands now or formerly of the Town of Amenia as described in Document No. 02 2006 8111 (Book 22006 of Deeds at Page 8111) on the South and the said lands now or formerly of Higher Ground Country Club, LLC as described in Document No. 02 2004 9417 (Book 22004 of Deeds at Page 9417) on the North; thence along said division line North 79 deg. 35 min. 22 sec. East 16.47 feet to its point of intersection with the above first mentioned division line; thence along said above first mentioned division line North 79 deg. 28 min. 17 sec. East 371.31 feet to the point or place of beginning and containing 10.21 acres of land, more or less.

Excepting and reserving from the above described parcel, the following:
COMMENCING at the point of intersection of the division line between the lands now or formerly of the Town of Amenia as described in Document No. 02 2007 6441 (Book 22007 of Deeds at Page 6441) on the South and the lands now or formerly of Higher Ground Country Club, LLC as described in Document No. 02 2004 9417 (Book 22004 of Deeds at Page 9417) on the North with the Westerly highway boundary of New York State Route 22; thence from said point of commencement through the said lands now or formerly of the Town of Amenia as described in Document No. 02 2007 6441 (Book

22007 of Deeds at Page 6441) and other lands now or formerly of the Town of Amenia as described in Document No. 02 2006 8111 (Book 22006 of Deeds at Page 8111) South 15 deg. 29 min. 38 sec. West 819.48 feet to the point or place of beginning and runs thence from said point of beginning through the said lands now or formerly of the Town of Amenia as described in Document No. 02 2006 8111 (Book 22006 of Deeds at Page 8111) the following twenty-one (21) courses: 1) South 46 deg. 05 min. 03 sec. West 95.22 feet to a point; 2) South 42 deg. 28 min. 34 sec. West 64.68 feet to a point; 3) South 38 deg. 56 min. 32 sec. West 60.21 feet to a point; 4) North 54 deg. 03 min. 35 sec. West 11.55 feet to a point; 5) South 35 deg. 44 min. 10 sec. West 46.46 feet to a point; 6) South 37 deg. 24 min. 56 sec. East 12.65 feet to a point; 7) South 31 deg. 12 min. 51 sec. West 47.15 feet to a point; 8) South 25 deg. 25 min. 01 sec. West 52.02 feet to a point; 9) South 15 deg. 39 min. 38 sec. West 77.89 feet to a point; 10) South 14 deg. 01 min. 09 sec. West 26.28 feet to a point; 11) South 66 deg. 54 min. 28 sec. West 9.69 feet to a point; 12) North 54 deg. 11 min. 56 sec. West 28.25 feet to a point; 13) North 26 deg. 04 min. 54 sec. West 32.18 feet to a point; 14) North 06 deg. 59 min. 27 sec. West 34.14 feet to a point; 15) North 12 deg. 50 min. 12 sec. East 46.64 feet to a point; 16) North 23 deg. 47 min. 17 sec. East 57.01 feet to a point; 17) North 04 deg. 15 min. 34 sec. East 11.01 feet to a point; 18) North 24 deg. 56 min. 25 sec. East 56.19 feet to a point; 19) North 23 deg. 58 min. 09 sec. East 50.04 feet to a point; 20) North 24 deg. 32 min. 35 sec. East 87.43 feet to a point; and 21) North 81

deg. 15 min. 03 sec. East 190.90 feet to the point or place of beginning and containing 0.79 acre of land, more or less.

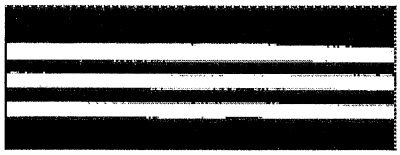
C.T. MALE ASSOCIATES

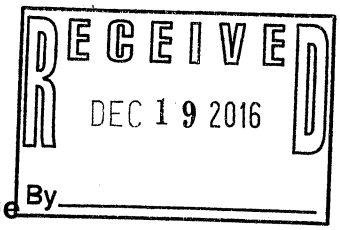
James F Cook

James F. Cook, P.L.S.

May 4, 2016
JFC/dsl/amb
C.T. Male Project No. 07.7052

Note: The above described parcel of land is shown in its entirety on a map entitled "Final Cover Topographic Survey And Record Drawing Amenia Town Landfill," Town of Amenia, Dutchess County, New York, prepared by C.T. Male Associates Engineering, Surveying, Architecture & Landscape Architecture, D.P.C., dated July 1, 2015, revised October 28, 2015 and May 4, 2016, Project No. 07.7052, Dwg. No. 15-382.





Dutchess County Clerk Recording Page

Record & Return To:

TOWN OF AMENIA
SUPERVISOR VICTORIA PEROTTI
4988 ROUTE 22
AMENIA, NY 12501

Date Recorded: 12/16/2016
Time Recorded: 10:11 AM

Document #: 02 2016 8931

Received From: WESTERVELT & REA LLP

Grantor: AMENIA TOWN
Grantee: NYS DEPT OF ENVIRONMENTAL CONSERVATION

Recorded In: Deed
Instrument Type: EASE

Tax District: Amenia

Examined and Charged As Follows :

Recording Charge:	$115.00
Transfer Tax Amount:	$0.00
Includes Mansion Tax:	$0.00
Transfer Tax Number:	3245

Red Hook Transfer Tax:

RP5217: N
TP-584: Y

Number of Pages: 14

*** **Do Not Detach This Page**
*** **This is Not A Bill**

STATE OF NEW YORK (COUNTY OF DUTCHESS) SS.
I, BRADFORD KENDALL, COUNTY CLERK AND CLERK OF THE SUPREME AND COUNTY COURTS DUTCHESS COUNTY, DO HEREBY CERTIFY THAT I HAVE COMPARED THIS COPY WITH THE ORIGINAL THEREOF FILED OR RECORDED IN MY OFFICE ON 12-16-2016 AND THE SAME IS A CORRECT TRANSCRIPT THEREOF 02-2016-8931
IN WITNESS WHEREOF I HAVE HEREUNTO SET MY HAND AND AFFIXED MY OFFICIAL SEAL

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APPENDIX D

Sample Health and Safety Plan and Community Air Monitoring Plan

SITE SPECIFIC HEALTH AND SAFETY PLAN
AMENIA TOWN LANDFILL
TOWN OF AMENIA
DUTCHESS COUNTY, NEW YORK
REVISED JUNE 15, 2011
REVISED JANUARY 19, 2012
REVISED CONTACT NAMES JANUARY 14, 2016

SITE SPECIFIC HEALTH AND SAFETY PLAN
AMENIA TOWN LANDFILL
TOWN OF AMENIA
DUTCHESS COUNTY, NEW YORK

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SITE SPECIFIC HEALTH AND SAFETY PLAN
AMENIA TOWN LANDFILL
TOWN OF AMENIA
DUTCHESS COUNTY, NEW YORK

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1.0 GENERAL

1.1 Overview

This Site Specific Health and Safety Plan (HASP) has been prepared for use during the Pre-Design Investigation, Remedial Design and Remedial Construction at the Amenia Town Landfill Site ("the Site") located south of the Hamlet of Amenia, Dutchess County, New York. This HASP has been developed by C.T. Male Associates Engineering, Surveying, Architecture & Landscape Architecture, D.P.C. (C.T. Male) as an integral part of this project under Title 3 of the Environmental Quality Bond Act (EBQA).

A designated Health and Safety Officer (HSO) will be responsible for implementing this HASP during the completion of the field work. All C.T. Male persons or parties who enter the work area (support, decontamination, and exclusion zone) must review, sign and comply with this HASP. A list of individuals authorized to enter the exclusion zone at the Site is presented in Section 13.0 of this HASP. A copy of this HASP will be maintained at the work area throughout the duration of the project. A list of field activities associated with the proposed scope of work is outlined below:

Scope of Work:

- Property Boundary Survey, and Field Survey Including Survey of Sediment in West Pond and of the Capped Landfill and Associated Features at Completion of the Remedial Construction.
- Excavation of Test Pits on West Side Slope of Landfill.
- Pre-Design and Post-Excavation Sediment Sampling of West Pond.
- Wetlands Delineation.
- Monitoring Well Installations (to replace select wells within the landfill footprint that will be abandoned during the landfill closure construction).
- Monitoring Well Development and Groundwater Sampling, If Necessary.
- Construction Observation During Remedial Construction.

1.2 Contact Names and Numbers

For this project, the following New York State Department of Environmental Conservation (NYSDEC), New York State Department of Health (NYSDOH), Town of Amenia, C.T. Male and Emergency Response names and telephone numbers are presented below as Site contacts.

NYSDEC CONTACT:

PROJECT MANAGER:	Scott Deyette NYSDEC Central Office Division of Environmental Remediation Remedial Bureau C – Inspection Unit 625 Broadway, 11th Floor Albany, New York 12233-7014	(518) 402-9794

TOWN OF AMENIA CONTACT:

TOWN SUPERVISOR:	Honorable Victoria Perotti Town of Amenia 4988 Route 22 Amenia, New York 12501	(845) 373-8118 Ext. 105

NYSDOH CONTACT:

PUBLIC HEALTH SPECIALIST:	Brad Wenskoski NYS State Department of Health Bureau of Environmental Exposure Investigation Empire State Plaza, Corning Tower, Room 1787 Albany, New York 12237	(518) 402-7860

CONSULTANT CONTACTS:

CONSULTING ENGINEER:	C.T. Male Associates Engineering, Surveying, Architecture & Landscape Architecture, D.P.C. 50 Century Hill Drive Latham, New York 12110	(518) 786-7400
	David Roecker, P.E, Project Principal	(518) 786-7491
	Elizabeth Rovers, P.E., Project Manager	(518) 786-7492

CONSULTANT CONTACTS (CONTINUED):

	Jeffrey Marx, P.E., Project Engineer and Health & Safety Coordinator	(518) 786-7548
	Dan Achtyl, Staff Geologist	(518) 786-7501

EMERGENCY PHONE NUMBERS:

EMERGENCY:	Emergency	911
PERSONAL INJURY	Sharon Hospital	Main (860) 364-4000
NON-EMERGENCY:	50 Hospital Hill Road	Emergency Dept. (860) 364-4111
	Sharon, Connecticut 06069	
	Northern Dutchess Paramedics	(800) 580-2909
FIRE DEPARTMENT:	Emergency	911
	Amenia Fire Company No. 1	(845) 373-8467
	36 Mechanic Street, PO BOX 166	
	Amenia, New York 12501	
	Wassaic Fire Company	(845) 373-8807
POLICE:	Emergency	911
	Dutchess County Sherriff	(845) 373-4300
CENTRAL NEW YORK	Central New York Poison Control Center	(800) 222-1222
POISON CONTROL	750 East Adams Street	Admin # (315) 464-7078
CENTER:	Syracuse, New York 13210	
NATIONAL RESPONSE	c/o United States Coast Guard (G-OPF)	(800) 424-8802
CENTER:	2100 2nd Street, Southwest - Room 2611	
	Washington, DC 20593-0001	
NYSDEC SPILL HOTLINE:		(800) 457-7362

2.0 HEALTH AND SAFETY PERSONNEL

The Health and Safety Officer (HSO) will be responsible for implementation of the HASP and the delegation of health and safety duties. The HSO will coordinate the resolution of safety issues, which arise during Site work. When field operations are Level D it will not be necessary for the HSO to be present on-site at all times. When the HSO is not present on-site, a designee will be authorized to perform the duties of the HSO. The designee will be responsible for implementation of the HASP.

The HSO or designee has stop work authorization which the HSO or designee will execute upon the HSO or designee's determination of an eminent safety hazard, emergency situation or other potentially dangerous situations (e.g. weather conditions), when this action is deemed appropriate. Authorization to resume work will be issued by the HSO.

3.0 SITE LOCATION AND DESCRIPTION

The Amenia Town Landfill, a Class 2 Inactive Hazardous Waste Disposal Site, encompasses approximately 8.43 acres including a portion on a larger approximately 28 acre parcel of land and a portion on a smaller approximately 2 acre parcel of land that was a former propane storage facility. The Site is located south of the Hamlet of Amenia on the west side of New York State (NYS) Route 22 in Dutchess County, New York. A Class 2 designation indicates that the site has been determined by NYSDEC to categorically pose a significant threat to public health and/or the environment requiring action. The NYSDEC Registry number for the Amenia Town Landfill is 0314006. The Amenia Town Landfill was in operation for approximately 36 years from 1940 to 1976. The landfill reportedly received municipal and household waste as well as some industrial waste.

The landfill area is generally covered with grasses and shrubs, and wooded with dense shrubs along the western and northwestern perimeter. The northern fenced portion (within the approximately 2 acre parcel of land) was formerly occupied by Sharon Oil, a propane storage facility. South of the landfill area is a steep wooded hill that is part of the larger parcel. Located southwest of the landfill area, near the base of the western side of the steep wooded hill is the former drum disposal area where drums of waste were removed by EPA in 1998. Along the western edge of the landfill is a wetland/pond (referred to as West Pond) that was reportedly created by two beaver dams prior to 1987. NYSDEC regulated wetlands are located west and north of the landfill site. A stream (referred to as West Pond Tributary) flows from the pond through the wetlands north of the landfill site, then east and through a concrete culvert beneath NYS Route 22 and eventually joins into Amenia Stream, which flows south on the east side of NYS Route 22.

4.0 POTENTIAL SITE CONTAMINANTS

The landfill reportedly received municipal and household waste as well as some industrial waste. Previous investigations during the Remedial Investigation and Test Pit Investigation have indicated the following potential Site contaminants:

- PCBs and inorganic constituents (arsenic, antimony, barium, cadmium, calcium, chromium, copper, iron, magnesium, mercury, nickel, potassium, sodium and zinc) above NYSDEC criteria in surface and/or subsurface soil at the landfill.
- Petroleum constituents in subsurface soil in the area beneath the former Sharon Oil facility.
- PCBs and inorganic constituents (antimony, arsenic, cadmium, iron, lead, manganese, mercury, nickel, silver and zinc) above NYSDEC criteria in sediments of West Pond.
- Volatile organic compounds (VOCs), select semi-volatile organic compounds (SVOCs), one pesticide (beta-BHC) and inorganic constituents above NYSDEC criteria in shallow groundwater on-site.

5.0 HAZARD ASSESSMENT

5.1 General

The hazard assessment, use of specific protective equipment, and monitoring associated with each field work task to be conducted at the subject Site are presented in the following subsections.

For this project, C.T. Male will be subcontracting portions of the work. Each subcontractor will be responsible for developing and implementing a Site Specific Health and Safety Plan for their activities, for protection of their employees, and use of personal protective equipment. The subcontractor will also be responsible for developing and following their own Respiratory Protection Program, as applicable.

5.2 Property Boundary and Field Survey

The boundary survey and field survey of beaver dams, wetlands, test pits, sampling locations, monitoring wells and the final landfill cap will be performed by a survey crew, and this work will not be intrusive. Exposure to potential Site contaminants is considered remote during the later activities. The potential hazards to the survey crew include slip and fall hazards from poor terrain, cuts from improper use of vegetation cutting tools, the possibility of skin and eye damage from walking through brush, potential for tick bites, and a potential for drowning during survey work on West Pond. To protect against these potential hazards, any personnel completing this work should wear, at a minimum, safety glasses, steel-toe safety/work boots, full length pants and hard hat. It is also planned to survey the sediments (surface and base) in West Pond. The additional potential hazard for the latter activity includes dermal contact with potentially contaminated sediments. Level D protection (as defined in Section 8.0) should be sufficient to protect against dermal contact with potentially contaminated sediments. If a boat is used, life preservers and the buddy system must be used to reduce the risk of drowning.

5.3 Test Pits

Exploratory test pits will be excavated along the west side slope of the landfill to determine the western limit of the waste, its depth and the stability of the slope. The potential hazards to personnel during this work are dermal contact, a low potential for

vapor inhalation of potential Site contaminants, slip and fall hazards from poor terrain, and hearing damage from excavation equipment. Level D protection (as defined in Section 8.0) should be sufficient to protect against dermal contact during excavation of and/or handling of the subsurface soils. The protection should also include ear plugs or equal as hearing protection. If VOC vapors are present at the action levels described in Section 5.9, on the basis of VOC vapor monitoring of the area during the work, it may be necessary to upgrade to Level C protection (as defined in Section 8.0) including respiratory protection.

5.4 Sediment Sampling

Sediment samples will be collected from West Pond during the pre-design investigation and during post-excavation confirmatory sampling. Potential hazards for these sampling tasks include dermal contact with potential Site contaminants and the potential for drowning. Level D protection should provide sufficient protection from dermal contact. If a boat is used to collect these samples, life preservers and the buddy system must be used to reduce the risk of drowning.

5.5 Wetlands Delineation

The wetlands delineation work will not be intrusive, except shallow spade holes to observe the soil conditions. The potential hazards include dermal contact with potential Site contaminants, slip and fall hazards from poor terrain, cuts from improper use of vegetation cutting tools, the possibility of skin and eye damage from walking through brush, potential for tick bites, and a potential for drowning during wetlands delineation work on West Pond. To protect against these potential hazards, any personnel completing this work should wear, at a minimum, Level D protection (as defined in Section 8.0).

5.6 Monitoring Well Installations

Monitoring wells will be installed to replace select wells within the landfill footprint that will be abandoned during the landfill closure construction. The potential hazards to personnel during this work are dermal contact with potential Site contaminants in soil and/or groundwater, a low potential for vapor inhalation of potential Site contaminants, and hearing damage from drilling equipment. To protect against these potential hazards, any personnel completing this work should wear, at a minimum,

Level D protection (as defined in Section 8.0). Level D protection should be sufficient to protect against dermal contact with potentially contaminated subsurface soils and/or groundwater. The protection should also include ear plugs or equal as hearing protection. If VOC vapors are present at the action levels described in Section 5.9, on the basis of VOC vapor monitoring of the area during the work, it may be necessary to upgrade to Level C protection (as defined in Section 8.0) including respiratory protection.

5.7 Monitoring Well Development and Sampling, If Necessary

Monitoring well development and groundwater sampling will consist of utilizing a low flow pump and tubing or bailer to extract groundwater from monitoring wells. The potential hazards to personnel during this work are dermal contact and a low potential for vapor inhalation of potential Site contaminants. Level D protection (as defined in Section 8.0) should be sufficient to protect against dermal contact during handling of the groundwater. The protection should also include safety glasses to prevent the hazard of dermal contact to the eyes through incidental spillage or splashing of potentially contaminated groundwater.

5.8 Construction Observation

During construction observation of the excavation of PCB and metals contaminated sediment in West Pond, the excavation of PCB contaminated soil, and select landfill waste excavation, consolidation and re-grading, the potential hazards to personnel during this work are dermal contact, a low potential for vapor inhalation of potential Site contaminants, and hearing damage from excavation equipment. Level D protection (as defined in Section 8.0) should be sufficient to protect against dermal contact during excavation of and/or handling of the sediments, subsurface soils and/or groundwater. The protection should also include ear plugs or equal as hearing protection. If VOC vapors are present at the action levels described in Section 5.9, on the basis of VOC vapor monitoring of the area during the work, it may be necessary to upgrade to Level C protection (as defined in Section 8.0) including respiratory protection.

5.9 Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) will be followed during ground intrusive field activities. The intent of the CAMP is to provide a measure of protection for the

downwind community (i.e., off-site receptors and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative work activities. The CAMP will monitor the air for potentially contaminated dust (Particulate Air Monitoring, see Section 5.9.1), particulates with PCBs (PCB Air Monitoring, see Section 5.9.2) and volatile organic compound vapors (VOC Air Monitoring, see Section 5.9.3) at the downwind perimeter of each designated work area. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

In the event of poor weather such as heavy snow or rain, particulate monitoring will not be performed. These weather conditions would limit the effectiveness of the sensitive monitoring equipment. Work activities will be halted if fugitive dust migration is visually observed. Attempts will be made to continue periodic VOC monitoring, but the weather may also prevent this activity.

5.9.1 Particulate Air Monitoring

During the test pit excavations and soil, sediment and/or landfill waste disturbance work during remedial construction particulate monitoring will be performed. At a minimum two real-time particulate monitors capable of continuously measuring concentrations of particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less), if required by NYSDEC or the NYSDOH will be used. The instruments will be placed at temporary monitoring stations based on the prevailing wind direction each day, one upwind and at a minimum one downwind of the work area. The particulate monitoring instruments will be capable of displaying the short term exposure limit (STEL) or 15 minute averaging period, which will be field checked and recorded for comparison to the NYSDOH Generic Community Air Monitoring Plan action levels for PM-10, as listed below. The particulate readings will be manually monitored, but the instruments are programmed to alarm at preset action levels. Instantaneous readings will be recorded periodically throughout the work day. At the end of each day, the readings for each instrument will be downloaded to a PC and retained for future reference and reporting.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or

if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

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

5.9.2 PCB Air Monitoring

During ground intrusive and/or landfill waste disturbance activities particulate monitoring for PCBs will be performed. PCB monitoring will include collection of particulate samples from perimeter particulate monitors around the landfill twice per week for PCBs analysis. At a minimum, one upwind and three downwind samples will be collected at perimeter areas around the landfill near the source. The samples will be collected over an 8-hour period (8-hour composite) using low volume sampling pumps and collected during the normal work hours when activities are occurring on site. The particulate samples will be analyzed for PCBs by EPA Method TO-10A/EPA Method 8082 or equal.

If PCB capacitors, transformers or associated components including compressed paper, oil, oily residue or oil contaminated soil are encountered, or if elevated PCB levels are detected in the particulate samples then PCB monitoring will be conducted daily on the days that work is being completed on site. During the excavation of the PCB contaminated soil on the west side slope of the landfill, and during the removal of contaminated sediment from the wetland/West Pond daily monitoring for PCBs will also be conducted. At a minimum, one upwind and three downwind samples will be collected at perimeter areas around the work area. At least two additional downwind samples may be added depending on the perimeter sampling results. The daily samples will be collected on a PUF matrix over a 24-hour period (24-hour composite) using low volume sampling pumps. The samples will be analyzed for PCBs by EPA Method TO-10A/EPA Method 8082.

If the perimeter sampling results for PCBs above show total PCB concentrations approaching (at approximately 80% of) 260 nanograms per cubic meter, then the additional downwind samples will be collected. Also, an evaluation of activities and controls to reduce the airborne PCB levels will be initiated and implemented. If the additional downwind sampling results show total PCB concentrations approaching (at approximately 80% of) 110 nanograms per cubic meter, then a re-evaluation of activities and controls to reduce the airborne PCB levels will be initiated and implemented.

5.9.3 VOC Air Monitoring

The potential contaminants for the Site include volatile and to a lesser extent semi-volatile organic compounds. The VOCs have the potential to release vapors to the environment when disturbed. VOCs will be monitored at the downwind perimeter of the immediate work area on a continuous basis. Upwind concentrations will also be measured continuously to establish background conditions. A MiniRAE 2000 handheld VOC monitor will used to perform the VOCs monitoring. This unit is capable of displaying the STEL (15 minute averaging period) which will be field checked and recorded for comparison to the NYSDOH Generic Community Air Monitoring Plan action levels for VOCs, as listed below. The VOC readings (STEL) will be recorded for future reference and reporting. Instantaneous readings will be recorded periodically throughout the work day. At the end of each day, the readings for the continuous monitoring instrument will be downloaded to a PC and retained for future reference and reporting.

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

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or

residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

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

5.10 Respiratory Protection

During the completion of subsurface activities including excavation of test pits and advancement of test borings, the ambient air in the work area will also be monitored with the MiniRAE 2000 PID prior to the start of work and periodically as conditions warrant. If a concentration (sustained for 5 minutes) of total VOCs is detected within the work area on the instrument, relative to an isobutylene standard, the level of personal protective equipment (PPE) protection will be upgraded as summarized in Table 1. If a concentration greater than 15 ppm, work will cease immediately and the situation will be evaluated prior to continuation of work.

Table 1
C.T. Male Action Levels and Required Respiratory Protection

Action Level	Level of PPE	Type of Respiratory Protection
0-10 parts per million	Level D	No respiratory protection
10-15 parts per million	Level C	Negative pressure half-face or full face respirator with combination organic vapor/particulate cartridge
15-50 parts per million	Cease Work	Evaluate work procedure
Greater than 100	Cease Work	Evaluate work procedures

-Facial hair is not permitted while wearing most respirators.
-Workers required to wear a respirator must have a minimum of OSHA 40 Hour training with current medical monitoring and fit test documentation.

5.11 Hazard Identification and Control

Table 2 presents generalized hazards potentially involved with the tasks to be completed on this project. Table 2 also identifies general procedures to follow to prevent or reduce accident, injury or illness. Any worker on-site who identifies a potential hazard must report the condition to the HSO or designee, and initiate control of the hazardous condition.

Table 2 Potential Hazards and Control	
Potential Hazard	**Control**
Vehicular Traffic	1. Wear safety vest when vehicular hazards exist. 2. Use cones, flags, barricades, and caution tape to define work area. 3. Use vehicle to block work area. 4. Contact police for high traffic situations.
Slip, Trip, and Fall Protection	1. Assess work area to determine if there is a potential for falling. 2. Make sure work area is neat and tools are staged in one general area. 3. Wear steel-toe boots with adequate tread and always watch where the individual is walking. Carry flashlight when walking in poorly lighted areas.
Inclement Weather	1. Stop outdoor work during electrical storms and other extreme weather conditions such as extreme heat or cold temperatures. 2. Take cover indoors or in vehicle. 3. Listen to local forecasts for warnings about specific weather hazards such as tornadoes, hurricanes, and flash floods.
Utility Lines Contact	1. Contact UFPO to have utility lines marked prior to any underground excavation, trenching or drilling. UFPO must be contact at least 72 hours prior to work. 2. Refer to Site drawings for utility locations. 3. Manually dig 3 to 5 feet below grade and 5 feet on each side of utility marked to avoid breaking utility lines.
Noise	1. Wear hearing protection when heavy equipment is operating on-site. 2. Wear hearing protection whenever you need to raise your voice above normal conversational speech due to a loud noise source; this much noise indicates the need for protection. 3. Hearing protection is required when measured sound exceeds 85 decibels (dB) where employees stand or conduct work.
Electrical Shock	1. Maintain appropriate distance between heavy equipment and overhead utilities; 20 foot minimum clearance from power lines; and 10 foot minimum clearance from shielded power lines. 2. Contact local underground utility locating service prior to penetrating the ground surface.

Table 2 Potential Hazards and Control	
Potential Hazard	**Control**
Physical Injury	1. Wear hard hats and safety glasses at all times when on-site. 2. Maintain visual contact with equipment operators and wear orange safety vest when heavy equipment is operating on-site. 3. Avoid loose clothing when working around rotary equipment. 4. Keep hands and feet away from drilling augers and excavation equipment tracks/tires. 5. Test emergency shut-off switches on drill rigs and excavation equipment regularly.
Back Injury	1. Use a mechanical lifting device or a lifting aid where appropriate. 2. Make sure the route is free of obstructions. 3. Bend at the knees and use leg muscles when lifting. 4. Use the buddy system if lifting heavy or awkward objects. 5. Do not twist or jerk your body when lifting.
Fire Control	1. Smoke only in designated areas. 2. Keep flammable liquids in closed containers. 3. Isolate flammable and combustible materials from ignition sources. 4. Keep fire extinguisher nearby and use only if deemed safe.
Heat Stress	1. Increase water intake while working. 2. Avoid excessive alcohol intake the night before working in heat stress situations. 3. Increase number of rest breaks, as necessary and rest in a shaded area. 4. Watch for signs and symptoms of heat exhaustion and fatigue. 5. Rest in cool, dry areas. 6. In the event of heat stress or heat stroke, bring the victim to a cool environment and call 911.

Table 2 Potential Hazards and Control	
Potential Hazard	**Control**
Drilling Operations	1. Driller and helper must be present during all active operations. 2. Emergency shut off switches must be known by the site personnel. 3. Wear clothing, jewelry or PPE that is not potentially going to get caught in moving parts. 4. No unauthorized personnel in the work area of the drill rig. 5. Cease operations if hazardous conditions arise. 6. Drilling work areas must be clearly marked with caution tape. 7. Drillers are not to climb the tower while it is erected. 8. Shut down rig to make repairs or adjustments. 9. For start-up, all controls are to be disengaged and the rope to be untied from the cathead. 10. Do not drive drill-rig off of the hole until the tower has been lowered. 11. Use a long handled shovel to move auger cuttings away from the auger.
Off-Road Movement of Excavator and Drill Rig	1. Inspect the route of travel, inspecting for depressions, stumps, gullies, ruts, and similar obstacles. 2. Use caution when traveling on hilly terrain. 3. Cross obstacles such as logs, swales, and ditches perpendicularly. 4. Use a spotter when lateral or overhead clearance is limited. 5. When grades are steep, use blocking beneath the wheels.
Soil Sampling, Sediment Survey, Sediment Sampling, Test Borings, Well Installations, Well Development, Groundwater Sampling and Construction Observation	1. Wear appropriate PPE to avoid skin, eye, and inhalation contact with potentially contaminated soil and/or groundwater. 2. Stand upwind to minimize possible inhalation exposure, especially when opening monitoring wells. 3. Conduct air monitoring, whenever necessary to determine level of respiratory protection. 4. If necessary, employ engineering controls to assist in controlling chemical vapors. 5. Wear life vests and use the buddy system when using a boat to survey sediment in West Pond and collect sediment samples in West Pond.

Table 2 Potential Hazards and Control	
Potential Hazard	**Control**
Cleaning Equipment	1. Wear appropriate PPE to avoid skin and eye contact with alconox or other cleaning materials. 2. Stand upwind to minimize possible inhalation exposure. 3. Proper disposal of cleaning solutions and rinse accordingly.

Note: A first aid kit and fire extinguisher will be located in the C.T. Male company vehicle.

Response actions to personal exposure from on-site contaminants include skin contact, eye contact, inhalation, ingestion, and puncture or laceration. The recommended response actions are presented in Section 11.2.

6.0 TRAINING

Site specific training of workers and personnel will be conducted and provided by the HSO or designee prior to any on-site activity. The training will specifically address the activities, procedures, monitoring and equipment for the Site operations. It will include area and facility layout, hazards, emergency services (police, hospital, fire, etc.), and review of this HASP. Questions by workers, field personnel, etc. will be addressed at this time.

Workers and personnel conducting and/or supervising the project must have attended and successfully completed a 40 Hour Health and Safety Training Course for Hazardous Waste Operations and an annual 8 Hour Refresher Course. Workers performing the wetlands delineation must have attended and successfully completed a 24 Hour Health and Safety Training Course for Hazardous Waste Operations and an annual 8 Hour Refresher Course. In addition, the individual must take part in an employer medical surveillance program in accordance with OSHA 1910.120 requirements, specifically, that the workers have had a medical physical within two (2) years prior to the date the work begins and that they are physically able to wear a respirator.

Documentation of training and medical surveillance will be submitted to the HSO or designee prior to the start of any on-site work. A copy of the training certificates and medical surveillance documentation shall be inserted into the pocket of this HASP in Appendix A.

7.0 SITE ACCESS

The Site is located south of the Hamlet of Amenia. The Site work will generally be performed within the immediate boundaries of or around the perimeter of (boundary survey) the landfill and on West Pond. Restricted access to the work area is not anticipated to be necessary during the completion of the pre-design investigations (test pits, sediment survey, sediment sampling) as this work will be conducted on the west side of the landfill, which is not readily visible to or accessible by the public.

Only OSHA trained individuals which are qualified to do the work and have read and signed this Site Specific HASP will be allowed within the work area. The work area may be secured with barricades, signs, cones, flagging or other similar method to prevent unauthorized entry. Otherwise, the HSO or designee will be responsible for limiting access to unauthorized individuals.

During completion of the on-site activities, the immediate work area will be considered the Exclusion Zone (contaminated area where investigation work is to be conducted). The Contamination Reduction Zone (decontamination area) and Support Zone (clean area, everywhere else) will be established outside the Exclusion Zone. The exclusion, contamination reduction, and support zone during investigation/remediation work have been identified and designated as follows:

Exclusion Zone - The location of the exclusion zone will be determined in the field prior to the start of work and will vary in size shape and location depending on the area(s) the work is being conducted. The exclusion zones may be delineated with stakes and yellow caution tape or other similar method. Only authorized persons with proper training and protective gear will be allowed to enter the exclusion zone.

Contamination Reduction Zone - This zone will generally be a 10'± x 10'± area, containing a temporary decontamination pad, as applicable, and adequately marked. The location will be determined in the field prior to the start of work and will vary depending on the area(s) the work is being conducted. This zone is where decontamination of personnel and equipment will take place, as necessary, on the basis of the work being performed. It will be located upwind of the Exclusion Zone, if possible.

Support Zone - Area outside of contamination reduction zone and not including the exclusion zone. Unauthorized or untrained individuals must remain in this zone.

8.0 PERSONAL PROTECTION

8.1 Level of Protection

Based on evaluation of the potential hazards, the minimum level of protection to be worn by workers during implementation of the on-site activities is defined as Level D protection, and will be controlled by the HSO or designee.

The minimum level D protective equipment will consist of field clothes, steel toe safety/work boots, safety glasses, hard hat, disposable chemical resistant gloves, and disposable over-boots (optional). As appropriate, this level of protection may be modified to include ear plugs or equal hearing protection, coveralls, leg chaps, Tyvek suits, or face shield for additional protection. Full-face and half-face air purifying respirators should be readily available. The appropriate respirator cartridges that will be available at the Site, to use if necessary with the air purifying respirators are a combination organic vapor and particulate cartridge filters.

If required, level C protective equipment will consist of the items listed for Level D protection with the added protection of a half face or full-face, air purifying (organic vapor and particulate) respirator, chemical resistant Tyvek suits, inner and outer chemically resistant gloves (i.e., solvent resistant nitrile, PVC/nitrile), and chemical resistant disposable boot coverings. When Site conditions warrant the need for level C protective equipment, work will cease and the project will be re-evaluated to determine the necessity for employing engineering controls to reduce or eliminate the potential contaminants of concern. Level C protective equipment is not expected to be necessary based on our knowledge of the Site conditions.

If required, level B protective equipment will consist of the items listed for Level D protection except a self-contained breathing apparatus (SCBA) will be worn which is dependent on the level of contaminants present in the work zone and polylaminated Tyvek suits will be required. When Site conditions warrant the need for level B protective equipment, work will cease and the project will be re-evaluated to determine the necessity for employing engineering controls to reduce or eliminate the potential contaminants of concern. Level B protective equipment is not expected to be necessary based on our knowledge of the Site conditions.

8.2 Safety Equipment

Basic emergency and first aid equipment will be available at an area within the Support Zone clearly marked and available or within C.T. Male's company vehicle. This shall include a first aid kit, fire extinguisher, supply of potable water, soap and paper towels. The HSO or designee shall be equipped with a cellular phone in case of emergencies.

9.0 COMMUNICATIONS

The HSO or designee shall be equipped with a cellular phone in case of emergencies. If the cellular phone is inoperable, a phone in the Amenia Town Hall will be utilized. The HSO or designee shall notify the C.T. Male Project Manager as soon as safely possible in the event of an accident, injury or emergency action.

10.0 DECONTAMINATION PROCEDURES

10.1 Personnel Decontamination Procedures

Decontamination procedures will be carried out by all personnel leaving the Exclusion Zone (except under emergency evacuation). The amount of decontamination performed will be dependent on the level of personal protection currently being worn within the exclusion zone and known level of contaminants present.

1. Do not remove respiratory protection, if worn, until all of steps have been completed.
2. Clean outer protective gloves and outer boots, if worn, with water (preferably with a pressurized washer) over designated wash tubs in the exclusion zone to remove the gross amount of contamination.
3. Deposit equipment used (tools, sampling devices, and containers) at designated drop stations on plastic drop sheets or in plastic lined containers.
4. Rinse outer boots if worn and gloves with clean water in designated rinse tubs. Remove outer boots if worn and gloves and deposit in designated area to be determined in the field for use the next day or when necessary. If disposable outer boots are worn, remove and discard in designated container.
5. Remove hard hat and safety glasses, rinse with clean water as necessary and deposit in designated area for use the next day or when necessary.
6. Remove Tyvek suit, if worn, and discard in designated container. Remove respirator at this time, if used; wash and rinse with clean water. Organic vapor cartridges, when used, will be replaced daily. Used cartridges will be discarded in the designated waste container. Remove inner gloves and discard in designated container.

10.2 Equipment and Sample Containers Decontamination

All decontamination will be completed by personnel in protective gear appropriate for the level of protection determined by the Site HSO or designee.

Manual soil sampling equipment including trowels, macro-core sampler, sediment sampler, etc. and surveying equipment utilized to measure sediment elevation and depth in West Pond which come into contact with the Site's sediments, soils and/or groundwater, will be cleaned with a non-phosphate detergent/tap water wash, a tap water rinse and a deionized or distilled water rinse prior to sampling, in between each sample location and at completion of sampling. The decontamination water will be collected and transferred to labeled 55-gallon drum(s) for off-site disposal.

Excavation equipment utilized to excavate test pits will likely be a track excavator or equivalent. The excavation equipment bucket will be decontaminated over the test pit by first removing gross soil/debris that may have adhered to the bucket. The bucket will then be cleaned with a high-pressure washer, or with non-phosphate (alconox) soap and tap water wash and rinsed with copious amounts of tap water, whereby the water will infiltrate the test pit just completed. If decontamination over the test pit is not feasible, a temporary decontamination pad will be constructed and utilized for the collection of water generated as part of the decontamination effort. If a decontamination pad is utilized, the decontamination water will be collected and transferred to labeled 55-gallon drum(s) for off-site disposal.

During monitoring well installations, the drill-rig equipment (tools, rods, split-spoon sampler, etc.) will be cleaned with a high-temperature/high-pressure washer prior to the start of drilling, after each test boring/monitoring well installation, and at the completion of the monitoring well installations. Soil sampling equipment (i.e., split-spoon sampler) will also be cleaned with a high-temperature/high-pressure washer or with a non-phosphate detergent/tap water wash and tap water rinse prior to sampling, in between each soil sampling interval and at completion of sampling activities. The decontamination fluids will be allowed to infiltrate back into the landfill.

Exterior surfaces of sample containers will be wiped clean with disposable wipes in the decontamination zone and transferred to a clean cooler for transportation or shipment to the analytical laboratory. Sample identities will be noted and checked off against the

chain-of-custody record. The disposable wipes will be placed in the designated disposal container for subsequent disposal.

The disposable sampling equipment, personnel protective equipment and disposable wipes will be placed in a designated labeled disposal container for subsequent disposal based on the media sampling laboratory analyses results.

11.0 EMERGENCY RESPONSE PROCEDURES

THE PROJECT EMERGENCY COORDINATOR IS:

Site Health and Safety Officer (HSO) Jeff Marx

On-site personnel will use the following standard emergency procedures. The Project Manager and HSO shall be notified of any on-site emergencies and be responsible for assuring that the appropriate procedures are followed.

11.1 Personal Injury

Emergency first aid shall be administered on-site as deemed necessary and only by a trained individual, if available at the Site. If a trained individual is not available on-site, decontaminate, if feasible, and transport individual to nearest medical facility (Sharon Hospital). The HSO will supply medical data sheets to appropriate medical personnel and be responsible for completing the incident report. If the HSO is injured or controlling the emergency situation, the medical data sheets are available in Appendix B of this HASP. A map showing the route to Sharon Hospital is presented as Figure 1. Directions to the hospital are included with the figure.

11.2 Personal Exposure

The recommended response to worker exposure from contaminants on-site includes the following:

SKIN CONTACT: Use generous amounts of soap and water. Wash/rinse affected area thoroughly, and then provide appropriate medical attention, as necessary.

EYE CONTACT: Wash eyes thoroughly with potable water supply provided on site. Eyes should be rinsed for at least 15 minutes subsequent to chemical contamination. Provide medical attention, as necessary.

INHALATION: Move worker to fresh air and outside of the work zone and/or, if necessary, decontaminate and transport to hospital (Sharon Hospital). If respirator use is implemented at the time of

inhalation, worker must not remove respirator until completely away from the work zone.

INGESTION: Decontaminate, if feasible, and transport to hospital (Sharon Hospital) and as appropriate, contact Central New York Poison Control Center.

PUNCTURE WOUND OR LACERATION: Provide first aid at the Site and if wound needs medical attention, decontaminate, if feasible, and transport to hospital (Sharon Hospital).

If the affected worker is exposed to contaminants on-site and the injury or accident prevents decontamination of the individual, the emergency responders must be notified of this condition and the exposure must be kept to a minimum.

11.3 Potential or Actual Fire or Explosion

Immediately evacuate area in the event of potential or actual fire or explosion. Notify the local fire and police departments, and other appropriate emergency response groups, as listed in Section 1.2. Perform off-site decontamination and contain wastes for proper disposal. If a fire or explosion occurs, all on-site personnel must meet in the designated area of the Site (established by the HSO or designee) for an accurate head count.

11.4 Equipment Failure

Should there be any equipment failure, breakdown, etc. the Project Manager and HSO shall be contacted immediately. The Project Manager or the HSO will make every effort to replace or repair the equipment in a timely manner.

11.5 Spill Response

The Site HSO or designee shall initiate a corrective action program with the subcontractors in the event of an accidental release of a hazardous material or suspected hazardous material. The HSO or designee will act as the Emergency Coordinator with

the subcontractors for the purposes of: spill prevention; identifying releases; implementing clean up measures; and notification of appropriate personnel.

The corrective action program will be implemented by the HSO and subcontractor to effectively control and minimize any impact accidental releases may have to the environment.

Effective control measures will include:

- Preliminary assessment of the release,
- Control of the release source,
- Containment of the released material, and
- Effective clean-up of the released material.

Potential sources of accidental releases may include hydraulic oil spills or petroleum leaks from heavy equipment. The HSO/Emergency Coordinator in conjunction with the subcontractor shall respond to an accidental release in the following manner:

- Identify the character, source, amount and area affected by the release.
- Have subcontractor take all reasonable steps to control the release.
- Notify the NYSDEC Spill Hotline at 1-800-457-7362. Notify the Town of Amenia Supervisor, Janet Reagon, and the NYSDEC Project Manager, Janet Brown, at a minimum, as listed in Section 1.2.
- Contain the release with sorbent material which should include speedi-dry, spill socks and sorbent pads.
- Prevent the release from entering sensitive receptors (i.e., catch basins and surface water) using the specified sorbent material or sandbags.
- Coordinate cleanup of the release material.
- Oversee proper handling and storage of contaminated material for disposal.

At no time should personal health or safety be compromised or jeopardized in an attempt to control a release. All health and safety measures as outlined in this HASP should be adhered to.

12.0 ADDITIONAL WORK PRACTICES

Workers will be expected to adhere to the established safety practices. Work on the project will be conducted according to established protocol and guidelines for the safety and health of all involved. The following will be adhered to:

- Employ the buddy system when possible, and for those work tasks which require it. Establish and maintain communications.
- Minimize contact with potentially contaminated sediment, soil and water.
- Employ disposable items when possible to minimize risks during decontamination and possible cross-contamination during sample handling.
- Smoking, eating, or drinking after entering the work zone and before decontamination will not be allowed (to prevent oral ingestion of potential on-site contaminants).
- Avoid heat, cold and other work stress related to wearing personal protective equipment. Take breaks as necessary and drink plenty of fluids to prevent dehydration.
- Withdrawal from a suspected or actual hazardous situation to reassess procedures is the preferred course of action.
- The removal of facial hair (except mustaches) prior to working on-site will be required to allow for a proper respiratory face piece fit.
- The Project Manager, the HSO, and sampling personnel shall maintain records recording daily activities, meetings, facts, incidents, data, etc. relating to the project. These records will remain at the project Site during the full duration of the project so that replacement personnel may add information while maintaining continuity. These daily records will become part of the permanent project file.

13.0 AUTHORIZATIONS

Personnel authorized to enter the exclusion zone at the Amenia Town Landfill Site in the Town of Amenia, Dutchess County, New York while operations are being conducted must be certified by the HSO. Authorization will involve completion of appropriate training courses and review and sign off of this HASP.

Personnel authorized to perform work on-site are as follows:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____

14.0 MEDICAL DATA SHEET

This medical data sheet will be completed by all on-site personnel and will be kept on-site during the duration of the project. This data sheet will accompany any personnel when medical assistance is needed or if transport to hospital facilities is required.

PROJECT: Remedial Design and Construction Management to be conducted at the Amenia Town Landfill Site located in the Town of Amenia, Dutchess County, New York.

Name _____ Home Telephone _____

Address _____

Emergency Contact _____

Drug or Other Allergies _____

Particular Sensitivities _____

Do You Wear Contact Lenses _____

Provide a Checklist of Previous Illness or Exposure to Hazardous Chemicals

_____

What Medications Are You Presently Using

_____

Do You Have Any Physical or Medical Restrictions

_____

Are You Qualified to Wear Respirator (Provide Fit Test Results) _____

Date of your last OSHA physical _____

Name, Address, and Telephone Number of Personal Physician:

_____

_____

_____

15.0 FIELD TEAM REVIEW

Each field team member shall sign this section after Site specific training is completed and before being permitted to work on-site.

I have read and understood this Site Specific Health and Safety Plan, and I will comply with the provisions contained therein.

PROJECT: Remedial Design and Construction Management
Amenia Town Landfill Site
Route 22, Town of Amenia
Dutchess County, New York

Name: Printed	Signature	Date

FIGURE 1

MAP SHOWING ROUTE TO SHARON HOSPITAL WITH DIRECTIONS

Map and Directions to Sharon Hospital:

Site Location: 4541 NYS Route 22, Amenia, New York 12501

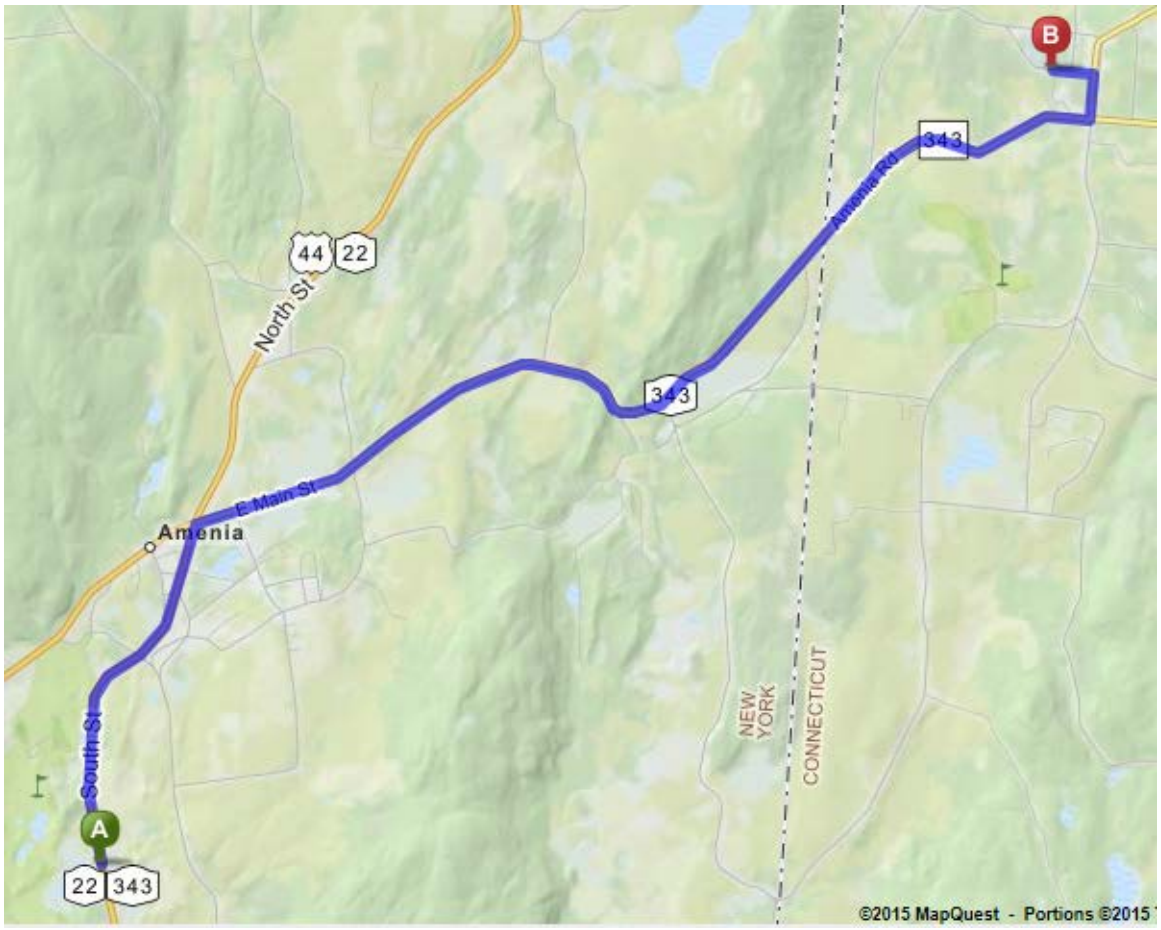
Hospital Location: 50 Hospital Hill Road, Sharon, Connecticut 06069

Hospital Telephone: (860) 364-4000

Directions to the Hospital:

1. Head north on Route 22/Route 343 toward Dunn Road, go 1.4 miles.
2. Turn right at East Main Street/Route 343 (continue to follow Route 343), go 2.2 miles.
3. Turn left to stay on Route 343 (entering Connecticut), go 1.3 miles.
4. Continue on Amenia Road/CT-343, go 1.5 miles.
5. Turn left at CT-41/Main Street, go 0.2 miles.
6. Turn left at CT-361/West Main Street, go 0.1 miles.
7. Continue on Hospital Hill Road, go 499 feet.

Total Distance: 6.8 miles.



APPENDIX A

TRAINING CERTIFICATES AND MEDICAL SURVEILLANCE FOR AUTHORIZED SITE WORKERS

APPENDIX B

MEDICAL DATA SHEETS
COMPLETED BY AUTHORIZED SITE WORKERS

APPENDIX E

Monitoring Well Construction Logs

SINGLE-CASED MONITORING WELL/PIEZOMETER CONSTRUCTION DIAGRAM

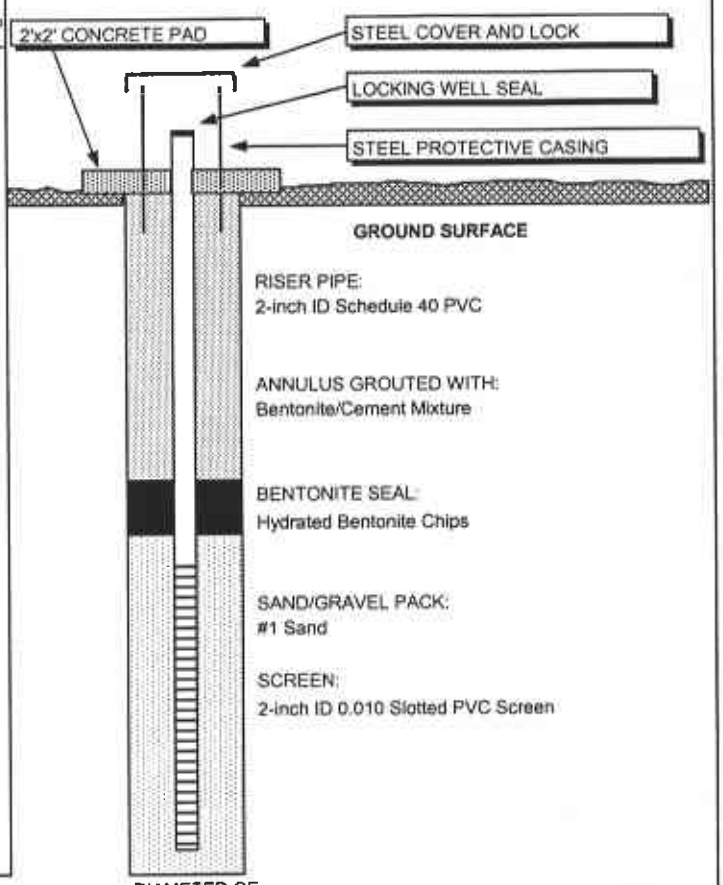
Site Name: Amenia Landfill

CONSTRUCTION OF MONITORING WELL NO. MW-3

Project location/number Amenia, New York/47-01E04141.00		***NYDEC Well Permit No.*** NA	***Elevation datum*** NAD88
Drilling company ADT	***Driller*** Les Darrow	***Surveyor*** Santos Associates	***Ground elevation*** 504.61 ft
Date and time of completion 10/26/2001		***Northing*** 1091784.694	***Top of protective steel casing elevation*** 507.29 ft
Inspector H. Brian Becker		***Easting*** 746719.023	***Top of riser pipe elevation*** 506.99 ft

A = Top of Casing
B = Top of Riser
C = Ground Surface
D = Top of Bentonite Seal
E = Top of Sand Pack
F = Top of Screen
G = Bottom of Screen
H = Bottom of Borehole

KEY	ELEVATIONS (ft above Mean Sea Level)	DEPTHS (ft below ground, not to scale)
A	507.29	-2.68
B	506.99	-2.38
C	504.61	0.0
D	487.61	17.0
E	485.61	19.0
F	482.61	22.0
G	473.61	31.0
H	472.61	32.0



DIAMETER OF BOREHOLE: 8-inch ID

REMARKS

Developed well on 11/13/01 using two Whale submersible pumps in tandem from 0715 to 0910. Purge rate approximately 1 GPM. No odors detected in purge waters and developed until clear.

SINGLE-CASED MONITORING WELL/PIEZOMETER CONSTRUCTION DIAGRAM

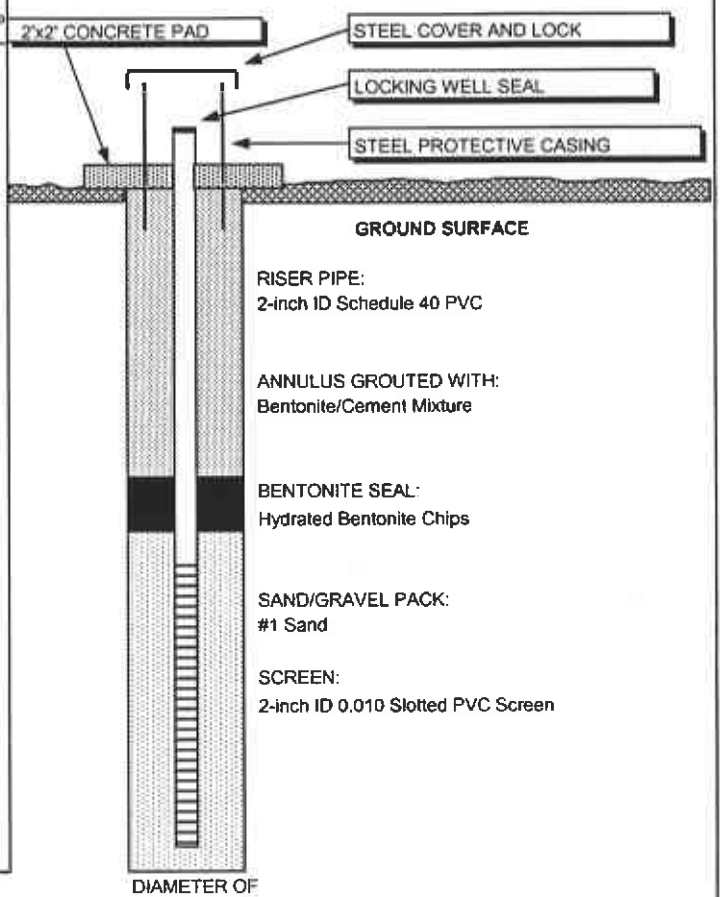
Site Name: Amenia Landfill

CONSTRUCTION OF MONITORING WELL NO. MW-4

Project location/number Amenia, New York/47-01E04141.00		***NYDEC Well Permit No.*** NA	***Elevation datum*** NAD88
Drilling company ADT	***Driller*** Les Darrow	***Surveyor*** Santos Associates	***Ground elevation*** 510.42 ft
Date and time of completion 10/29/2001		***Northing*** 1091531.318	***Top of protective steel casing elevation*** 512.99 ft
Inspector H. Brian Becker		***Easting*** 746751.939	***Top of riser pipe elevation*** 512.77 ft

A = Top of Casing
B = Top of Riser
C = Ground Surface
D = Top of Bentonite Seal
E = Top of Sand Pack
F = Top of Screen
G = Bottom of Screen
H = Bottom of Borehole

KEY	ELEVATIONS (ft above Mean Sea Level)	DEPTHS (ft below ground, not to scale)
A	512.99	-2.57
B	512.77	-2.35
C	510.42	0.0
D	488.42	22.0
E	484.42	26.0
F	482.42	28.0
G	472.42	38.0
H	471.42	39.0



DIAMETER OF BOREHOLE: 8-Inch ID

REMARKS

Developed well on 11/12/01 using two Whale submersible pumps in tandem from 1600 and 1707. Purge rate approximately 1 GPM. No odor detected in purge wate. Ddeveloped well until clear.

DOUBLE-CASED MONITORING WELL/PIEZOMETER CONSTRUCTION DIAGRAM

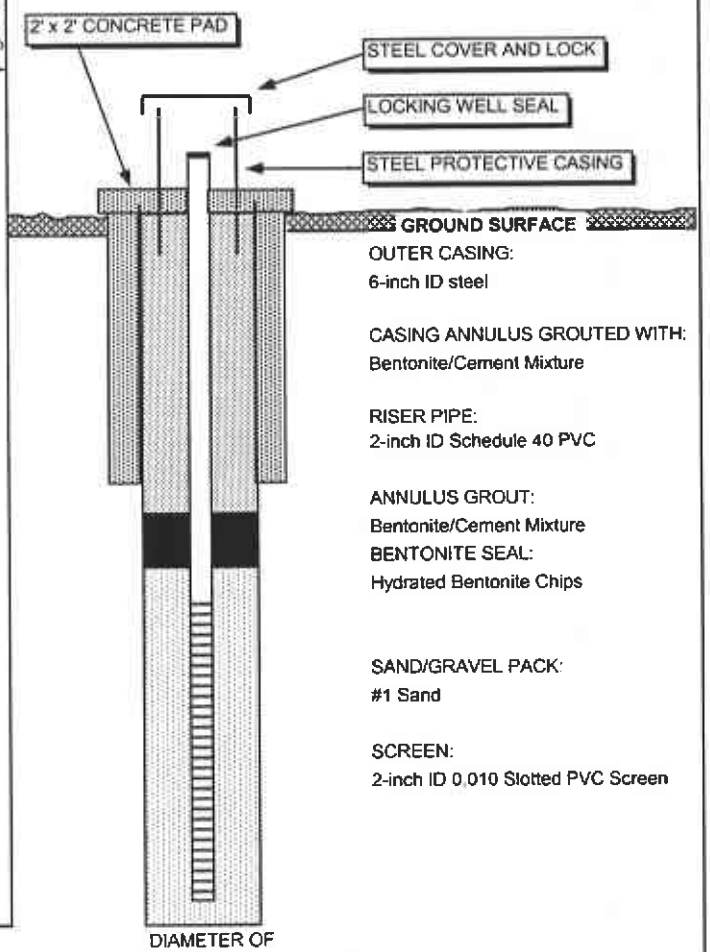
Site Name: Amenia Landfill

CONSTRUCTION OF MONITORING WELL NO. MW-4B

Project location/number Amenia, New York/47-01E04141.00		***NYDEC Well Permit No.*** NA	***Elevation datum*** NAD88
Drilling company ADT	***Driller*** Les Darrow	***Surveyor*** Santos Associates	***Ground elevation*** 510.68 ft
Date and time of completion 12/05/2001		***Northing*** 1091529.150	***Top of protective steel casing elevation*** 512.62 ft
Inspector H. Brian Becker		***Easting*** 746743.766	***Top of riser pipe elevation*** 512.35 ft

A = Top of Casing
B = Top of Riser
C = Ground Surface
D = Bottom of Outer Casing
E = Top of Bentonite Seal
F = Top of Sand Pack
G = Top of Screen
H = Bottom of Screen
I = Bottom of Borehole

KEY	ELEVATIONS (ft. above Mean Sea Level)	DEPTHS (ft below ground, not to scale)
A	512.62	-1.94
B	512.35	-1.67
C	510.68	0.0
D	434.68	76.0
E		
F	421.68	89.0
G	419.68	91.0
H	409.68	101.0
I	408.68	102.0



OUTER CASING:
6-inch ID steel

CASING ANNULUS GROUTED WITH:
Bentonite/Cement Mixture

RISER PIPE:
2-inch ID Schedule 40 PVC

ANNULUS GROUT:
Bentonite/Cement Mixture
BENTONITE SEAL:
Hydrated Bentonite Chips

SAND/GRAVEL PACK:
#1 Sand

SCREEN:
2-inch ID 0.010 Slotted PVC Screen

DIAMETER OF BOREHOLE: 6-inch ID

REMARKS

Developed well on 01/04/02 using two Whale submersible pumps in tandem from 1016 to 1205. Purge rate approximately 0.5 GPM. No odors detected in purge waters. Upon completion, development clear.

SINGLE-CASED MONITORING WELL/PIEZOMETER CONSTRUCTION DIAGRAM

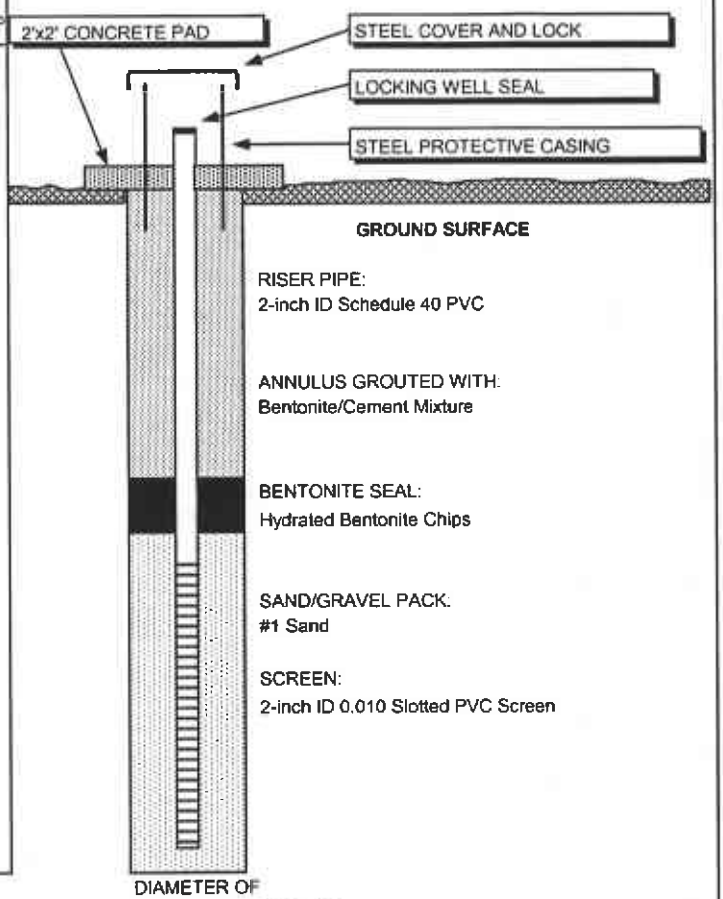
Site Name: Amenia Landfill

CONSTRUCTION OF MONITORING WELL NO. MW-5

Project location/number Amenia, New York/47-01E04141.00		***NYDEC Well Permit No.*** NA	***Elevation datum*** NAD88
Drilling company ADT	***Driller*** Les Darrow	***Surveyor*** Santos Associates	***Ground elevation*** 521.01 ft
Date and time of completion 11/30/2001		***Northing*** 1091221.941	***Top of protective steel casing elevation*** 523.62 ft
Inspector H. Brian Becker		***Easting*** 746797.163	***Top of riser pipe elevation*** 523.50 ft

A = Top of Casing
B = Top of Riser
C = Ground Surface
D = Top of Bentonite Seal
E = Top of Sand Pack
F = Top of Screen
G = Bottom of Screen
H = Bottom of Borehole

KEY	ELEVATIONS (ft above Mean Sea Level)	DEPTHS (ft below ground, not to scale)
A	523.62	-2.61
B	523.50	-2.49
C	521.01	0.0
D		
E		20.0
F		22.0
G		32.0
H		33.3



DIAMETER OF BOREHOLE: 6-inch ID

REMARKS

Developed well intermittently on 01/04/02 using a Whale submersible pump from 0832 to 1232. Well pumped dry. Purge rate approximately 1 GPM. No odors detected in purge waters. Upon completion, development almost clear.

SINGLE-CASED MONITORING WELL/PIEZOMETER CONSTRUCTION DIAGRAM

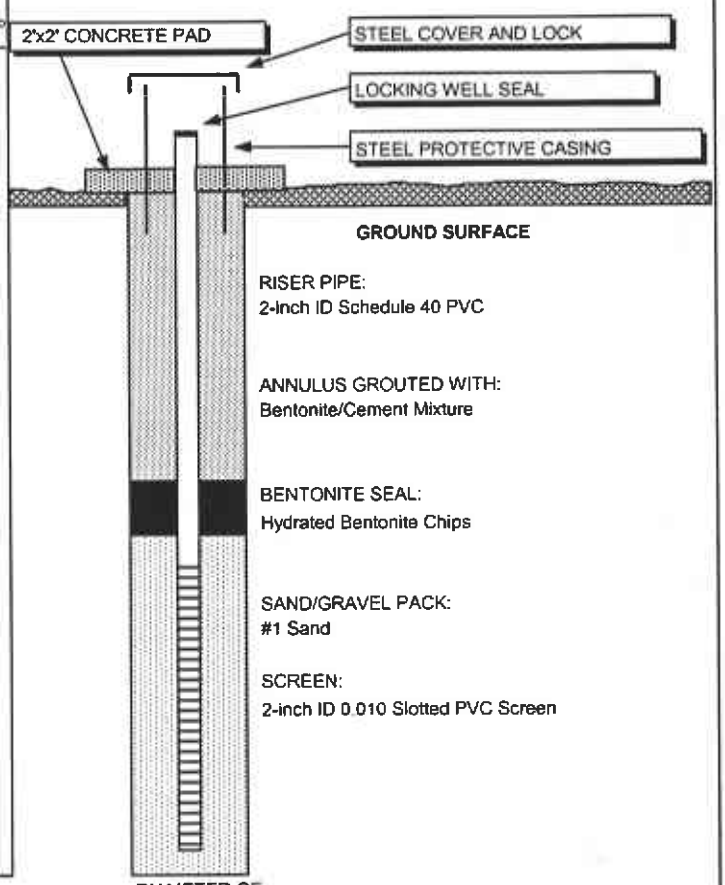
Site Name: Amenia Landfill

CONSTRUCTION OF MONITORING WELL NO. MW-9

Project location/number Amenia, New York/47-01E04141.00		***NYDEC Well Permit No.*** NA	***Elevation datum*** NAD88
Drilling company ADT	***Driller*** Les Darrow	***Surveyor*** Santos Associates	***Ground elevation*** 523.54 ft
Date and time of completion 01/03/2002		***Northing*** 1090636.048	***Top of protective steel casing elevation*** 526.05 ft
Inspector H. Brian Becker		***Easting*** 746189.211	***Top of riser pipe elevation*** 525.93 ft

A = Top of Casing
B = Top of Riser
C = Ground Surface
D = Top of Bentonite Seal
E = Top of Sand Pack
F = Top of Screen
G = Bottom of Screen
H = Bottom of Borehole

KEY	ELEVATIONS (ft above Mean Sea Level)	DEPTHS (ft below ground, not to scale)
A	526.05	-2.51
B	525.93	-2.39
C	523.54	0.0
D		
E	479.54	44.0
F	477.54	46.0
G	467.54	56.0
H	466.54	57.0



DIAMETER OF BOREHOLE: 6-inch ID

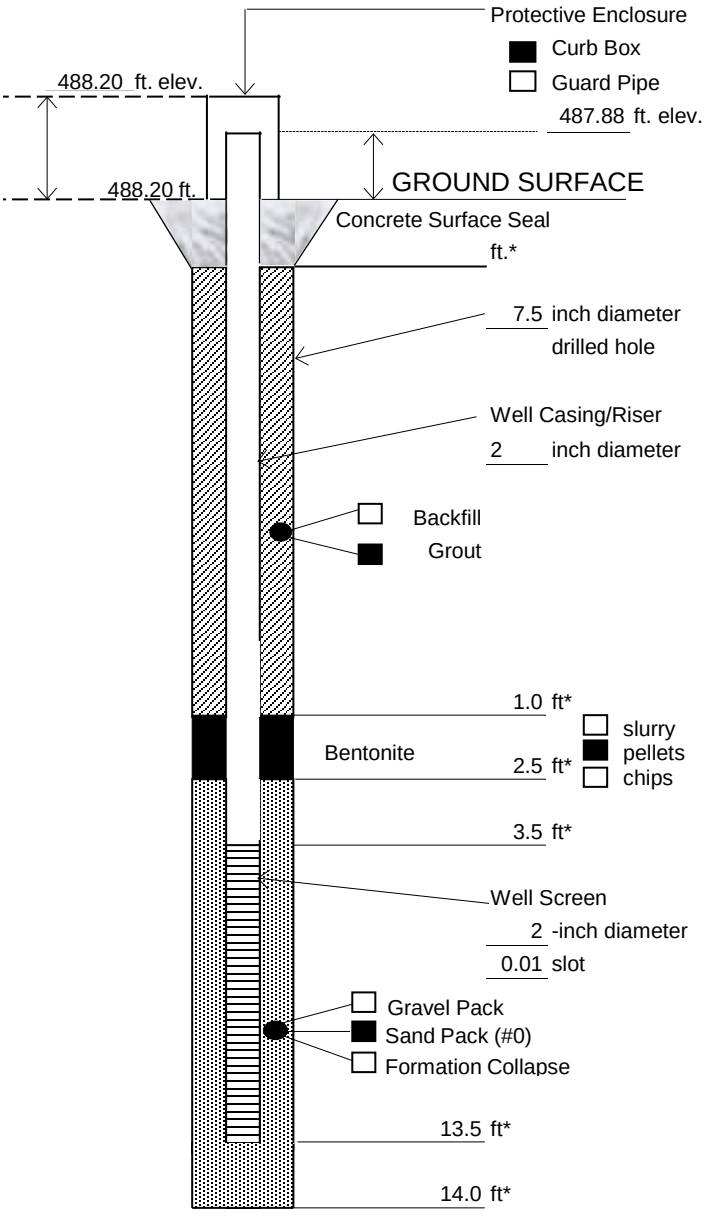
REMARKS

Developed well on 01/04/02 using a Whale submersible pump from 0907 to 1012. Purge rate approximately 0.5 GPM. No odors detected in purge waters. Upon completion, development clear.

C.T. MALE ASSOCIATES

Well No. MW-10

MONITORING WELL CONSTRUCTION LOG



* Depth below ground surface.

Project Name: Amenia Town Landfill

Project Number: 07.7052

Well No.: MW-10 Boring No.: MW-10

Town/City: Amenia

County: Dutchess State: New York

Installation Date(s): 6/25/2015

Drilling Contractor: Zebra Technical Services

Drilling Method: 4.25" I.D. Hollow Stem Augers

Water Depth From Top of Riser: ____ ft ____ Date

C.T. Male Observer: D. Achtyl

Materials Used:

5 1/5	Bags of Sand	(50	lb. bags)
	Sand Size: #0	Brand:	Filpro
1	Bags of Bentonite	(50	lb. bags)
	Brand:	Benseal	
10	ft. of	PVC 0.010 slot	well screen
3.5	ft. of	PVC	well riser
3	Bags of Cement/Concrete	(40	lb. bags)
	Brand:	Quikrete	

Grout Mixture:

1/3	Bags of Cement	(50 lb. bags)
1	Lbs. of Bentonite	
0.5	Gallons of Water	
1	Grout Batches	

Notes:

3 gallons of water to hydrate bentonite
8" diameter cub box
2' x 2' x 6-8" concrete pad

APPENDIX F

Blank Sampling and Inspection Forms

- **Groundwater Services Field Log Form**
- **Explosive Gas Sampling Form**
- **Stream Water Sampling Log**
- **Site-Wide Inspection Form**
- **Maintenance Inspection Form – Stormwater Management System**

GROUNDWATER SERVICES FIELD LOG FORM

General Information

Project#: _____ Date: _____ Well#: _____

Project: Amenia Town Landfill

Location: Amenia, New York Sampler(s): _____

Well Information

Static Water Level: _____ BTOC Measuring Point: Top of PVC

Total Depth of Well: _____ BTOC Well Casing Diameter: _____

Purge Method: Bailer Conversion Factors (Linear feet to Gallons)

(Circle One) Wattera 2" = 0.16 Gallons

Other: _____ 3" = 0.38 Gallons

_____ 4" = 0.66 Gallons

Well Volume: _____ Gallons Volumes Purged: _____ Gallons

Time Started: _____ Time Completed: _____

Recovery Height: _____ Recovery Time: _____ Minutes

% Recovery: _____

Field Parameters

	Initial Evacuation (1st Bailer)		Initial Evacuation Just Before Sampling	
Temperature:	_____	°C	_____	°C
pH:	_____	SU	_____	SU
Conductivity:	_____	µs	_____	µs
Eh	_____	mV	_____	mV
Turbidity:	_____	NTU	_____	NTU

Groundwater Appearance: _____

Sample Collection Time: _____

Notes

_____

_____

_____

_____

LANDFILL POST CLOSURE MONITORING AND MAINTENANCE
EXPLOSIVE GAS SAMPLING FORM

Proj. No. _____Date: _____ Pg. _____ of _____
Project:_____
Weather/Temperature: _____
Barometric Pressure/Wind:_____
Time: _____ Sampling Personnel: _____
Equipment Used: _____
Date Calibrated: _____ By: _____

Sample ID	Location	Depth	% O2	% LEL	Hydrogen Sulfide

STREAM WATER SAMPLING LOG

DATE: _____ PROJECT NO: _____

SAMPLING PERSONNEL: _____ PROJECT NAME: _____

_____ PROJECT LOCATION: _____

SAMPLING LOCATION: _____ _____

_____

SAMPLE COLLECTION TIME: _____

DEPTH OF STREAM AT SAMPLING POINT: _____

WIDTH OF STREAM: _____

STREAM VELOCITY: _____

WATER LEVEL AT MEASURING POINT: _____

OBSERVATIONS: COLOR _____, ODOR _____

SHEEN _____, TURBIDITY _____

OTHER _____

FIELD PARAMETERS: pH _____

TEMPERATURE _____

CONDUCTIVITY _____

OTHER _____

NOTES: _____

_____

_____

_____

_____

_____

SITE WIDE INSPECTION FORM
AMENIA TOWN LANDFILL
SITE MANAGEMENT PLAN (SMP)

Date: _____

Inspection Personnel:_____

Weather Conditions: _____

Site related contaminants included select volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), metals and leachate indicator parameters (applies to groundwater only) in various media at the site, including subsurface soil, sediment and groundwater.

The site has been remediated including excavating contaminated sediment from West Pond and placing it within the landfill and covering areas that contain landfill waste and the excavated sediment with a 6NYCRR Part 360 modified low permeability cover system/cap.

This SMP Site Wide Inspection Form will be utilized to inspect the site to ensure that current site conditions remain protective to public health and the environment from underlying contamination.

Attachments to this Inspection Form include a Site Plan.

<u>Existing Conditions Inspection</u>

Has the overall condition of the site changed from the previous inspection (if first inspection, respond with N/A)? Yes____ No___

If Yes, provide details and identify on Site Plan.

Is there evidence of human access to the site (i.e. walking paths, ATV trails, etc.)? Yes____ No___

If Yes, provide details and identify on Site Plan.

Is there evidence of site development? Yes____ No___

If Yes, provide details and identify on Site Plan.

Have photographs been taken of the site for inclusion in the site inspection report? Yes____ No___

If No, give reason.

Cover System Inspection

Has the overall condition of the cover system changed from the previous inspection (if first inspection, respond with N/A)? Yes____ No___

If Yes, provide detail and identify on Site Plan.

Is soil cover system adequately vegetated to prevent erosion? Yes____ No___

If No, identify locations and provide detail on Site Plan.

Does the vegetative cover have sparse areas or areas in need of reseeding? Yes____ No___

Is woody growth present within the vegetative cover? Yes____ No___

If Yes, identify locations and provide detail on Site Plan.

Is there evidence that the cover system has been eroded by wind and/or water? Yes____ No___

If Yes, identify locations and provide detail on Site Plan.

Is there evidence that the soil cover system has been breached (i.e., areas where surface appears patched, signs of excavation)? Yes____ No___

If Yes, identify locations and provide detail on Site Plan.

Are burrows or tunnels created by animals present? Yes____ No___

If Yes, identify locations and provide detail on Site Plan.

Are any ponded areas or depressions present within the cover system? Yes____ No___

If Yes, identify locations and provide detail on Site Plan.

Are any leachate seeps present? Yes____ No___

If Yes, identify locations and provide detail on Site Plan.

Are there any other areas of notable damage to the cover system? Yes____ No___

If Yes, identify locations and provide detail on Site Plan.

Have photographs been taken of the cover system for inclusion in the site inspection report? Yes____ No___

If No, give reason.

Inspection of Structures

1. Monitoring Wells

Well Number	Condition (Guard Pipes, Curb Box, Locks, Riser, Etc.) and Recommendation
MW-3	
MW-4	
MW-4B	
MW-5	
MW-9	
MW-10	

SITE WIDE INSPECTION FORM
AMENIA TOWN LANDFILL
SITE MANAGEMENT PLAN (SMP)

2. Gas Venting Structures in Need of Repair

Vent Number	Condition and Recommendation
GV-1	
GV-2	

General Comments:

MAINTENANCE INSPECTION FORM
Stormwater Management System
Amenia Town Landfill

Stormwater Facility Component	Inspection Requirement	Frequency of Inspection	SMP Section No.	Inspection Comments	Maintenance Required	Maintenance Needed? (Y/N)	Maintenance Comments / Date of Maintenance
PVC Drain Basins	Stick Measure for Sediment Depth	*Bi-Annual and After Major Storm Events	4.2.3.2		Remove Any Sediment That Accumulates Within the Bottom of the Drain Basin		
	Visual Inspection for Trash	*Bi-Annual and After Major Storm Events	4.2.3.2		Remove Trash as Needed		
Culvert End Sections	Visual Inspection of End Sections and Stone Filling Aprons for Trash and Sediment	*Bi-Annual and After Major Storm Events	4.2.3.2		Remove Trash and Sediment as Needed		
Drainage Culverts	Visual Inspection of Culverts and Stone Filling Areas for Obstructions, Debris, Sediment and Floatables	*Bi-Annual and After Major Storm Events	4.2.3.2		Remove Obstructions, Debris and Sediment, and Flush Storm Culvert Pipes as Needed		
Level Spreader	Visual Inspection for Trash and Sediment	*Bi-Annual and After Major Storm Events	4.2.3.2		Remove Trash and Sediment as Needed		
Debris Removal from Drainage Swales	Visual Inspection for Debris and Obstructions, and Vegetation in Stoned Lined Swales	*Bi-Annual and After Major Storm Events	4.2.3.2		Remove Debris and Obstructions as Needed, and Cut and Remove Vegetation in Stoned Lined Drainage Swales as Needed		

*Bi-annual means Spring/Fall and major storm events means over 4 inches of rain in a 24 hour period.
Note: No debris and/or sediment are to be discharged to West Pond.

Date of Inspection:

Inspector: