Site Management Plan

500 Seneca Street Site
BCP Site No. C915273
Buffalo, New York

Revised November 2015 0270-012-001

Prepared For:

500 Seneca Street, LLC

Prepared By:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

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BROWNFIELD CLEANUP PROGRAM

SITE MANAGEMENT PLAN

500 SENECA STREET SITE
NYSDEC SITE NUMBER: C915273
BUFFALO, NEW YORK

Revised October 2015 0270-012-001

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Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

SITE MANAGEMENT PLAN
500 SENECA STREET SITE

Certification Statement

I, Thomas H Forbes, P.E. certify that I am currently a NYS registered professional engineer and that this Revised November 2015 Site Management Plan for the 500 Seneca Street Site (C915273) was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

_____ P.E.

11-23-2015 Date

SITE MANAGEMENT PLAN
500 SENECA STREET SITE

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SITE MANAGEMENT PLAN
500 SENECA STREET SITE

List of Acronyms

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

List of Acronyms

RSO	Remedial System Optimization
SAC	State Assistance Contract
SCG	Standards, Criteria, and Guidelines
SCO	Soil Cleanup Objective
SMP	Soil Management Plan
SOP	Standard Operating Procedures
SOW	Statement of Work
SPDES	State Pollutant Discharge Elimination System
SSD	Sub-slab Depressurization
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
SVMS	Soil Vapor Mitigation System
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program

EXECUTIVE SUMMARY

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

Site Identification: C915273

Institutional Controls:	1. The property may be used for restricted residential, commercial, and industrial use as described in 6NYCRR Part 375-1.8(g), although land is subject to local zoning laws;
	2. All ECs must be inspected at a frequency and in a manner defined in the SMP.
	3. The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Erie 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.
	4. Compliance with the Department approved Site Management Plan and Periodic Review Reporting is required.
	5. The remedial party or site owner is required to complete and submit a periodic certification of institutional and engineering controls to the Department in accordance with 6NYCRR Part 375-1.8(h)(3.)
Engineering Controls:	1. A site cover has been placed over the site in all areas exceeding applicable SCOs. The cover is either a hardscape (asphalt and concrete, building) and/or a minimum of 24-inches of depth of material meeting the requirements as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential use.

Inspections:	Frequency
1. Cover inspection	Annually
Reporting:	
1. Annual Site Inspection	Annually
2. Periodic Review Report	Triennially

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

1.0 INTRODUCTION

This Site Management Plan (SMP) is a required element of the remedial program for the 500 Seneca Street Site (hereinafter referred to as the "Site") under the New York State (NYS) Brownfield Cleanup Program (BCP) administered by New York State Department of Environmental Conservation (NYSDEC). The site was remediated in accordance with Brownfield Cleanup Agreement (BCA) Index #C915273-04-13, which was executed on May 31, 2013.

1.1 General

500 Seneca Street Site, LLC, entered into a Brownfield Cleanup Agreement (BCA) on June 7, 2013 with the NYSDEC to remediate the Site, located in Buffalo, New York. A figure showing the location and boundaries of the site is provided in Figures 1 and 2. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in Appendix D.

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

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

It is important to note that:

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

- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA (Index #C915273-04-13; Site #C915273) for the site, and thereby subject to applicable penalties.

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

This SMP was prepared by Benchmark Environmental Engineering & Science, PLLC, on behalf of 500 Seneca Street, LLC,, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

1.2 Revisions

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

1.3 Notifications

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

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

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

The owner of the site parcel at the time of issuance of this SMP is:

500 Seneca Street, LLC

500 Seneca Street, Suite 504

Buffalo, New York 14204

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

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

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

Table 1: Notifications*

Name	Contact Information
NYSDEC Project Manager Mr. Maurice Moore	716-851-7220 Maurice.moore@dec.ny.gov
NYSDEC Regional HW Engineer Mr. Chad Staniszewski, P.E.	716-851-7220 Chad.staniszewski@dec.ny.gov
NYSDEC Site Control Ms. Kelly Lewandowski	518-402-9543 Kelly.lewandowski@dec.ny.gov

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

2.0 SUMMARY OF PREVIOUS INVESTIGATION & REMEDIAL ACTIONS

2.1 Site Location and Description

The site is located in the County of Erie, New York and is identified as S.B.L #111.81-7-1 on the Erie County Tax Map. The approximately 1.87-acre single parcel and is bounded by Myrtle Avenue to the north, Seneca Street to the south, Hamburg Street to the east, and Spring Street to the west (see Figure 1). The boundaries of the site are more fully described in Appendix D – Environmental Easement.

2.2 Physical Setting

2.2.1 *Land Use*

The 500 Seneca Street Site is largely comprised of an approximately 300,000 square foot multi-story building with a small open lot on the western side of the parcel, primarily surrounded by mixed commercial-residential uses, with the nearest residential parcel located less than 500 feet to the north.

The site originally housed the F.N. Burt Company, which utilized the property for box manufacturing from original building construction in the early 1900's until 1959. The period from approximately 1968 until 1980, Wolkind Bros, Inc., a clothing rental company, utilized the property. The site was used for manufacturing, warehousing and shipping operations from 1986 to 2004, and has since been vacant.

The 500 Seneca Street Site is being redeveloped for mixed commercial and residential use, including offices, business incubation and cultural space, storage, and a large multi-story interior atrium area.

2.2.2 *Geology*

The U.S. Department of Agriculture Soil Conservation Service soil survey map of Erie County describes the general soil type at the Site as Urban Land (Ud). This is indicative of level to gently sloping land with at least 40 percent of the soil surface covered by asphalt, concrete, buildings, or other impervious structures typical of an urban environment.

RI activities investigated subsurface soils at the Site which generally consisted of non-native soil/fills overlying native soil. The non-native soil/fill materials were generally present in the upper 4 feet consisting of varying amounts of granular soils (silts, sands and gravels) with fill characteristics (cinders, brick fragments, slag) and lesser amounts of clay. The native soils generally consisted of variations of brown lean clays with varying amounts of sands, silts and gravels.

Based on the bedrock geologic map of Erie County, the Site is situated over the Onondaga Formation of the Middle Devonian Series. The Onondaga Formation is comprised of a varying texture from coarse to very finely crystalline with a dark gray to tan color and chert and fossils within. The unit has an approximate thickness of 110 to 160 feet. Structurally, the bedrock formations strike in an east-west direction and exhibit a regional dip that approximates 40 feet per mile (3 to 5 degrees) toward the south and southwest.

The investigations have advanced borings to a maximum depth of 16.6 fbgs with the RI average refusal depth of about 13 fbgs (with ranges from 6 to 16.6 fbgs). Refusal is assumed to be the top of bedrock. Site specific boring logs are provided in Appendix E.

2.2.3 *Hydrogeology*

The site is located approximately 0.8 miles northeast of the Buffalo River and local Site groundwater flows west-northwest with the upper horizon influenced by urban infrastructure. Groundwater elevation data was collected in April 2015 as part of the supplemental groundwater monitoring completed on MW-3, MW-4, MW-5, MW-6, MW-7 and TW-3 Depth to groundwater ranged from approximately 5 to 9 fbgs across the Site, with the exception of MW-3, installed in the open courtyard, which generally has been dry or has only yielded a few inches of water throughout the RI. This well was installed to a depth of approximately 13 fbgs (refusal at suspected top of bedrock).

The Site hydrogeology is further complicated by the presence of municipal subgrade utilities along all sides of the property; an elevated section of Seneca Street and Hamburg Street influencing surface runoff and infiltration in the immediate vicinity, subgrade building structural footers and foundation (assumed to bedrock based on IRM observations), and the significant development cycles that have occurred in this section of the City, including dense historic residential development off-site across Myrtle Avenue (MW-4 and MW-7).

Using well installation and water level information from the April 2015 sampling event, the estimated hydraulic gradient was calculated to be an average of 0.00475 ft./ft. As discussed above, calculating the hydraulic gradient is complicated by the presence of the subslab cistern, building basement, multiple deep structural footers and foundation across the building footprint, presence of subgrade utilities, and significant historic development is this area of the City.

A groundwater isopotential map, including groundwater elevation data, is shown in Figure 3. Groundwater monitoring well construction logs are provided in Appendix E.

2.3 Investigation and Remedial History

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the Site. Full titles for each of the reports referenced below are provided in Section 8.0 - References.

2.3.1 *October 2007 – Phase I Environmental Site Assessment*

GZA GeoEnvironmental, (GZA) conducted a Phase I Environmental Site Assessment (ESA) of the 500 Seneca Street parcel. The findings of the report are summarized below.

- Site reconnaissance indicated 500 Seneca was "generally vacant" and machine parts were observed being stored on the first floor.

- The Site has been vacant since 2003. The Site was owned and operated by New Era Cap Company Since 1986. Prior to New Era Caps use of the facility for manufacturing and distribution it was historically occupied by Wolkind Bros. Inc., clothing rentals from approximately 1968 to 1980. Burt Company Box manufactures also occupied the Site approximately from at least the 1930 to 1955. Both New Era Cap and Burt Box Company utilized various chemical and petroleum products. New Era Cap was identified as a RCRA EPA ID# NYD986906295, small quantity generator of hazardous wastes and on the NY Manifest for disposal of PCB containing transformers, confirming the historic use of hazardous materials at the Site.

- Historic records identified a 2,000-gallon tank installed on the northwestern corner of the 500 Seneca parcel. The tank was reportedly installed in 1967.

These records also reference an existing 550-gallon tank installed in 1957, for a total capacity of 2,500-gallons. Vent pipes were noted during Site reconnaissance in the vicinity of what appears to be a former pump island in this same area of the property.

- Several aboveground water storage tanks were noted on the 1st floor and an underground water storage tank (believed to be a cistern) was noted. Size and dimensions of the underground water storage tank were not known.

2.3.2 *December 2007 – Phase II Environmental Site Assessment*

GZA GeoEnvironmental, (GZA) conducted a Phase II Environmental Site Assessment on the 500 Seneca Street parcel. The relevant findings of the report are summarized below.

- GZA performed an Electromagnetic (EM) geophysical survey using an EM61 time domain electromagnetic unit across the open lot area of the Site. GZA located two anomalies corresponding to the suspect locations of the underground storage tanks described above.

- Temporary monitoring wells installed in the vicinity of the suspected USTs identified low levels of petroleum type compounds in the groundwater, including: benzene, ethylbenzene, isopropylbenzene, n-propylbenzene, sec-butylbenzene, n-butylbenzene, and xylenes.

- Chlorinated solvents were detected in one location (SP-9) in the at grade loading dock on the northern portion of the Site. The source and extent of contamination were unknown. The detected concentrations in both soil and groundwater exceed NYSDEC groundwater standards and industrial soil cleanup objectives including: tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1-dichloroethene (1,1-DCE), and vinyl chloride (VC).

2.3.3 *January 2008 – USTs Removal and Excavation Report*

Hazard Evaluations, Inc. (Hazard Evaluations) produced a Summary Report; USTs Removal and Excavation Report, to address the USTs at the 500 Seneca Street parcel. The findings of the report are summarized below.

- Upon locating the tanks, 1,650-gallons of non-hazardous petroleum/water mixture were removed from the vessels and transported off-Site to an appropriate disposal facility.

- Petroleum impacted soil was observed in the vicinity of the former 550-gallon UST and NYSDEC Spill# 0751217 was subsequently opened.

- 44.58 tons of petroleum impacted soil was removed from the vicinity of the former 550-gallon UST and disposed of at Tonawanda Landfill; excavation of impacted soils from this area was impeded by the presence of the on-Site garage building and the adjacent street (Myrtle Avenue).

- Post-excavation verification samples indicated elevated target VOCs at levels above the applicable NYSDEC Recommended Soil Cleanup Objectives (RSCOs) (per spill cleanup guidance in place at that time) along the east wall (garage building) and floor of the excavation.

- Spill# 0751217 is listed as "Record Closed" per NYSDEC Spills Database. It should be noted that the spill was made inactive with no further action required; however, residual contamination that could not be removed due to proximity of existing garage building remains on-Site. The remaining contamination was addressed during IRMs, described below.

2.3.4 *April 2008 – Focused Phase II Environmental Site Assessment*

GZA GeoEnvironmental, (GZA) conducted a Focused Phase II Environmental Site Assessment on the 500 Seneca Street parcel. The findings of the report are summarized below.

- Chlorinated solvents were detected in the soil samples collected during the interior investigation of the loading dock area. Dichloroethene (DCE), TCE, and PCE were determined to be the contaminants of concern in eight of the nine locations sampled.

- During field investigations the presence of PCE appeared to be localized to the western most loading dock bay area. One drain was noted in the area, which is assumed to be a clean out for a sewer line. An interview with a knowledgeable person at New Era disclosed that they did not know the purpose or discharge location of that drain.
- Chlorinated solvents were identified in the groundwater at three locations at concentrations above Class GA groundwater standards. One location had a

PCE concentration four orders of magnitude higher than the NYSDEC Class GA standard.

- Limited subslab vapor testing indicated concentrations of regulated VOCs within acceptable ranges per New York State Department of Health Guidance for Evaluating Soil Vapor Intrusion.

- Based on the findings of the report GZA concluded that "chlorinated solvents, specifically PCE, are present in the western loading dock area at concentrations that require remedial action. The source of the contamination was not clearly identified. However, the presence of the chlorinated solvents appeared to be localized to the western most loading dock area. The area of soil impact generally appears to be at depths from 6 to 10 feet below ground surface, within a lateral area estimated at 20 feet (east to west) by 25 feet (north to south)."

2.3.5 *October 2012 – Supplemental Site Reconnaissance*

On October 30, 2012, Benchmark performed a supplemental site reconnaissance for the purpose of scoping the RI activities. Benchmark was accompanied by a representative from the NYSDEC Division of Environmental Remediation as well as a representative of 500 Seneca St., LLC. Areas of potential concern included: a vehicle maintenance pit in the garage area of the building; a mechanical room; a former coal-fired boiler area; a suspect hydraulic lift in the courtyard area of the site; a former battery storage room; an electrical equipment (suspect transformer) room; and a reported sump in a flooded basement area of the building.

2.3.6 *BCP Remedial Investigation / Alternatives Analysis Report (RI/AAR)*

A Remedial Investigation was completed to further characterize the Site in accordance with the BCP requirements. The RI included surface soil sampling, soil vapor sampling, the advancement of soil probes, soil borings, hand cores, and the installation of permanent and temporary monitoring wells to facilitate the collection of soil, air and groundwater samples.

The following is a summary of the historic investigations and RI findings:

Surface Soils:

No SVOCs, metals, PCBs, pesticides or herbicides were detected at concentrations above RRSCOs, with the exception of select PAHs in one location, SS-3. Elevated PAHs above their respective RRSCOs and/or CSCOs were only identified in SS-3. This location was removed during IRM excavation activities.

Subsurface Soils:

Investigation results identified elevated chlorinated VOCs (loading dock) and petroleum VOCs (former UST area), select PAHs, and metals at concentrations above RRSCOS and CSCOs. No PCBs or herbicides were detected above the laboratory MDL and were all reported as non-detect.

It should be noted that after completion of the IRM activities, no remaining on-Site subsurface soil/fill exceeds RRSCOs, with minor exceptions beneath the building slab.

Groundwater:

As described above, no VOCs, SVOCs, metals, or pesticides were detected above GWQS during the post-IRM supplemental groundwater sampling event (April 2015), with the minor exception of the common laboratory contaminant acetone at one location.

Historic groundwater sample results indicated that no PCBs or herbicides were detected above the laboratory MDL. Elevated VOCs were previously detected above GWQS in the loading dock area and former UST area. Select PAHs were detected above GWQS, primarily in the temporary wells and can be likely attributed to the turbidity in the water. Dissolved metals detected above GWQS are primarily naturally occurring minerals. Several pesticides were initially detected above their respective GWQS, including the off-site upgradient well (MW-4), indicating a potential background condition associated with subsurface soil/fill material predominant in urban environments. Furthermore, the soil analytical results did not report elevated detection of similar constituents to the groundwater results.

Soil Vapor Intrusion:

The majority of air results indicate "No Further Action (NFA)", with minor exception in the historic investigation which indicated "take reasonable and practical actions to identify

source(s) and reduce exposures (I,R).", (note that the pre-sampling inventory indicated the presence of potential indoor sources such as paints, cleaners) of potential indoor air contamination. No air results were detected at concentrations above the NYSDOH Indoor Air 90th percentile guidelines.

Water:

Non-groundwater liquid samples were collected during the investigations, including the basement sump, cistern and basement water samples. No water results were detected at concentrations above GWQS with the exception of naturally occurring minerals (e.g., sodium) and/or relevant municipal sewer discharge limits.

Wipe Samples:

The majority of wipe sample results were reported as non-detect or estimated concentrations below the laboratory MDL. Only one estimated results was reported by the laboratory at a concentration below the federal guidelines for non-porous surfaces.

2.4 Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document. Benchmark Environmental Engineering & Science, PLLC (Benchmark), implemented IRM activities at the Site in accordance with the NYSDEC-approved Petroleum IRM Work Plan, October 2014, and the Loading Dock IRM Work Plan, December 2014. Details of the IRMs that have been completed at this site based on conditions observed during the RI are presented below.

- Demolition of the former garage building, located along the western side of the building.

- Petroleum/SB-4 IRM Excavation – Excavation and off-site transportation and disposal of approximately 350 tons of non-hazardous residual petroleum and metals contamination in the western parking lot area.

- SS-3 IRM Excavation - Excavation and off-site transportation and disposal of approximately 45 tons of surface soil/fill in the vicinity of SS-3.

- Western Loading Dock IRM Excavation – Excavation and off-site transportation of cVOC impacted soil/fill from the western loading dock. Former concrete slab was removed, screened and transported off-site for recycling. After concrete slab removal, approximately 385 tons of non-hazardous cVOC impacted soil/fill was excavated and transported off-site for disposal.

- Universal Waste – Approximately 80,000 linear feet of suspect mercury containing lamp bulbs, and nine (9) 55-gallon drums of suspect PCB-ballast were properly containerized, placarded, and transported for off-site recycling and disposal.

- Basement Cleaning – North American Industrial Services, Inc. (NAIS) completed industrial cleaning of the residual floor solids and sump waters in the basement, including cleaning of all floor and wall surfaces to approximately 6 feet above grade. Approximately 1,500 gallons of residual solids and cleaning water residuals, and one (1) 55-gallon drums of solids, were transported off-site and disposed of.

- Housekeeping Activities – Several former drums, spent boiler treatment and maintenance chemicals, and former mechanical-electrical equipment was inspected, segregating, containerized, placarded, and transported off-site for recycling and disposal from the courtyard area and adjoining mechanical and boiler rooms.

- Historic Electrical Equipment – Prior to off-site disposal, a PCB wipe sample was collected from the oil reservoir housing of the electrical equipment; results indicated that the equipment was non-hazardous and the former electrical equipment was placed in a general debris dumpster and transported off-site for disposal at a commercial landfill.

2.5 Remedial Action Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The Remedial Action Objectives (RAOs) for the Site as listed in the Decision Document dated July 2015are as follows:

2.5.1 *Soil:*

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

2.5.2 *Groundwater:*

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

2.5.3 *Soil Vapor*

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

2.6 Remaining Contamination

The 500 Seneca Street Site was remediated to address residual petroleum impacts in the western garage area, PAH and metal impacted surface soil/fill in the western parking lot area, and cVOC impacted soil/fill in the loading dock area, to achieve a Track 4 Restricted Residential Use cleanup, which is consistent with the intended use of the Site.

Residual contamination remaining at the Site includes soil/fill located beneath the cover system site wide, though potential exposure is mitigated due to the depth of the contaminant, completion of the remedial activities, and placement of a Site cover system, including existing building, concrete, and asphalt covered areas, and vegetated soil cover areas.

2.6.1 *Remaining on-Site Soil/Fill*

Residual contamination remaining in on-Site soil/fill above Unrestricted Use SCOs, includes select VOCs, individual PAHs, metals, and pesticides located beneath the cover system, including existing buildings, concrete and asphalt covered areas, and vegetated areas beneath a demarcation layer. Table 2 summarizes the remaining on-Site soil/fill sample locations with constituents above USCOs, and Figure 4 identifies the locations.

Constituents above regulatory guidelines are located site-wide beneath the cover system, though potential exposure to the remaining contamination is mitigated due to the depth of the remaining contamination after the completion of the remedial excavation, and depth to on-Site groundwater, and the placement of a cover system.

2.6.2 *Remaining on-Site Groundwater*

Post-IRM groundwater sampling results identified no VOCs, SVOCs, metals, PCBs, pesticides or herbicides were detected above GWQS, with the minor exception of the common laboratory contaminant acetone at one location (see Table 3).

3.0 INSTITUTIONAL & ENGINEERING CONTROL PLAN

3.1 General

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

This plan provides:

- A description of all IC/ECs on the site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the Excavation Work Plan (EWP) (as provided in Appendix B) 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 IC/ECs required by the site remedy, as determined by the NYSDEC.

3.2 Institutional Controls

A series of ICs are required by Decision Document to: (1) maintain and monitor the Site; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to restricted residential uses only. Adherence to these ICs on the site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The ICs are:

- Allows the use and development of the controlled property for restricted residential uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

- Restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;
- Requires compliance with the Department approved Site Management Plan; and
- Requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3.)

3.3 Engineering Controls

3.3.1 *Cover System*

Exposure to remaining contamination at the site is prevented by a cover system placed over the site. This cover system is comprised of a minimum of 24 inches of clean DEC-approved soil/stone material, asphalt, concrete and building slabs. Figure 5 presents the location of the cover system and applicable cover system cross-section details.

Upon completion of excavation activities, an orange plastic demarcation layer was installed to identify material being left in-place prior to backfilling with approved material. Demarcation layer depth ranges from approximately three (3) feet below ground surface (fbgs) to greater than 12 fbgs in the deeper remedial excavations. Greater than 24-inches of approved stone and/or topsoil was placed on top of the demarcation layer to achieve final surface grade. Figure 5 identified the location and detail of the different cover system elements.

The Excavation Work Plan (EWP) provided in Appendix B outlines the procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the site and provided in Appendix F.

3.3.2 *Criteria for Completion of Remediation/Termination of Remedial Systems*

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

3.3.2.1 Cover System

The cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity.

4.0 MONITORING PLAN

4.1 General

This Monitoring Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring Plan may only be revised with the approval of the NYSDEC.

This Monitoring Plan describes the methods to be used for:

- Monitoring the performance and effectiveness of the site cover;
- A schedule of monitoring and frequency of submittals to the Department.
- Assessing compliance with applicable NYSDEC standards, criteria and guidance (SCGs), and
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;

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

- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site-Wide Inspection

Site-wide inspections will be performed at a minimum of once per year (annually), and/or at a lesser frequency as approved by the Department. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix G – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;

- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

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

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and
- If site records are complete and up to date; and

Reporting requirements are outlined in Section 7.0 of this plan.

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

5.0 OPERATION & MAINTENANCE PLAN

5.1 General

The site remedy does not rely on any mechanical systems; therefore, the operation and maintenance of such components is not included in this SMP.

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

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

The subject site is considered to have low vulnerability related to climatic conditions. There are no State or Federal wetlands or floodplains located on the Site. Per the Erie County GIS System, floodplains associated with the Buffalo River are located approximately 0.8-miles to the southwest of the site. The site will not employ any remedial systems reliant upon electrical power; the site is serviced by municipal sewer system (combined storm and sanitary); and will not incorporate any petroleum or bulk storage in the redevelopment. In addition, the Site has been substantially covered with hardscape (asphalt and concrete), with minimal green space cover. As such, acute cover system erosion resultant in potential exposure to remaining contamination, a minimum of 24-inches below surface, is highly unlikely.

6.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the site during site management, and as reported in the Periodic Review Report (PRR).

No mechanical engineering systems are included in the SMP. The only engineering control established for the Site is the cover system. The maintenance of cover system is not anticipated to generate additional waste, use energy, produce emissions, require substantial

water for to promote vegetative cover growth, and/or affect any ecosystem (Site is located in a highly developed urban area in the City of Buffalo).

6.3 Remedial System Optimization

A Remedial Site Optimization (RSO) study will not be required as there are no active remedial systems. The only engineering control at the Site is the cover system.

7.0 REPORTING REQUIREMENTS

7.1 Site Management Reports

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

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

Table 4: Schedule of Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Annual Site Inspection	Annually
Periodic Review Report	Triennially, after the submittal of the initial PRR.

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

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

- Date of event or reporting period;
- Name, company, and position of person(s) conducting inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc.);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);

- Sampling results in comparison to appropriate standards/criteria;
- 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 contaminant conditions have changed since the last reporting event.

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

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

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

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

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

7.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the Department beginning sixteen (16) months after the Certificate of Completion is issued, anticipated to be due no earlier than June 2017. After submittal of the initial Periodic Review Report, the next PRR shall be submitted triennially (every third year) to the Department or at another frequency as may be required by the Department. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix D -Environmental Easement. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

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

is supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.

- A site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the site-specific RAWP, ROD or Decision Document;
  - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
  - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan; and
  - Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Decision Document.
  - The overall performance and effectiveness of the remedy.

7.2.1 *Certification of Institutional and Engineering Controls*

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

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

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred 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*
- *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, [name], of [business address], am certifying as [Owner/Remedial Party or Owner's/Remedial Party's Designated Site Representative] for the site."

In addition, every five years the following certification will be added:

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

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

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

7.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a Corrective Measures Work Plan will be submitted to the NYSDEC for approval. This plan will explain

the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC.

8.0 REFERENCES

1. 6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

2. New York State Department of Environmental Conservation. *DER-10 - Technical Guidance for Site Investigation and Remediation*, dated May 2010.

3. NYSDEC. *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1*. June 1998 (April 2000 addendum).

4. New York State Department of Health, *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York,* dated October 2006.

5. Benchmark Environmental Engineering & Science, PLLC, *Remedial Investigation / Interim Remedial Measures /Alternative Analysis Report*, 500 Seneca Street Site, 500 Seneca, Buffalo, New York, April 2015.

6. Benchmark Environmental Engineering & Science, PLLC, *Remedial Investigation / Alternative Analysis Work Plan*, 500 Seneca Street Site, 500 Seneca, Buffalo, New York, Revised May 2013.

7. Benchmark Environmental Engineering & Science, PLLC, *Interim Remedial Measures Work Plan* (Petroleum Excavation), 500 Seneca Street Site, 500 Seneca Street, Buffalo, New York, December 2014.

8. Benchmark Environmental Engineering & Science, PLLC, Interim Remedial Measures Work Plan (Loading Dock Excavation), 500 Seneca Street Site, 500 Seneca Street, Buffalo, New York, December 2014.

9. GZA GeoEnvironmental of New York, *Phase I Environmental Site Assessment*, Seneca and Myrtle Street Properties, Buffalo, New York, prepared for Zdarsky, Sawicki & Agostinelli, LLP, October 2007.

10. GZA GeoEnvironmental of New York, *Phase II Environmental Site Assessment*, 500 Seneca Street, Buffalo, New York, prepared for Zdarsky, Sawicki & Agostinelli, LLP, December 2007.

11. Hazard Evaluations, Inc. *Summary Report, UST Removal and Excavation Report*, 500 Seneca Street, Buffalo, New York, prepared for New Era Cap Company, Inc., January 28, 2008.

12. GZA GeoEnvironmental of New York, *Focused Interior Phase II Environmental Site Assessment*, 500 Seneca Street, Buffalo, New York, prepared for Phillips Lytle, LLP, dated April 30, 2008.

13. United States Department of Agriculture, Soil Conservation Services, *Soil Survey of Erie County, New York,* dated December 1986.

14. Edward J. Buehler and Irving H. Tesmer, *Geologic Map of Erie County, New York Bedrock Geology*, dated 1963.

15. Camiros. B*uffalo Green Code, Unified Development Ordinance, Public Review Draft.* Prepared for The City of Buffalo, Mayor's Office of Strategic Planning, May 2014.

TABLES

B ENCHMARK
Environmental Engineering & Science, PLLC

TABLE 2

SUMMARY OF REMAINING ON-SITE SOIL EXCEEDING UNRESTRICTED USE SCOs

SITE MANAGEMENT PLAN

500 SENECA STREET SITE

BUFFALO, NEW YORK

PARAMETER[1]	Unrestricted Use SCOs [2]	Sample Location														
		SB-6 (5-7)	SB-7 (2-4)	SB-8 (6-8)	SB-9 (2-4)	SB-11 (3-5)	SB-14 (2-4)	SB-16 (2-4)	HC-3 (0.5-1.5')	HC-4 (0.7-2.0')	HC-5 (0.4-1.7')	HC-6 (0.3-0.2')	PAH (SS-3) Sidewall-North	PAH (SS-3) Sidewall-South	PAH (SS-3) Sidewall-East	Loading Dock IRM Westwall
		3/6/2014				4/8/2014			4/2/2014	3/6/2014			11/17/2014			1/30/2015
Volatile Organic Compounds (VOCs) - mg/Kg [3]																
Acetone	**0.05**	--	ND	0.027 J	--	ND	ND	--	--	--	--	--	--	--	--	**0.85 J**
Benzene	**0.06**	--	ND	ND	--	ND	ND	--	--	--	--	--	--	--	--	ND
cis-1,2-Dichloroethene	**0.25**	--	ND	ND	--	0.018	ND	--	--	--	--	--	--	--	--	0.072 J
Tetrachloroethene	**1.3**	--	ND	ND	--	**14**	ND	--	--	--	--	--	--	--	--	**17**
Trichloroethene	**0.47**	--	ND	ND	--	**0.56**	ND	--	--	--	--	--	--	--	--	**0.52**
Semi-Volatile Organic Compounds (SVOCs) - mg/Kg [3]																
Benzo(a)anthracene	**1**	**2.9**	ND	0.81	ND	ND	ND	ND	ND	0.26	0.4	ND	**1.8 J**	0.24 J	0.53 J	--
Benzo(a)pyrene	**1**	**2.6**	0.29	0.75	0.084 J	0.0052 J	ND	ND	0.032 J	0.24	0.36	ND	**2.5 J**	0.92 J	**1.1 J**	--
Benzo(b)fluoranthene	**1**	**3.3**	0.31	0.87	0.13 J	0.0042 J	ND	ND	0.046 J	0.32	0.45	ND	**4.2**	**1.5 J**	**1.8 J**	--
Benzo(k)fluoranthene	**0.8**	1.3	0.15 J	0.41	0.049 J	ND	ND	ND	ND	0.15 J	0.2 J	ND	**0.83 J**	ND	0.29 J	--
Chrysene	**1**	**3.3**	0.22	0.8	0.13 J	ND	ND	ND	0.051 J	0.32	0.43	ND	**1.6 J**	ND	0.47 J	--
Indeno(1,2,3-cd)pyrene	**0.5**	**1.7**	0.25	**0.62**	0.077 J	ND	ND	ND	0.019 J	0.18	0.23	ND	**3.8 J**	**1.7 J**	ND	--
Metals - mg/Kg																
Lead	**63**	**227**	**196**	6.9	37.8	--	20.3	17.3	34.3	**225**	**157**	**189**	--	--	--	--
Mercury	**0.18**	**0.74**	0.043	ND	**0.71**	--	0.025	ND	0.091	**0.5**	**2.3**	**1.7**	--	--	--	--
Nickel	**30**	14.6	15.7	6.7	19.5	--	**33.6**	**30.7**	--	--	--	--	--	--	--	--
Potassium	**--**	1300	1880	429	2390	--	2140	1460	--	--	--	--	--	--	--	--
Silver	**2**	ND	ND	ND	ND	--	ND	ND	**2.3**	ND	ND	ND	--	--	--	--
Zinc	**109**	**113**	**131**	14.4	70	--	76.1	50.1	--	--	--	--	--	--	--	--
Polychlorinated biphenyls (PCBs) - mg/Kg [3]																
Total PCBs	**0.1**	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides and Herbicides - mg/Kg [3]																
4,4'-DDE	**0.0033**	**0.012 J**	**0.0099 J**	**0.0085 J**	ND	--	--	**--**	**--**	**--**	**--**	**--**	--	--	--	--
4,4'-DDT	**0.0033**	**0.012 J**	**0.012 J**	**0.011 J**	0.00073 J	--	--	**--**	**--**	**--**	**--**	**--**	--	--	--	--

Notes:

1. Only those parameters detected above USCOs at a minimum of one sample location are presented in this table. All other detections are below USCOs or ND.
2. Values per 6NYCRR Part 375 Soil Cleanup Objectives (SCOs).
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparisons to SCOs.

Definitions:

ND = Parameter not detected above laboratory detection limit.
"--" = No value available for the parameter; Parameter not analysed for.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.

Bold = Result exceeds Unrestricted Use SCOs.

BENCHMARK Environmental Engineering & Science, PLLC

TABLE 3

SUMMARY OF POST-IRM GROUNDWATER SAMPLE ANALYTICAL RESULTS

SITE MANAGEMENT PLAN

500 SENECA STREET SITE

BUFFALO, NEW YORK

PARAMETER [1]	GWQS [2]	MW-3	MW-4	MW-5	MW-6	MW-7
		04/16/15				
Volatile Organic Compounds (VOCs) - ug/L						
2-Butanone (MEK)	**50**	ND	ND	2.3 J	ND	ND
Acetone	**50**	2.1 J	ND	**150**	7.3	7.6
Carbon disulfide	**--**	ND	ND	ND	1.1 J	ND
Cyclohexane	**--**	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**5**	ND	ND	1.6 J	ND	ND
Tetrachloroethene	**5**	ND	ND	1.3	ND	ND
Trichloroethene	**5**	ND	ND	0.37 J	ND	ND
Vinyl chloride	**2**	ND	ND	0.28 J	ND	ND
Semi-Volatile Organic Compounds (SVOCs) - ug/L						
2-Methylnaphthalene	**--**	ND	ND	0.16 J	0.11 J	ND
Di-n-butyl phthalate	**50**	ND	ND	ND	ND	1 J
Fluoranthene	**50**	ND	ND	ND	ND	0.05 J
Fluorene	**50**	ND	ND	ND	0.06 J	ND
Phenanthrene	**50**	ND	ND	0.13 J	0.24	0.07 J
Dissolved Metals - ug/L						
Arsenic	**25**	--	ND	0.29 J	0.44 J	0.18 J
Barium	**1000**	--	177.1	162.6	152.7	356.4
Cadmium	**5**	--	ND	ND	0.06 J	ND
Chromium	**50**	--	1.09	0.8 J	1.1	1.04
Copper	**200**	--	0.4 J	0.3 J	0.29 J	0.55 J
Lead	**25**	--	ND	ND	ND	ND
Manganese	**300**	--	36.4	2660	513	162.1
Mercury	**0.7**	--	ND	ND	ND	ND
Nickel	**100**	--	0.74	8	11.53	6.01
Zinc	**2000**	--	13.44	12.13	17.09	17.5
PCB (ug/L)						
Total PCBs	**0.09**	--	ND	ND	ND	ND
Pesticides and Herbicides - ug/L						
4,4'-DDD	**0.3**	--	ND	ND	ND	ND
4,4'-DDE	**0.2**		ND	ND	ND	ND
4,4'-DDT	**0.2**	--	0.039 J	0.039 J	ND	ND

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per NYSDEC Division of Water Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations - Class GA (TOGS 1.1.1)

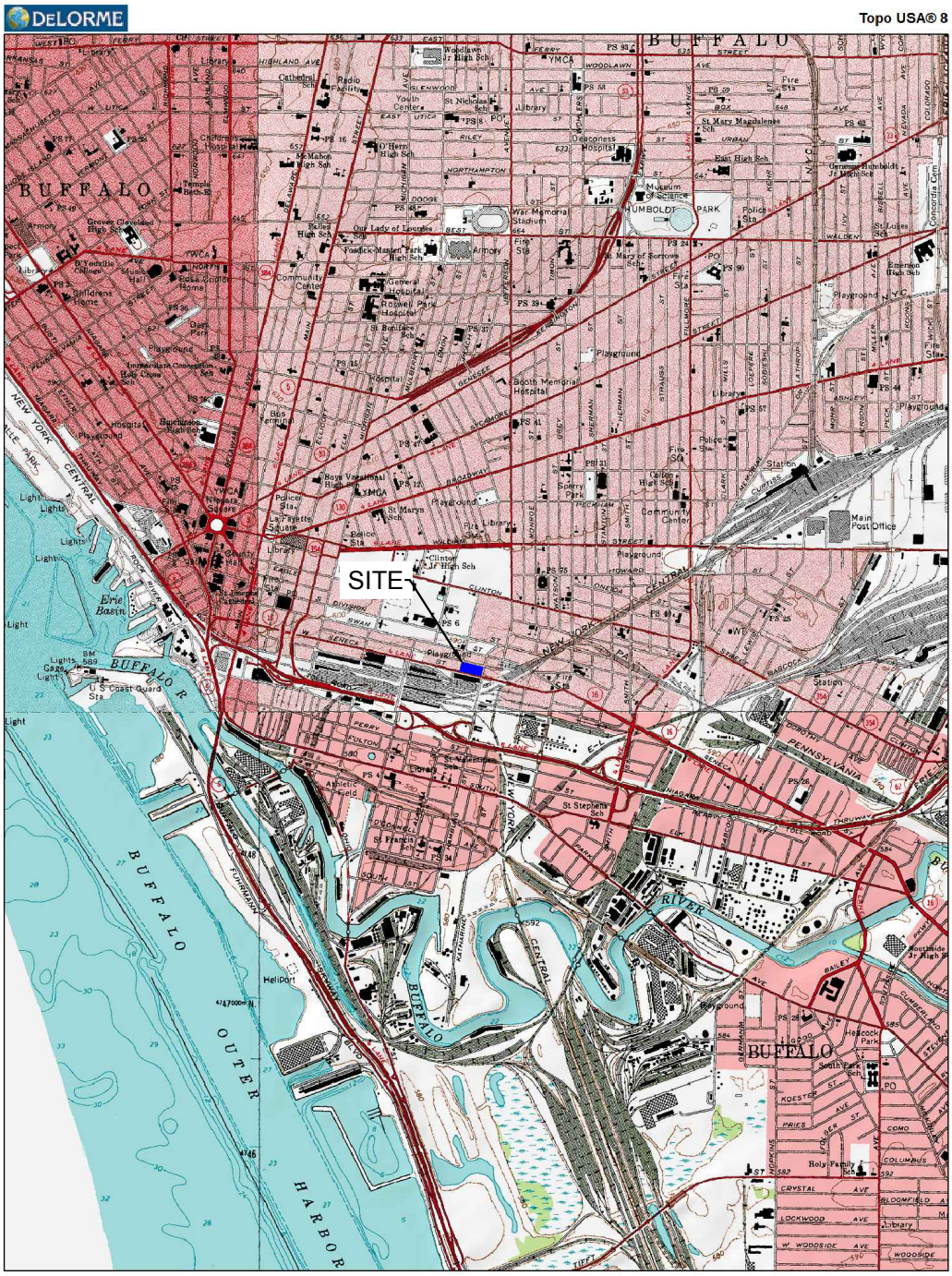
Definitions:

ND = Parameter has a GWQS of non-detect; Parameter not detected above laboratory detection limit.
"--" = No value available for the parameter; Parameter not analysed for.
J = Estimated value; result is less than the reporting limit but greater than zero.

BOLD = Result exceeds GWQS.

FIGURES

FIGURE 1



BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

PROJECT NO.: 0270-012-001

DATE: JULY 2015

DRAFTED BY: KRR

SITE LOCATION AND VICINITY MAP

SITE MANAGEMENT PLAN

500 SENECA STREET SITE
BCP NO. C915273
BUFFALO, NEW YORK

PREPARED FOR

500 SENECA STREET, LLC

F:\CAD\Benchmark\500 Seneca Street, LLC\SMP\Figure 2; Site Plan (Aerial).dwg

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

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PROJECT NO.: 0270-012-001

DATE: JULY 2015

DRAFTED BY: KRR

SITE PLAN (AERIAL)

SITE MANAGEMENT PLAN

500 SENECA STREET SITE
BCP NO. C915273
BUFFALO, NEW YORK

PREPARED FOR

500 SENECA STREET, LLC

FIGURE 2

LEGEND:

- PROPERTY BOUNDARY
- SB-13/TW-3 495.12 — REMEDIAL INVESTIGATION SOIL BORING / TEMPORARY WELL LOCATION WITH GROUNDWATER ELEVATION
- MW-3 487.98 — REMEDIAL INVESTIGATION MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION
- 495 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION

MW-7 492.45
MW-4 490.46
MW-5 493.05
SB-13/TW-3 495.12
MW-6 493.12
MW-3 487.98
ELEV.
NEW BOILER ROOM

SPRING STREET
MYRTLE AVENUE
HAMBURG STREET
SENECA STREET

491
493
495
497

N

40' 0' 40' 80'

SCALE: 1 INCH = 40 FEET
SCALE IN FEET
(approximate)

DATE: JULY 2015
DRAFTED BY: KRR

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
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JOB NO.: 0270-012-001

GROUNDWATER ISOPOTENTIAL MAP

SITE MANAGEMENT PLAN

500 SENECA STREET SITE
BCP NO. C915273
BUFFALO, NEW YORK

PREPARED FOR

500 SENECA STREET, LLC

FIGURE 3

LEGEND:

- BCP BOUNDARY
- HC - 1 — RI HAND CORE SUBSLAB SOIL SAMPLE LOCATION
- SB-13/TW-3 — RI TEMPORARY MONITORING WELL LOCATIONS
- IRM EXCAVATION AREAS
- WESTWALL — POST EXCAVATIONS EXCEEDS UNRESTRICTED SCOs
- SB - 11 / SP - 17 / HC-3 — LOCATION EXCEEDS UNRESTRICTED USE SCOs (POST - IRM)

MYRTLE AVENUE

SPRING STREET

HAMBURG STREET

SENECA STREET

SW-NORTH
SW-WEST
BOTTOM-01
SW-EAST
SW-SOUTH
BOTTOM-02
NORTHWALL
WESTWALL
EASTWALL
SOUTHWALL
SB-11
SB-12
SB-7
SB-6
SB-8
SB-13/TW-3
ELEV.
NEW BOILER ROOM
HC-5
HC-4
HC-6
SB-14
SB-15
HC-3
SB-16
HC-2
HC-1
SW-NORTH
SW-WEST
SB-9
BOTTOM-01
SW-EAST
SW-SOUTH
ELEV.

N

40' 0' 40' 80'

SCALE: 1 INCH = 40 FEET
SCALE IN FEET
(approximate)

DATE: SEPTEMBER 2015
DRAFTED BY: KRR

REMAINING SOIL/FILL ABOVE UNRESTRICTED SCOs

SITE MANAGEMENT PLAN
500 SENECA STREET SITE
BCP NO.C915273
BUFFALO, NEW YORK
PREPARED FOR
500 SENECA STREET, LLC

FIGURE 4

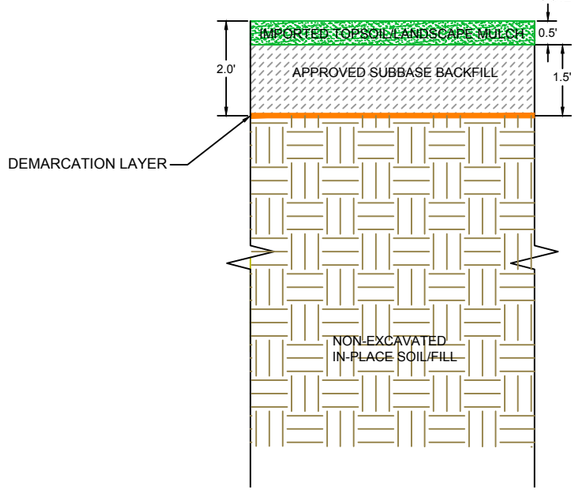
BENCHMARK Environmental Engineering & Science, PLLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

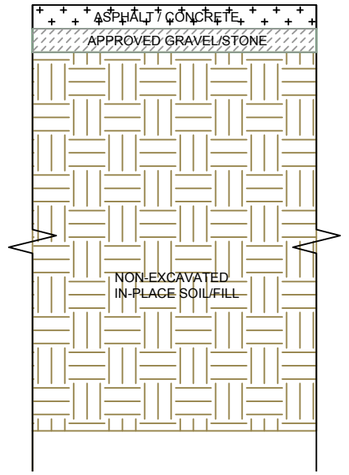
JOB NO.: 0270-012-001

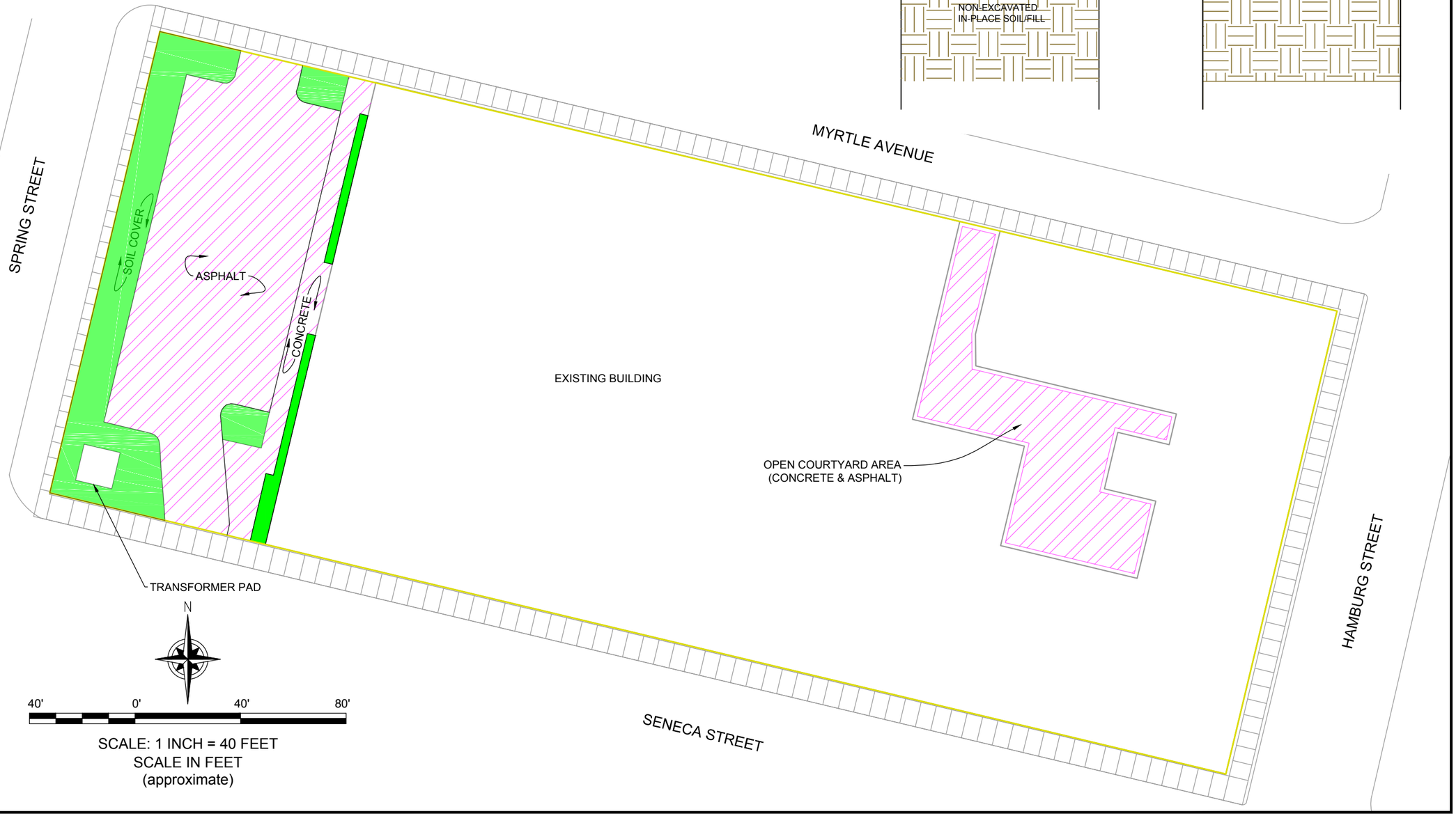
LEGEND:

- BCP BOUNDARY
- EXISTING BUILDING
- PARCEL BOUNDARY
- COMPOSITE COVER SYSTEM (PAVEMENT, CONCRETE, HARDSCAPE, AND COVER)
- SOIL COVER (GRASS)

SOIL COVER DETAIL







SCALE: 1 INCH = 40 FEET
SCALE IN FEET
(approximate)

DATE: SEPTEMBER 2015
DRAFTED BY: KRR

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

BENCHMARK Environmental Engineering & Science, PLLC

JOB NO.: 0270-015-001

COVER SYSTEM LAYOUT AND DETAIL

SITE MANAGEMENT PLAN

500 SENECA STREET SITE
BCP NO. C915273
BUFFALO, NEW YORK

PREPARED FOR
500 SENECA STREET, LLC

FIGURE 5

APPENDIX A

LIST OF SITE CONTACTS

APPENDIX A – LIST OF SITE CONTACTS

Name	Phone/Email Address
Site Owner and Remedial Party: 500 Seneca Street, LLC c/o - The Slater Law Firm	716-856-6760
Qualified Environmental Professional: Thomas Forbes	716-856-0599 tforbes@benchmarkturnkey.com
Qualified Environmental Professional: Nathan Munley	716-856-0599 nmunley@benchmarkturnkey.com
Remedial Party Attorney: Mr. Craig Slater, Esq.	716-865-6760
NYSDEC DER Region 9 Project Manager: Maurice Moore	716-851-7220 Maurice.moore@dec.ny.gov
NYSDEC Regional Haz. Waste Engineer: Chad Staniszewski	716-851-7220 Chad.staniszewski@dec.ny.gov
NYSDEC Site Control:	518-402-9553
NYSDOH: Bridget K. Boyd	(518) 402-7860 Bridget.boyd@health.ny.gov

APPENDIX B

EXCAVATION WORK PLAN

BROWNFIELD CLEANUP PROGRAM
SITE MANAGEMENT PLAN

APPENDIX A
EXCAVATION WORK PLAN

500 SENECA STREET, LLC
NYSDEC SITE NUMBER: C915273
BUFFALO, NEW YORK

October 2015 0270-012-001

Prepared for:

500 Seneca Street, LLC

Prepared By:

BENCHMARK
Environmental
Engineering &
Science, PLLC

SITE MANAGEMENT PLAN
APPENDIX B: EXCAVATION PLAN
500 SENECA STREET SITE

Table of Contents

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

Table 1: Notifications*

Maurice Moore (NYSDEC Project Manager – Region 9)	(716) 851-7220 mfmoore@gw.dec.state.ny.us
Chad Staniszewski, P.E. (NYSDEC Regional HW Engineer – Region 9)	716-851-7220 chad.staniszewski@dec.ny.gov

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

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix F of this SMP;
- Identification of disposal facilities for potential waste streams; and

- Identification of sources of any anticipated backfill, along with all required chemical testing results.

B-2: SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed by a qualified environmental professional during all excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided below.

B-3: SOIL STAGING METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC.

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 remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

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 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes shall be selected to involve the shortest commute through residential neighborhoods as feasible. All trucks loaded with site materials will exit the vicinity of the site using the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be limit 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 material excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of material from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

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

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

B-7: MATERIALS REUSE ON-SITE

'Reuse on-site' means reuse on-site of material that originates at the site and which does not leave the Site during the excavation. The criteria under which soil/fill originating on-Site may be used on-Site are presented below.

- **Excavated, Non-Impacted On-Site Soil/Fill:** Non-impacted soil/fill (i.e., soil/fill that does not exhibit visible or olfactory evidence of contamination, and is not grossly contaminated (as described in Part 375), and does not exhibit PID readings that exceed 10 parts per million (ppm) that is excavated from the Site may be used on-Site as

backfill beneath the cover system without special handling. 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.

- **Excavated, Potentially Impacted On-Site Soil/Fill:** Potentially impacted soil/fill (i.e., soils that exhibit field visual and/or olfactory evidence of contamination, or with elevated PID readings (above 10 ppm) may not be used on-Site unless tested and determined to meet the chemical criteria for Restricted Residential Use SCOs per 6NYCRR Part 375. Potentially impacted material will be segregated, as described above, and sampled to determine acceptance for reuse. The material reuse analyses will be discussed with the Department, and may include those constituents identified in 6NYCRR Part 375 for VOCs, SVOCs, metals, PCBs, pesticides and herbicides, in accordance with applicable USEPA SW846 analytical methodology.

The analytical results will be compared to NYSDEC's current Restricted Residential Use SCOs. If concentrations are below RRSCOs, the soil/fill can be reused on-Site. If the concentrations are elevated above RRSCOs, the results shall be shared with the NYSDEC and approval obtained prior to their specified reuse on-Site. It should be noted the NYSDEC may require highly-impacted materials to be transported off-Site and disposed of at a permitted landfill facility in accordance with all applicable local, state, and federal regulations. Staging and stockpiling management of materials should be conducted as described in the sections above.

The QEP will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for reuse on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines. No grossly-impacted materials shall be reused onsite; such materials must be disposed of offsite in accordance with applicable local, state, and federal regulations.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots,

stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

B-8: FLUIDS MANAGEMENT

All liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge, and development fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream, or river) will be performed under a SPDES permit.

B-9: COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the Decision Document. The existing cover system is comprised of a minimum of 24 inches of clean soil, asphalt pavement, concrete covered sidewalks and concrete building elements. The demarcation layer will be replaced to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP.

If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the SMP.

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. A Request to Import/Reuse Fill or Soil form, which can be found at

http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d).

The criteria under which off-site material may be used as backfill are presented below.

- **Off-Site Soil/Fill:** Off-Site soil/fill may be used as backfill provided that it originates from known sources having no evidence of disposal or releases of hazardous substances; hazardous, toxic or radioactive wastes; or petroleum, and is tested and meet all of the criteria in accordance with Appendix 5 of DER-10. In addition, no off-Site materials meeting the definition of a solid waste as defined in 6 NYCRR, Part 360-1.2 (a) shall be used as backfill.
- **Other Off-Site Material:** Material other than soil may be imported as backfill, without chemical testing, provided it contains less than 10% (by weight) material that would pass through a size 80 sieve: 1) Rock or stone, consisting of virgin material from a permitted mine or quarry; 2) Recycled concrete, brick, or asphalt from a NYSDEC-registered or permitted C&D debris processing facility (as specified in Section 360-16.1 of 6 NYCRR Part 360) that conforms to Section 304 of the New York State Department of Transportation Standard Specifications Construction and Materials Volume 1 (2002). As stated in Section 360-16.4(b)(2), the facility may only accept recognizable, uncontaminated, non-pulverized C&D debris or C&D debris from other authorized C&D processing facilities. According to Section 360-16.2(c), "uncontaminated" means C&D debris that is not mixed or commingled with other solid waste at the point of generation, processing, or disposal, and that is not contaminated with spills of a petroleum product, hazardous waste, or industrial waste.

Off-Site borrow soils shall be tested to assure conformance with the criteria identified above. If an off-Site soil/fill borrow source is of unknown origin or originates from a commercial or urban site, then a tiered approach based on the volume of impacted soil/fill being excavated will be used to determine the frequency of characterization sampling in accordance with DER-10, Section 5.4 and Table 5.4(3)10. .

B-11: STORMWATER POLLUTION PREVENTION

If future site activities include large excavation, details of storm water pollution prevention will be included in the applicable notification provided to the Department. If

required by the Department as part of the planned future excavation activities, barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area, as necessary.

B-12: EXCAVATION CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed in accordance with 6NYCRR Part 375 and consultation with the Department.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

B-13: COMMUNITY AIR MONITORING PLAN

The Community Air Monitoring Plan (CAMP) will follow the guidance provided in the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan found in Appendix 1A of NYSDEC's DER-10 *Technical Guidance for Site Investigation and Remediation*. The CAMP for this Site is included as Appendix C of this SMP. The CAMP will be implemented for all intrusive activities performed at the site. The upwind and downwind monitoring locations required in the generic CAMP will be determined based on the prevailing wind direction at the start of work. Air sampling locations will be adjusted on a daily or more frequent basis based on actual wind directions and work locations. VOC monitoring will be performed using a PID or other equipment that is capable of calculating 15-minute running average concentrations. All air monitoring equipment will be calibrated at least daily. The 15-minute average concentration will be compared to the levels specified below.

Alternatively, the upwind monitoring location may be removed, as long as the background contribution is considered to be 0.0 ppm.

ORGANIC VAPOR PERIMETER MONITORING:

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

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

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

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

EXPLOSIVE VAPORS:

Explosive vapor community air monitoring will be performed at the downwind perimeter of the Site on a continuous basis whenever sustained atmospheric concentrations of greater than 10% of the LEL are recorded in the exclusion zone. If sustained atmospheric concentrations of greater than 10% LEL are recorded at the downwind Site perimeter, the local Fire Department will be contacted (see Section 2.5.1 of the SMP for phone number).

AIRBORNE PARTICULATE COMMUNITY AIR MONITORING:

Respirable (PM-10) particulate monitoring will be performed on a continuous basis at the downwind perimeter of the exclusion zone. The monitoring will be performed using real-time monitoring equipment capable of measuring less than 10 micrometers in size (PM-10) and integrating over a period of 15-minutes for comparison to the airborne particulate action levels. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. All readings will be recorded and will be available for NYSDEC and NYSDOH review. Readings will be interpreted as follows:

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (ug/m^3) greater than the background reading 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 provided that the downwind PM-10 particulate levels do not exceed 150 ug/m^3 above the background level and that visible dust is not migrating from the work area.

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

The location of air sampling stations will be based on generally prevailing wind conditions. These locations will be adjusted throughout the day based on actual wind directions to provide upwind (if used) and downwind monitoring stations.

Upwind/background monitoring may be discontinued in the event of obtaining a sustained 0.0 ppm reading.

Exceedance 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 and on-site. Specific odor control methods may include: limiting exposed face of the excavation area, reduction in work hours and/or specific work activities (e.g. load out of material), proof rolling excavation, and application of odor control agents (e.g. spray-foam).

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 through the use of a dedicated on-site water truck for road wetting. The truck will be capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.
- Covering or proof-rolling excavated areas and materials after excavation activity ceases.
- Reducing the excavation size and/or number of excavations

B-16: OTHER NUISANCES

A plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

APPENDIX C

RESPONSIBILITIES OF OWNER & REMEDIAL PARTY

C-1: RESPONSIBILITIES

The owner and remedial party, and the associated responsibilities for implementing the Site Management Plan ("SMP") for the 500 Seneca Street site (the "site"), number C915273, is:

500 Seneca Street, LLC
500 Seneca Street, Suite 504
Buffalo, New York 14204

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

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

APPENDIX D

ENVIRONMENTAL EASEMENT

The Slater Law Firm, PLLC

www.CSlaterLaw

June 22, 2015

Bradford D. Burns, Senior Attorney
NYS Dept of Environmental Conservation
Office of General Counsel
625 Broadway, 14th Floor
Albany, NY 12233-1500

Re: 500 Seneca Street, Buffalo, NY Environmental Easement
Site No. C915273

Dear Mr. Burns:

Enclosed please find a copy of the recorded Environmental Easement for the above-entitled property. This copy is marked with the date and location of recording and accompanied by the Affidavit of Service by Mail.

This should complete all requirements for the Easement. If you have any questions or need anything else please don't hesitate to contact me anytime.

Very truly yours,

The Slater Law Firm, PLLC

Craig A. Slater
DIRECT DIAL (716) 845-6760
E-MAIL: CSLATER@CSLATERLAW.COM

CAS: es
Enclosures

AFFIDAVIT OF SERVICE BY MAIL

Craig A. Slater, Esq., being duly sworn, deposes and says: I am the managing member with the law firm of The Slater Law Firm, PLLC. On the 22nd day of June 2015, I mailed a copy of the attached Notice of Environmental Easement, which is annexed hereto as "Exhibit A," and Environmental Easement, which is annexed hereto as "Exhibit B," to:

Mayor Byron Brown
City of Buffalo- City Hall
65 Niagara Square
Buffalo, NY 14202

CRAIG A. SLATER, ESQ.

Sworn to before me this 22nd day of June, 2015.

Notary Public

AUDREY J. MILLER
Notary Public, State of New York
Qualified in Erie County
Commission Expires: 3/30/2018

EXHIBIT A

C
om

The Slater Law Firm, PLL

www.CSlaterLaw.

June 22, 2015

Mayor Byron Brown
City of Buffalo- City Hall
65 Niagara Square
Buffalo, NY 14202

Re: Environmental Easement
500 Seneca Street, Buffalo, NY
Site No. C915273

Dear Mayor Brown:

Attached please find a copy of an environmental easement granted to the New York State Department of Environmental Conservation ("DEC") on June 4, 2015, by 500 Seneca Street, LLC, for property at 500 Seneca Street, Buffalo, NY, Tax Map No. 111.81-7-1, DEC Site No: C915273.

This Environmental Easement restricts future use of the above-referenced property to restricted residential uses. It also assures that in areas not proposed for building construction or impervious covering, residually contaminated soils must be covered by a demarcation layer and must be overlain by at least 2 feet of clean fill cover material. This barrier must be maintained. Any intrusive activity at the site must be done in accordance with the Site Management Plan that is incorporated into the Environmental Easement. Department approval is also required prior to any groundwater use.

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

1. Whenever the department is granted an environmental easement, it shall provide each affected local government with a copy of such easement and shall also provide a copy of any documents modifying or terminating such environmental easement.

2. Whenever an affected local government receives an application for a building permit or any other application affecting land use or development of land that is subject to an environmental easement and that may relate to or impact such easement, the affected local government shall notify the department and refer such application to the department. The department shall evaluate whether the application is consistent with the environmental easement and shall notify the affected local government of its determination in a timely fashion, considering the time frame for the local government's review of the application. The

26 Mississippi Street, Suite 400 Buffalo, NY 14203-3014 Office 716.845.6760 Fax 716.845.6764

affected local government shall not approve the application until it receives approval from the department.

An electronic version of every environmental easement that has been accepted by this Department is available to the public at: http://www.dec.ny.gov/cfmx/extapps/derfoil/index.cfm?pageid. If you have any questions or comments regarding this matter, please do not hesitate to contact me.

Very truly yours,

The Slater Law Firm, PLLC

Craig A. Slater
DIRECT DIAL: (716) 845-6760
E-MAIL: CSLATER@CSLATERLAW.COM

CAS: es
Enclosure
cc : D. Franjoine
R. Zuchlewski
S. Savarino
K. Hays

EXHIBIT B

CHRISTOPHER L. JACOBS, ERIE COUNTY CLERK
REF:

DATE:6/18/2015
TIME:9:31:11 AM
RECEIPT: 15095561

PARALEGAL SERVICES OF BUFFALO
ACCOUNT #: 9273

ITEM - 01 785
RECD: 6/18/2015 9:34:20 AM
FILE: 2015119160 BK/PG D 11281/83
Deed Sequence: TT2014020566
500 SENECA STREET LLC 90.50
Recording Fees 10.00
TP584

Subtotal 100.50

TOTAL DUE	$100.50
PAID TOTAL	$100.50
PAID ESCROW	$100.50

REC BY: Faith
COUNTY RECORDER

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

THIS INDENTURE made this 4th day of June, 2015 between Owner(s) 500 Seneca Street, LLC, having an office at 26 Mississippi Street, Suite 400, Buffalo, NY 14201-3014, County of Erie, 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 500 Seneca Avenue in the City of Buffalo, County of Erie and State of New York, known and designated on the tax map of the County Clerk of Erie as tax map parcel numbers: Section 111.81 Block 7 Lot 1, being the same as that property conveyed to Grantor by deed dated May 12, 2010 and recorded in the Erie County Clerk's Office in Liber 11179, Page 1630. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 1.87 +/- acres, and is hereinafter more fully described in the Land Title Survey dated March 17, 2015 prepared by Michele A. Clark of Creekside Boundary Land Surveying, PLLC, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

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

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: C915273-04-13, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

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

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

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

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

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

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

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Erie County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

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

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

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

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

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

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

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

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

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

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

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

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

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

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

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

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

(i) are in-place;

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

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

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

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

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

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

(7) the information presented is accurate and complete.

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

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

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

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

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common

law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

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

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

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

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

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

Parties shall address correspondence to:	Site Number: C915273 Office of General Counsel NYSDEC 625 Broadway Albany New York 12233-5500
With a copy to:	Site Control Section Division of Environmental Remediation NYSDEC 625 Broadway Albany, NY 12233

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

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

8. Amendment. Any amendment to this Environmental Easement may only be executed

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

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

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

- Remainder of Page Intentionally Left Blank -

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

500 Seneca Street, LLC:

By: _____

Print Name: David P. Franjoine

Title: Managing Member Date: 4/27/15

Grantor's Acknowledgment

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

On the 27th day of April, in the year 2015 before me, the undersigned, personally appeared David P. Franjoine, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public - State of New York

CRAIG A. SLATER
Notary Public, State of New York
Qualified in Erie County
Commission Expires October 31, 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 Acknowledgment

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

On the 4TH day of JUNE, in the year 2015, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

PATRICK EUGENE FOSTER
NOTARY PUBLIC, STATE OF NEW YORK
QUALIFIED IN KINGS COUNTY
NO. 02FO6278032
COMMISSION EXPIRES 03/18/2017

SCHEDULE "A" PROPERTY DESCRIPTION

Environmental Easement Description
For 500 Seneca Street Site
BCP Site No. C915273

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Buffalo, County of Erie and State of New York being part of Outer Lot No. 95, described as follows:

BEGINNING at the point of intersection of the northerly line of Seneca Street with the easterly line of Spring Street: running thence easterly along the northerly line of Seneca Street, a distance of 453.29 feet to the point of intersection of the northerly line of Seneca Street with the westerly line of Hamburg Street: running thence northerly, an interior angle of 90°14'07", along the westerly line of Hamburg Street, a distance of 180.00 feet to the point of intersection of the westerly line of Hamburg Street with the southerly line of Myrtle Avenue (formerly Folsom Street): running thence westerly, an interior angle of 89°45'53", along the southerly line of Myrtle Avenue, a distance of 453.58 feet to the point of intersection of the southerly line of Myrtle Avenue with the easterly line of Spring Street: running thence southerly, an interior angle of 90°08'35" along the easterly line of Spring Street, a distance of 180.00 feet to the point of beginning, forming a closing angle of 89°51'25" and containing 1.874 acres of land.

APPENDIX E

WELL CONSTRUCTION AND BORING LOGS

Project No: 0270-012-001

Borehole Number: MW-1

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

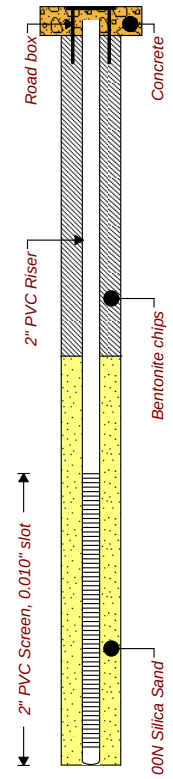
Logged By: BMG

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 1000 / 2000)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 / -1.0 / 1.0	***Silty Gravel with Sand and Fill*** Gray, moist, angular fine to coarse gravel with some fine to coarse sand, little cinders and ash, and few nonplastic fines, dense	SS1	11	1.7		0.1		
		Lean Clay with Fill Brown, moist, medium plasticity fines with few fine sand, trace cinders, stiff							
5.0	-5.0 / 5.0 / -6.0 / 6.0	***Fill*** Gray, moist, concrete with little brick, and few medium plasticity fines, dense	SS2	23	1.7		0.1		
		Lean Clay with Fill Brown, moist, medium plastic fines with few fine sand, trace cinders fragments, stiff							
10.0	-10.0 / 10.0 / -10.5 / 10.5	***Lean Clay*** Reddish brown, moist, medium plasticity fines, soft	SS3	8	1.8		0.1		
		Lean Clay with Sand and Gravel Grayish brown, wet, low plasticity fines with some fine sand and little rounded fine to coarse gravel, soft							
15.0	-13.0 / 13.0	Refusal at 13' suspected rock							
		End of Borehole							
20.0									



Drilled By: Earth Dimensions
Drill Rig Type: CME 550
Drill Method: Hollow Stem Augar
Comments: 12.8' hit hard rock like surface
Drill Date(s): 10-4-13

Hole Size: 8.5"
Stick-up: NA
Datum: Feet below grade

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: MW-2

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

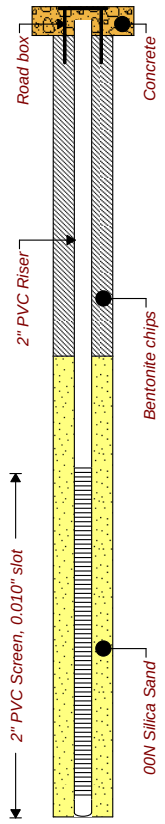
Logged By: BMG

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface					0 1000 2000		
	0.0 / -0.5 / 0.5	***Silty Gravel with Sand*** Gray, moist, angular fine to coarse gravel with some fine to coarse sand and few non-plastic fines, dense	SS1	6	1.5		0.1		
		Fill Black, moist,cinders and ash with few medium plasicity fines and trace brick, medium dense							
5.0	-5.0 / 5.0								
	-6.0 / 6.0	***Lean Clay with Fill*** Dark brown, moist, medium plasticity fines with trace wood and ash, stiff, looks reworked	SS2	5	1.9		0.2		
		Lean Clay Brown, moist, medium plasticity fines, stiff							
10.0	-10.0 / 10.0								
		Lean Clay with Sand and Gravel Yellowish brown, wet, low plasticity fines with some fine sand and little rounded fine to coarse gravel, soft	SS3	19	1.7		0.1		
	-13.9 / 13.9	Refusal at 13.9' suspected rock							
15.0		End of Borehole							
20.0									



Drilled By: Earth Dimensions
Drill Rig Type: CME 550
Drill Method: Hollow Stem Augar
Comments: at 9' hit rock/bolder when drilling, 13.9' grinding to advance auger
Drill Date(s): 10-3-13

Hole Size: 8.5"
Stick-up: NA
Datum: Feet below grade

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: MW-3

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

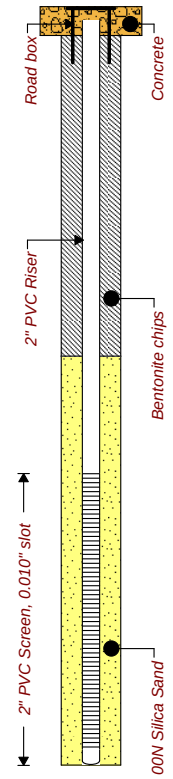
Logged By: BMG

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 1000 / 2000)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 / -0.5 / 0.5	***Concrete and subbase***							
		Lean Clay with Fill Brown, moist, medium plasticity fines with few fine sand, trace tile, stiff	SS1	4	1.3		0.0		
5.0	-5.0 / 5.0	***Lean Clay*** Reddish brown, moist, medium plasticity fines, stiff	SS2	13	2.0		0.0		
10.0	-10.0 / 10.0	***Lean Clay with Sand and Gravel*** Grayish brown, wet, low plasticity fines with some fine sand and little rounded fine to coarse gravel, soft, no odor	SS3	2	2.0		1.6		
	-13.0 / 13.0	Refusal at 13' suspected rock	SS4	50\0.1	0.01				
		End of Borehole							
15.0									
20.0									



Drilled By: Earth Dimensions
Drill Rig Type: CME 550
Drill Method: Hollow Stem Augar
Comments:
Drill Date(s): 10-3-13

Hole Size: 8.5"
Stick-up: NA
Datum: Feet below grade

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: MW-4

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

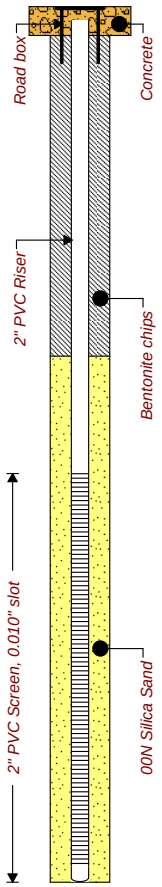
Logged By: BMG

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 1000 / 2000)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 / -1.0 / 1.0	***Silty Gravel with Sand*** Gray, moist, angular fine to coarse gravel with some fine to coarse sand and few nonplastic fines, dense	SS1	15	1.3		0.0		
		Lean Clay with few Fill Brown, moist, medium plastic fines with few fine sand, trace brick fragments, stiff							
5.0	-5.0 / 5.0	***Lean Clay*** Reddish brown, moist, medium plasticity fines, stiff to soft at 6'	SS2	12	2.0		0.1		
10.0	-10.0 / 10.0	***Lean Clay with Sand and Gravel*** Grayish brown, wet, low plasticity fines with some fine sand and little rounded fine to coarse gravel, soft	SS3	2	1.8		0.1		
15.0	-15.0 / 15.0 / -15.5 / 15.5	***Well Graded Gravel with Silt and Sand*** Gray, wet, rock fragments with some fine to coarse sand and little low plastic fines, very dense	SS4	117 / 0.5'	0.5		5.3		
		Refusal at 15.5' suspected rock							
		End of Borehole							
20.0									



Drilled By: Earth Dimensions
Drill Rig Type: CME 550
Drill Method: Hollow Stem Augar
Comments:
Drill Date(s): 10-3-13

Hole Size: 8.5"
Stick-up: NA
Datum: Feet below grade

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: MW-5

Project: 500 Seneca Street Site

A.K.A.:

Client: 500 Seneca Street, LLC

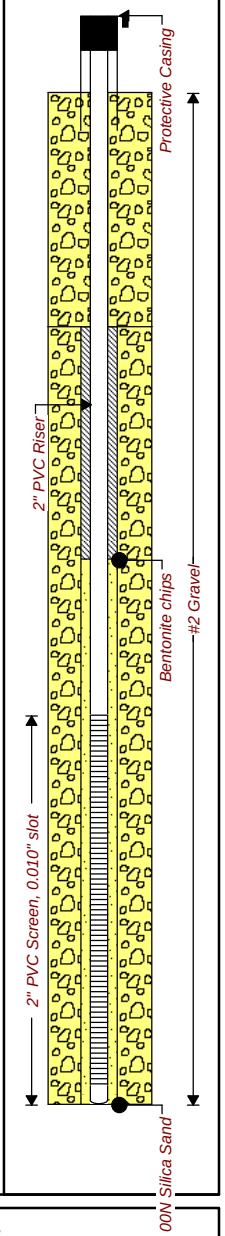
Logged By: JJR

Site Location: 500 Seneca Street, Buffalo, New York

Checked By: NTM

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm 0 12.5 25	Lab Sample	Well Completion Details or Remarks
-1.0									
	0.0 / 0.0	Ground Surface							
4.0									
9.0									
	-13.0 / 13.0	End of Borehole							
14.0									



Drilled By: Earth Dimensions, Inc.
Drill Rig Type: Diedrich D120
Drill Method: Continuous SS with 4 1/4 inch HSA.
Comments:
Drill Date(s): 4-8-15

Hole Size: 8 1/4"
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: MW-6

Project: 500 Seneca Street Site

A.K.A.:

Client: 500 Seneca Street, LLC

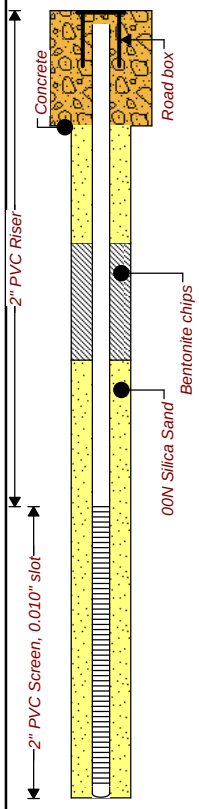
Logged By: JJR

Site Location: 500 Seneca Street, Buffalo, New York

Checked By: NTM

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	Augered to 4 fbgs.							
	-4.0								
	4.0	***Fill Material*** Light brown, moist, mostly fine sand, little brick, trace non-plastic fines, medium dense, loose when disturbed	S1	21	0.40		0.0		
5.0	-6.0						0.0		
	6.0	Augered to 9 fbgs.					0.0		
	-9.0								
	9.0	***Sandy Silt*** Reddish brown, wet, mostly non-plastic fines, little fine sand, medium dense	S2	15	1.80		0.0		
10.0	-10.5						0.0		
	10.5	***Silty Sand with Gravel*** Reddish brown, wet, mostly fine sand, little non-plastic fines, little sub-rounded fine gravel, medium dense							
	-11.0								
	11.0	Augered to 13.5 fbgs.							
	-13.0								
	13.0								
	-13.5								
	13.5	Auger Refusal at 13.5 fbgs. End of Borehole							
15.0									
20.0									



Drilled By: Earth Dimensions, Inc.
Drill Rig Type: Diedrich D120
Drill Method: Continuous SS with 4 1/4 inch HSA.
Comments:
Drill Date(s): 4-9-15

Hole Size: 8 1/4"
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: MW-7

Project: 500 Seneca Street Site

A.K.A.:

Client: 500 Seneca Street, LLC

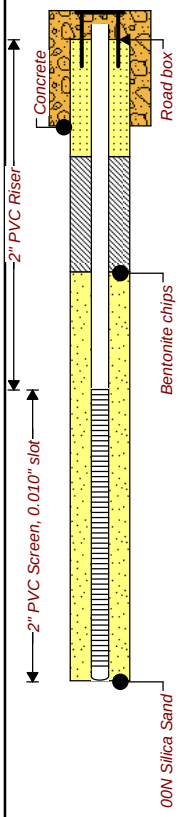
Logged By: JJR

Site Location: 500 Seneca Street, Buffalo, New York

Checked By: NTM

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	Augered to 4 fbgs.							
	-4.0								
	4.0	***Sandy Silt*** Reddish brown, moist, mostly non-plastic fines, little fine sand, loose	S1	6	2.3		0.0		
5.0							0.0		
	-6.0								
	6.0	Augered to 9 fbgs.					0.0		
	-9.0								
	9.0	***Poorly Graded Sand with Silt*** Light brown , wet, mostly fine sand, little fine gravel (sub-rounded), trace non-plastic fine sand, very dense, spoon refusal at 10.4 fbgs.	S2	52	1.2		0.0		
10.0	-10.4								
	10.4	Augered to 11.5 fbgs.							
	-11.5								
	11.5	Auger refusal at 11.5 fbgs. End of Borehole							
15.0									
20.0									



Drilled By: Earth Dimensions, Inc.
Drill Rig Type: Diedrich D120
Drill Method: Continuous SS with 4 1/4 inch HSA.
Comments:
Drill Date(s): 4-8-15

Hole Size: 8 1/4"
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-1

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

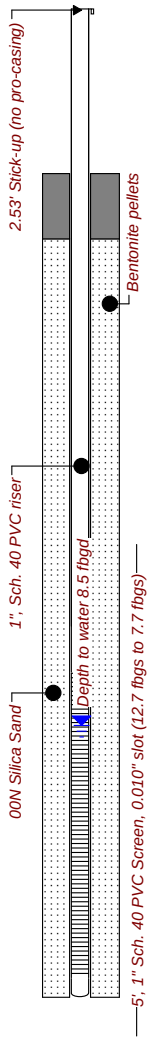
Logged By: TAB

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
-3.0									
	0.0	Ground Surface							
	0.0 / -0.5	***Concrete***							
	0.5	***Fill*** Black/Brown, moist, mostly fine sand, some non-plastic fines, few angular coarse gravels, cinders, orange brick fragment, medium dense, loose when disturbed.	C1	NA	1.5		0.0	Sample location	
2.0									
	-3.0 / 3.0	***Lean Clay with Fill*** Reddish brown, moist, medium plasticity fines, few fine sand, medium toughness, medium dry strength, soft, orange brick fragment orange brick fragments and ciders.					2.2		
	-4.5 / 4.5	***Sandy Lean Clay*** Reddish Brown, moist, mostly medium plastic fines, little fine sand, trace sub-rounded fine gravels, medium toughness, medium dry strength, stiff.	C2	NA	1.9		0.3		
7.0									
	-8.5 / 8.5	As above, Brown, wet (8.5fbgs), mostly low plasticity fines.	C3	NA	1.0		0.4		
12.0									
	-12.5 / 12.5	No recovery. Refusal at 12.7 fbgs.	C4	NA	0.2				
		End of Borehole							



Drilled By: DDS Environmental Construction
Drill Rig Type: 66DT
Drill Method: Direct Push
Comments: Top of Rock 12.7-fbgs
Drill Date(s): 3-6-14

Hole Size: 3-inch
Stick-up: NA
Datum: Mean sea level.

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-2

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

Logged By: TAB

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Concrete***							
	-0.5								
	0.5	***Fill*** Black, moist, mostly fine sand, some non-plastic fines, few angular fine gravels, cinders and orange brick, medium dense, loose when disturbed.					1.1		
	-1.5								
	1.5	***Lean Clay with few Fill*** Reddish Brown, moist, medium plastic fines, few fine sand, trace orange brick fragments and cinders, stiff.	C1	NA	2.2		2.1		
	-4.5								
	4.5	***Sandy Lean Clay*** Reddish brown, moist, medium plasticity fines, little fine sand, trace sub-rounded fine gravel, stiff, medium dry strength, medium toughness.					2.4	Sample Location	
5.0			C2	NA	4.0				
	-8.5								
	8.5	As above, brown, medium grading to low plasticity fines, wet at 8.5 fbgs.					3.3		
10.0			C3	NA	2.5				
							3.6		
	-12.5								
	12.5	As above	C4	NA	0.0				
	-13.0	Refusal 13.0 fbgs.							
	13.0	End of Borehole							
15.0									

Drilled By: DDS Environmental Construction
Drill Rig Type: 66DT
Drill Method: Direct Push
Comments: Top of Rock 13.0 fbgs.
Drill Date(s): 3-6-14

Hole Size: 3-inch
Stick-up: NA
Datum: Mean sea level

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-3

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

Logged By: TAB

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

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Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 / -0.6	***Concrete***							
	0.6 / -4.6	***Fill*** Black, moist, mostly fine sand, some non-plastic fines, few angular coarse gravels, cinders, brick fragments, medium dense, loose when disturbed.	C1	NA	1.2		1.1	Sample location	
5.0	4.6 / -8.6	***Lean Clay*** Reddish brown, moist, medium plasticity fines, few fine sand, medium toughness, medium dry strength, stiff.	C2	NA	3.5		2.2		*Depth to water 8.5 fbgd*
10.0	8.6 / -12.6	***Sandy Lean Clay*** Brown, wet (8.5 fbgs), mostly low plasticity fines, some fine sand, few sub-rounded fine gravels, medium toughness, medium dry strength, soft.	C3	NA	1.8		2.5		
	12.6 / -13.1	As above. Refusal at 13.1 fbgs.	C4	NA	3.3		1.9		
	13.1	End of Borehole							
15.0									

Drilled By: DDS Environmental Construction
Drill Rig Type: 66DT
Drill Method: Direct Push
Comments: Top of Rock 13.1-fbgs
Drill Date(s): 3-6-14

Hole Size: 3-inch
Stick-up: NA
Datum: Mean sea level.

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-4

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

Logged By: TAB

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 -0.5	***Concrete***							
	0.5	***Fill*** Black, moist, mostly fine sand, some non-plastic fines, few angular coarse gravels, cinders, yellow brick fragment, medium dense, loose when disturbed.	C1	NA	1.0		0.0	Sample location	
	-4.5 4.5	***Lean Clay with Sand*** Reddish brown, moist, medium plasticity fines, little fine sand, medium toughness, medium dry strength, stiff.	C2	NA	3.1		3.3 3.0		
	-8.5 8.5	***Sandy Lean Clay*** Reddish Brown, wet (8.5 fbgs), mostly low plasticity fines, little fine sand, few sub-rounded fine gravels, medium toughness, medium dry strength, stiff.	C3	NA	3.3		2.1 2.4		*Depth to water 8.5 fbgd*
10.0	-12.5 12.5	As above.	C4	NA	0.5		0.0		
	-13.0 13.0	Refusal at 13.0 fbgs suspected rock End of Borehole							
15.0									

Drilled By: DDS Environmental Construction
Drill Rig Type: 66DT
Drill Method: Direct Push
Comments: Top of Rock 13.0-fbgs
Drill Date(s): 3-6-14

Hole Size: 3-inch
Stick-up: NA
Datum: Mean sea level.

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-5

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

Logged By: TAB

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

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Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 1000 / 2000)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 -0.5	***Concrete***							
	0.5	***Fill*** Black, moist, mostly fine sand, some non-plastic fines, few angular coarse gravels, cinders, brick fragments, medium dense, loose when disturbed.					0.0		
	-2.5 2.5	***Lean Clay*** Brow to black, moist, medium plasticity fines, few fine sand, medium toughness, medium dry strength, stiff, slight petroleum-like odor.	C1	NA	2.1		122		
	-4.5 4.5	As above no black coloring, strong petrloeum-like odor.					1147	Sample location	
5.0	-6.5 6.5	As above no petroleum-like odor.	C2	NA	3.6		15		
	-8.5 8.5	***Sandy Lean Clay*** Brown, wet (8.5 fbgs), mostly low plasticity fines, some fine sand, few sub-rounded fine gravels, medium toughness, medium dry strength, soft.					0.0		
10.0			C3	NA	2.9		0.0		
	-12.0 12.0	Refusal at 12.5 fbgs.							
	-12.5 12.5	End of Borehole							
15.0									

Depth to water 8.5 fbgd

Drilled By: DDS Environmental Construction
Drill Rig Type: 66DT
Drill Method: Direct Push
Comments: Top of Rock 12.5-fbgs
Drill Date(s): 3-6-14

Hole Size: 3-inch
Stick-up: NA
Datum: Mean sea level.

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-6

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

Logged By: TAB

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

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Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Fill*** Black/brown, moist, mostly low plasticity fines, with some fine sand, little angular fine gravels, cinders, slag, brick fragments, medium dense, loose when disturbed.	C1	NA	3.2		0.0		
	-4.0 / 4.0	As above.	C2	NA	2.8		0.0	Sample location	
5.0	-7.0 / 7.0	***Lean Clay*** Reddish brown, moist, medium plasticity fines, few fine sand, with orange brick and slag, medium toughness, medium dry strength, stiff.					0.0		
	-8.0 / 8.0	***Sandy Lean Clay*** Brown, wet (8.0 fbgs), mostly medium plastic fines grading to low plasticity fines, some fine sand, few sub-rounded fine gravels, medium toughness, medium dry strength, soft.	C3	NA	3.3		0.0		
10.0	-12.0 / 12.0	As above. Refusal at 14.0 fbgs.	C4	NA	2.4		0.0		
	-14.0 / 14.0	End of Borehole							
15.0									

Depth to water 8.0 fbgs.

Drilled By: DDS Environmental Construction
Drill Rig Type: 66DT
Drill Method: Direct Push
Comments: Top of Rock 14.0-fbgs
Drill Date(s): 3-6-14

Hole Size: 3-inch
Stick-up: NA
Datum: Mean sea level.

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-7

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

Logged By: TAB

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

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Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Fill*** Black/grey, moist, mostly fine sand, some non-plastic fines, little angular fine gravels, cinders, slag, brick fragments, medium dense, loose when disturbed.					0.0		
	-1.0 1.0	***Lean Clay with Fill*** Reddish brown, moist, medium plasticity fines, few fine sand, with orange brick and slag, medium toughness, medium dry strength, stiff.	C1	NA	3.2		0.0	Sample location	
	-4.0 4.0	***Lean Clay with Sand*** Reddish brown, moist, medium plasticity fines, little fine sand, medium toughness, medium dry strength, stiff.	C2	NA	2.8		0.0		
5.0							0.0		
	-8.0 8.0	As above	C3	NA	3.3		0.0		
	-9.0 9.0	***Sandy Lean Clay*** Brown, wet (9.0 fbgs), mostly low plasticity fines, some fine sand, few sub-rounded fine gravels, medium toughness, medium dry strength, soft.					0.0		
10.0							0.0		
	-12.0 12.0	As above. Refusal at 14.0 fbgs.	C4	NA	2.4		0.0		
	-14.0 14.0	End of Borehole							
15.0									

Depth to water 9.0 fbgs.

Drilled By: DDS Environmental Construction
Drill Rig Type: 66DT
Drill Method: Direct Push
Comments: Top of Rock 14.0-fbgs
Drill Date(s): 3-6-14

Hole Size: 3-inch
Stick-up: NA
Datum: Mean sea level.

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-8

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

Logged By: TAB

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Fill*** Black/brown, moist, mostly low plasticity fines, with some fine sand, little angular fine gravels, cinders, slag, brick fragments, medium dense, loose when disturbed.	C1	NA	2.0		0.4	Sample location	
	-4.0 / 4.0	As above.	C2	NA	1.1		0.0 0.5		
5.0									
	-8.0 / 8.0	***Sandy Lean Clay*** Brown, wet (8.0 fbgs), mostly medium plastic fines grading to low plasticity fines, some fine sand, few sub-rounded fine gravels, medium toughness, medium dry strength, soft.	C3	NA	3.3		0.0 0.2		
10.0									
	-11.5 / 11.5	Refusal at 12.0 fbgs..							
	-12.0 / 12.0	End of Borehole							
15.0									

Depth to water 8.0 fbgs.

Drilled By: DDS Environmental Construction
Drill Rig Type: 66DT
Drill Method: Direct Push
Comments: Top of Rock 12.0-fbgs
Drill Date(s): 3-6-14

Hole Size: 3-inch
Stick-up: NA
Datum: Mean sea level.

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-9

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

Logged By: TAB

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
0.0	0.0	***Fill*** Black/brown, moist, mostly low plasticity fines, with some fine sand, little angular fine gravels, cinders, slag, brick fragments, medium dense, loose when disturbed.	C1	NA	3.1		0.0	Sample Location	
	-4.0						0.0		
	4.0	***Lean Clay with Fill*** Reddish brown, moist, medium plasticity fines, few fine sand, medium toughness, medium dry strength, stiff, peice of rail road tie in shoe.							
5.0			C2	NA	2.0		3.0		
		Equipment refusal at 6.0 fbgs.							
	-6.0								
	6.0	End of Borehole							
10.0									

Drilled By: DDS Environmental Construction
Drill Rig Type: 66DT
Drill Method: Direct Push
Comments: Equipment refusal at 6.0 fbgs.
Drill Date(s): 3-6-14

Hole Size: 3-inch
Stick-up: NA
Datum: Mean sea level.

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-10/TW-2

Project: 500 Seneca Street Site

A.K.A.:

Client: 500 Seneca Street, LLC

Logged By: PWW

Site Location: 500 Seneca Street, Buffalo, New York

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 -0.5	***Concrete***							
	0.5	***Lean Clay*** Brown, moist, mostly medium plasticity fines, trace fine sand, firm, massive.	S-1	NA	2.9		0.0 0.0		
	-4.0 4.0	As above, moist to wet (6.5').	S-2	NA	4.0		0.0 0.0		Depth to water 6.5 fbgs
5.0									
	-8.0 8.0	As above.	S-3	NA	4.0		9.7	Sample location	
10.0	-10.0 10.0	***Sandy Lean Clay with Gravel*** Brown, wet, mostly medium plasticity fines, some fine sand, few subrounded fine, firm, massive, Refusal at 12.0 fbgs.					2.4 0.0		
	-12.0 12.0	End of Borehole							
15.0									

Drilled By: DDS Companies
Drill Rig Type: Track Mounted Geoprobe 66DT
Drill Method: Diect push with 4' macro-core
Comments: Top of rock 12.0 fbgs.
Drill Date(s): 4-2-14

Hole Size: 3"
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-11

Project: 500 Seneca Street Site

A.K.A.:

Client: 500 Seneca Street, LLC

Logged By: PWW

Site Location: 500 Seneca Street, Buffalo, New York

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Concrete***							
	-0.5 / 0.5	***Brick*** Orange brick.							
	-2.0 / 2.0	***Lean Clay*** Brown, moist, mostly medium plasticity fines, trace fine sand, firm, massive.	S-1	NA	2.7		0.0		
	-4.0 / 4.0	As above, moist to wet (5.0 fbgs)					0.0	Sampled Location	Depth to water 5.0 fbgs.
5.0			S-2	NA	4.0		0.0		
	-8.0 / 8.0	As above.					0.0		
10.0			S-3	NA	4.0		0.0		
	-12.0 / 12.0	***Lean Clay with Gravel*** Brown, moist, mostly medium plasticity fines, trace fine sand, some sub-rounded gravel, firm, massive.	S-4	NA	1.3		0.0		
	-13.5 / 13.5	Refusal at 13.5 fbgs.							
		End of Borehole							
15.0									

Drilled By: DDS Companies
Drill Rig Type: Track Mounted Geoprobe 66DT
Drill Method: Diect push with 4' macro-core
Comments: Top of rock 12.7 fbgs.
Drill Date(s): 4-2-14

Hole Size: 3"
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-12

Project: 500 Seneca Street Site

A.K.A.:

Client: 500 Seneca Street, LLC

Logged By: PWW

Site Location: 500 Seneca Street, Buffalo, New York

Checked By: BCH

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2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 / -0.5	***Concrete***							
	0.5	***Brick Fill*** Orange Brick.					0.0		
	-2.0 / 2.0	***Lean Clay*** Brown, moist, mostly medium plasticity fines, trace fine sand, firm, massive	S-1	NA	2.7		0.0		
	-4.0 / 4.0	As above, moist to wet (5.0 fbgs).					0.0	Sample Location	▼ Depth to water 5.0 fbgs.
5.0			S-2	NA	4.0		0.0		
	-8.0 / 8.0	As above.					0.0		
10.0			S-3	NA	4.0		0.0		
	-12.0 / 12.0	As above.					0.0		
		Refusal at 14.5 fbgs.	S-4	NA	2.5		0.0		
	-14.5 / 14.5	End of Borehole							
15.0									

Drilled By: DDS Companies
Drill Rig Type: Track Mounted Geoprobe 66DT
Drill Method: Diect push with 4' macro-core
Comments: Top of rock 14.5 fbgs.
Drill Date(s): 4-2-14

Hole Size: 3"
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-13

Project: 500 Seneca St Site

A.K.A.: TMW-2

Client: 500 Seneca Street, LLC

Logged By: TAB

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 -0.6	***Conrete***							
	0.6	***Sandy Lean Clay with Fill*** Black/Reddish brown, moist, mostly medium plastic fines, some fine sand, some cinders, stiff.	C1	NA	1.0		0.0 0.0		
	-4.6 4.6	As above, orange brick, wet lense from (5.5 to 6.0fbgs)	C2	NA	3.0		0.0 0.0	Sample Location	*Depth to water 5.5 fbgs.*
5.0	-7.0 7.0	***Lean Clay*** Brown, moist, mostly medium plasticity fines, little fine sand, medium toughness, medium dry strength, stiff.							
	-8.0 8.0	As above.	C3	NA	4.0		0.0 0.0		
10.0	-12.0 12.0	***Sandy Lean Clay*** Grey, wet (12.0 fbgs), mostly medium plastic fines, some fine sand, few sub-rounded fine gravels, medium toughness, medium dry strength.	C4	NA	2.4		0.0		
15.0		Refusal at 15.5 fbgs.					0.0		
	-15.5 15.5	End of Borehole							

Drilled By: TREC Environmental Inc.
Drill Rig Type: Geoprobe 54LT
Drill Method: Direct Push
Comments: Top of Rock 15.5-fbgs
Drill Date(s): 4-8-14

Hole Size: 3-inch
Stick-up: NA
Datum: Mean sea level.

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-14

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

Logged By: TAB

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Conrete and Brick***							
	-1.0	Concrete and orange brick with some cinders.							
	1.0	***Lean Clay***							
		Reddish brown, moist, medium plasticity fines, few fine sand, trace cinders, medium toughness, medium dry strength, stiff.	C1	NA	3.2		0.0	Sample Location	
							0.0	Sample Location	
	-4.0								
	4.0	As above, no cinders.					0.0		
5.0			C2	NA	2.8		0.0		
	-8.0								
	8.0	As above, wet (8.0 fbgs)					0.0		
10.0			C3	NA	3.3		0.0		
	-12.0								
	12.0	As above.					0.0		
15.0			C4	NA	2.3		0.0		
	-16.0								
	16.0	***Sandy Lean Clay***	C5	NA	0.6		0.0		
	-16.6	Grey, mostly medium plastic fines, some fine sand trace coarse sand, medium toughness medium dry strength.							
	16.6	Refusal at 16.6 fbgs.							
		End of Borehole							
20.0									

Depth to water 8.0 fbgs.

Drilled By: TREC Environmental Inc.
Drill Rig Type: Geoprobe 54LT
Drill Method: Direct Push
Comments: Top of Rock 16.6-fbgs
Drill Date(s): 4-8-14

Hole Size: 3-inch
Stick-up: NA
Datum: Mean sea level.

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-15

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

Logged By: TAB

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 -0.4	***Conrete***							
	0.4 -0.8	***Silty Sand with Gravel and Fill*** Brown/Dark grey, moist, mostly fine sand, some non-plastic fines, medium dense, loose when distubed, with slag brick and cinders.					0.0	Sample Location	
	0.8	***Lean Clay*** Reddish brown, moist, medium plasticity fines, little fine sand, medium toughness, medium dry strength, grey fine sand partings, laminated, stiff.	C1	NA	3.4		0.0	Sample Location	
	-4.0 4.0	As above					0.0		
5.0			C2	NA	0.6		0.0		
	-7.0 7.0	***Sandy Lean Clay*** Grey, wet (7.0 fbgs), mostly medium plastic fines, some fine sand, trace coarse sand, medium toughness medium dry strength, stiff.					0.0		
	-8.0 8.0	As above.					0.0		
10.0			C3	NA	3.1		0.0		
	-10.8 10.8	Refusal at 10.8 fbgs. End of Borehole							
15.0									

Depth to water 7.0 fbgs.

Drilled By: TREC Environmental Inc.
Drill Rig Type: Geoprobe 54LT
Drill Method: Direct Push
Comments: Top of Rock 10.8-fbgs
Drill Date(s): 4-8-14

Hole Size: 3-inch
Stick-up: NA
Datum: Mean sea level.

Sheet: 1 of 1

Project No: 0270-012-001

Borehole Number: SB-16

Project: 500 Seneca St Site

A.K.A.:

Client: 500 Seneca Street, LLC

Logged By: TAB

Site Location: 500 Seneca Street, Buffalo, NY

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Conrete***							
	-0.5 / 0.5	***Silty Sand with Gravel and Fill*** Brown/Dark grey, moist, mostly fine sand, some non-plastic fines, medium dens, loose when distubed, with slag brick and cinders.					0.0	Sample Location	
		Lean Clay Reddish brown, moist, medium plasticity fines, little fine sand, medium toughness, medium dry strength, grey fine sand partings, laminated, stiff.	C1	NA	3.8		0.0	Sample Location	
	-4.0 / 4.0	As above							
5.0			C2	NA	3.8		0.0		Depth to water 6.5 fbgs.
	-6.5 / 6.5	***Sandy Lean Clay*** Grey, wet (6.5 fbgs), mostly medium plastic fines, some fine sand, trace coarse sand, medium toughness medium dry strength, stiff.					0.0		
	-8.0 / 8.0	As above. Refusal at 9.0 fbgs.	C3	NA	1.4		0.0		
	-9.0 / 9.0	End of Borehole							
10.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: Geoprobe 54LT
Drill Method: Direct Push
Comments: Top of Rock 9.0-fbgs
Drill Date(s): 4-8-14

Hole Size: 3-inch
Stick-up: NA
Datum: Mean sea level.

Sheet: 1 of 1

APPENDIX F

HEALTH & SAFETY PLAN (HASP)

SITE HEALTH AND SAFETY PLAN
for
BROWNFIELD CLEANUP PROGRAM
POST REMEDIAL ACTIVITIES

500 SENECA STREET SITE

BUFFALO, NEW YORK

October 2015 0270-012-001

Prepared for:

500 SENECA STREET, LLC

500 SENECA STREET SITE
HASP FOR POST REMEDIAL ACTIVITIES

ACKNOWLEDGEMENT

Plan Reviewed by (initial):

Corporate Health and Safety Director: _____

Project Manager: _____

Designated Site Safety and Health Officer: _____

Acknowledgement:
I acknowledge that I have reviewed the information contained in this site-specific Health and Safety Plan, and understand the hazards associated with performance of the field activities described herein. I agree to comply with the requirements of this plan.

NAME (PRINT)	SIGNATURE	DATE

BENCHMARK

500 SENECA STREET SITE
HASP FOR POST REMEDIAL ACTIVITIES

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500 SENECA STREET SITE
HASP FOR POST REMEDIAL ACTIVITIES

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500 SENECA STREET SITE
HASP FOR POST REMEDIAL ACTIVITIES

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1.0 INTRODUCTION

1.1 General

In accordance with OSHA requirements contained in 29 CFR 1910.120, this Health and Safety Plan (HASP) describes the specific health and safety practices and procedures to be employed by Benchmark Environmental Engineering & Science, PLLC and TurnKey Environmental Restoration, LLC employees (referred to jointly hereafter as "Benchmark-TurnKey") during Brownfield Cleanup Program (BCP) redevelopment activities at the 500 Seneca Street Site (Site) located in the City of Buffalo, Erie County, New York. This HASP presents procedures for Benchmark-TurnKey employees who will be involved with BCP redevelopment activities; it does not cover the activities of other contractors, subcontractors or other individuals on the Site. These firms will be required to develop and enforce their own HASPs as discussed in Section 2.0. Benchmark-TurnKey accepts no responsibility for the health and safety of contractor, subcontractor or other personnel.

This HASP presents information on known Site health and safety hazards using available historical information, and identifies the equipment, materials and procedures that will be used to eliminate or control these hazards. Environmental monitoring will be performed during the course of field activities to provide real-time data for on-going assessment of potential hazards.

1.2 Background

The Site consists of a single parcel totaling approximately 1.87-acres, located at 500 Seneca Street in the City of Buffalo, Erie County, New York. The Site is currently improved with a single six-story building occupying the majority of the property; a gravel parking area to the west of the building covers the remainder of the Site.

The Site was historically used by New Era Cap from 1986 to 2003 as a manufacturing and storage facility. Previously the building had been owned and occupied by the Wolkind Bros. Inc. (clothing rental) from approximately 1968 to 1980. The Site has also been host to Burnt Company Box Manufactures from 1930 to 1950, and residential dwellings from 1930-1960. A filling station, including multiple underground storage tanks (USTs) and fuel dispensers once occupied the northwest corner of the Site. Based on the findings of previous

investigations, a chlorinated solvent plume was discovered under a portion of the building designated as a loading dock. Petroleum contamination associated with the historic tanks and filling station was also detected. NYSDEC opened spill file (No. 0751212) in connection with the petroleum contamination and listed as "closed" following the removal of USTs and excavation of contaminated soils to the extent of the road right-of-way to the north, and building foundation to the east.

1.3 Parameters of Interest

Based on the previous investigations and completed remedial activities, constituents remaining on-Site in soil and, potentially groundwater, at the Site include:

- **Polyaromatic Hydrocarbons (PAHs) -** PAHs remaining at concentrations exceeding Restricted Residential Use SCOs after remediation include benzo(a)anthracene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene, and benzo(a)pyrene remains exceeding Commercial Use SCOs at sample location SB-6 at a depth of 5-7 fbgs. One individual PAH, indeno(1,2,3-cd)pyrene, remains exceeding Restricted Residential Use SCOs at sample location SB-8 at a depth of 6-8 fbgs.
- **Metals -** Metals remaining at concentrations exceeding Restricted Residential Use SCOs after remediation include mercury at sample location SB-3 at a depth of 2-4 fbgs.

1.4 Overview of BCP Activities

BCP remedial activities were conducted in 2014 and 2015. The work involved removal/offsite disposal of impacted soils from the petroleum IRM area, the loading dock IRM area, and the SS-3 area to meet the Part 375 Restricted-Residential Use SCOs, and placement of a cover system over the site in all areas exceeding applicable SCOs.

Benchmark-TurnKey personnel will be on-site to observe post remedial activities involving soil/fill disturbance. Activities of this nature that are reasonably expected to occur during the post-remedial period are described below.

- **Subgrade Utility Installation or Repair** – Installation or repair of new subgrade utilities (gas, electric, telecom, etc.) may be required to service existing or new buildings.
- **Subgrade Foundation Construction** – It may be necessary or desirable to construct a new structure (e.g., shed or other support building) on the property, in which case subgrade soil/fill would be encountered for foundation work.
- **Cover System Repair** – It may be necessary to remove or repair a portion of the cover system (asphalt pavement, soil cover, etc.). Subgrade soil/fill may be exposed as part of that effort.

2.0 ORGANIZATIONAL STRUCTURE

This section of the HASP describes the lines of authority, responsibility and communication as they pertain to health and safety functions at the Site. The purpose of this chapter is to identify the personnel who impact the development and implementation of the HASP and to describe their roles and responsibilities. This chapter also identifies other contractors and subcontractors involved in work operations and establish the lines of communications among them for health and safety matters. The organizational structure described in this chapter is consistent with the requirements of 29 CFR 1910.120(b)(2). This section will be reviewed by the Project Manager and updated as necessary to reflect the current organizational structure at this Site.

2.1 Roles and Responsibilities

All Benchmark-Turnkey personnel on the Site must comply with the minimum requirements of this HASP. The specific responsibilities and authority of management, safety and health, and other personnel on this Site are detailed in the following paragraphs.

2.1.1 Project Manager

The Project Manager for this Site is ***Mr. Thomas H. Forbes, P.E.*** The Project Manager has the responsibility and authority to direct all Benchmark-TurnKey work operations at the Site. The Project Manager coordinates safety and health functions with the Site Safety and Health Officer, and bears ultimate responsibility for proper implementation of this HASP. He may delegate authority to expedite and facilitate any application of the program, including modifications to the overall project approach as necessary to circumvent unsafe work conditions. Specific duties of the Project Manager include:

- Preparing and coordinating the Site work plan.
- Providing Benchmark-TurnKey workers with work assignments and overseeing their performance.
- Coordinating health and safety efforts with the Site Safety and Health Officer (SSHO).

- Reviewing the emergency response coordination plan to assure its effectiveness.
- Serving as the primary liaison with Site contractors and the property owner.

2.1.2 Site Safety and Health Officer

The Site Safety and Health Officer (SSHO) for this Site is ***Mr. Bryan C. Hann***. The qualified alternate SSHO is ***Mr. Nathan Munley.*** The SSHO reports to the Project Manager. The SSHO is on-site or readily accessible to the Site during all work operations and has the authority to halt Site work if unsafe conditions are detected. The specific responsibilities of the SSHO are:

- Managing the safety and health functions for Benchmark-TurnKey personnel on the Site.
- Serving as the point of contact for safety and health matters.
- Ensuring that Benchmark-TurnKey field personnel working on the Site have received proper training (per 29 CFR Part 1910.120(e)), that they have obtained medical clearance to wear respiratory protection (per 29 CFR Part 1910.134), and that they are properly trained in the selection, use and maintenance of personal protective equipment, including qualitative respirator fit testing.
- Performing or overseeing Site monitoring as required by the HASP.
- Assisting in the preparation and review of the HASP.
- Maintaining site-specific safety and health records as described in this HASP.
- Coordinating with the Project Manager, Site Workers, and Contractor's SSHO as necessary for safety and health efforts.

2.1.3 Site Workers

Site workers are responsible for: complying with this HASP or a more stringent HASP, if appropriate (i.e., Contractor and Subcontractor's HASP); using proper PPE; reporting unsafe acts and conditions to the SSHO; and following the safety and health

instructions of the Project Manager and SSHO.

2.1.4 Other Site Personnel

Other Site personnel who will have health and safety responsibilities will include the Drilling Contractor, who will be responsible for developing, implementing and enforcing a Health and Safety Plan equally stringent or more stringent than Benchmark-TurnKey's HASP. Benchmark-TurnKey assumes no responsibility for the health and safety of anyone outside its direct employ. Each Contractor's HASP shall cover all non-Benchmark/TurnKey Site personnel. Each Contractor shall assign a SSHO who will coordinate with Benchmark-TurnKey's SSHO as necessary to ensure effective lines of communication and consistency between contingency plans.

In addition to Benchmark-TurnKey and Contractor personnel, other individuals who may have responsibilities in the work zone include subcontractors and governmental agencies performing Site inspection work (i.e., the New York State Department of Environmental Conservation). The Contractor shall be responsible for ensuring that these individuals have received OSHA-required training (29 CFR 1910.120(e)), including initial, refresher and site-specific training, and shall be responsible for the safety and health of these individuals while they are on-Site.

3.0 HAZARD EVALUATION

Due to the presence of certain contaminants at the Site, the possibility exists that workers will be exposed to hazardous substances during field activities. The principal points of exposure would be through direct contact with and incidental ingestion of soil, and through the inhalation of contaminated particles or vapors. Other points of exposure may include direct contact with groundwater. In addition, the use of drilling and/or medium to large-sized construction equipment (e.g., excavator) will also present conditions for potential physical injury to workers. Further, since work will be performed outdoors, the potential exists for heat/cold stress to impact workers, especially those wearing protective equipment and clothing. Adherence to the medical evaluations, worker training relative to chemical hazards, safe work practices, proper personal protection, environmental monitoring, establishment work zones and Site control, appropriate decontamination procedures and contingency planning outlined herein will reduce the potential for chemical exposures and physical injuries.

3.1 Chemical Hazards

As discussed in Section 1.3, historic activities have potentially resulted in impacts to Site soils, groundwater, and subslab vapors. Visual and olfactory observations, as well as elevated PID readings, indicate a potential VOC impact to Site soil. In addition to VOCs, soil and groundwater may be impacted by SVOCs (PAHs) due to historic use as a car wash and gasoline filling station. Table 1 lists exposure limits for airborne concentrations of the COPCs identified in Section 1.4 of this HASP. Brief descriptions of the toxicology of the prevalent COPCs and related health and safety guidance and criteria are provided below.

- **Mercury (CAS #7439-97-6)** is used in industrial applications for the production of caustic and chlorine, and in electrical control equipment and apparatus. Over-exposure to mercury may cause coughing, chest pains, bronchitis, pneumonia, indecision, headaches, fatigue and salivation. Mercury is a skin and eye irritant.
- **Polycyclic Aromatic Hydrocarbons (PAHs) (CAS #83-32-9, 120-12-7)** are formed as a result of the pyrolysis and incomplete combustion of organic matter such as fossil fuel. PAH aerosols formed during the combustion process disperse

throughout the atmosphere, resulting in the deposition of PAH condensate in soil, water and on vegetation. In addition, several products formed from petroleum processing operations (e.g., roofing materials and asphalt) also contain elevated levels of PAHs. Hence, these compounds are widely dispersed in the environment. PAHs are characterized by a molecular structure containing three or more fused, unsaturated carbon rings. Seven of the PAHs are classified by USEPA as probable human carcinogens (USEPA Class B2). These are: benzo(a)pyrene; benzo(a)anthracene; benzo(b)fluoranthene; benzo(k)fluoranthene; chrysene; dibenzo(a,h)anthracene; and indeno(1,2,3-cd)pyrene. The primary route of exposure to PAHs is through incidental ingestion and inhalation of contaminated particulates. PAHs are characterized by an organic odor, and exist as oily liquids in pure form. Acute exposure symptoms may include acne-type blemishes in areas of the skin exposed to sunlight.

With respect to the anticipated BCP redevelopment activities discussed in Section 1.4, possible routes of exposure to the above-mentioned contaminants are presented in Table 2. The use of proper respiratory equipment, as outlined in Section 7.0 of this HASP, will minimize the potential for exposure to airborne contamination. Exposure to contaminants through dermal and other routes will also be minimized through the use of protective clothing (Section 7.0), safe work practices (Section 6.0), and proper decontamination procedures (Section 12.0).

3.2 Physical Hazards

Redevelopment activities at the 500 Seneca Street Site may present the following physical hazards:

- The potential for physical injury during heavy construction equipment use, such as backhoes, excavators and drilling equipment.
- The potential for heat/cold stress to employees during the summer/winter months (see Section 10.0).
- The potential for slip and fall injuries due to rough, uneven terrain and/or open excavations.

These hazards represent only some of the possible means of injury that may be present during redevelopment activities at the Site. Since it is impossible to list all potential sources of injury, it shall be the responsibility of each individual to exercise proper care and caution during all phases of the work.

4.0 TRAINING

4.1 Site Workers

All personnel performing BCP related activities at the Site (such as, but not limited to, equipment operators, general laborers, and drillers) and who may be exposed to hazardous substances, health hazards, or safety hazards and their supervisors/managers responsible for the Site shall receive training in accordance with 29 CFR 1910.120(e) before they are permitted to engage in operations in the exclusion zone or contaminant reduction zone. This training includes an initial 40-hour Hazardous Waste Site Worker Protection Course, an 8-hour Annual Refresher Course subsequent to the initial 40-hour training, and 3 days of actual field experience under the direct supervision of a trained, experienced supervisor. Additional site-specific training shall also be provided by the SSHO prior to the start of field activities. A description of topics to be covered by this training is provided below.

4.1.1 Initial and Refresher Training

Initial and refresher training is conducted by a qualified instructor as specified under OSHA 29 CFR 1910.120(e)(5), and is specifically designed to meet the requirements of OSHA 29 CFR 1910.120(e)(3) and 1910.120(e)(8). The training covers, as a minimum, the following topics:

- OSHA HAZWOPER regulations.
- Site safety and hazard recognition, including chemical and physical hazards.
- Medical monitoring requirements.
- Air monitoring, permissible exposure limits, and respiratory protection level classifications.
- Appropriate use of personal protective equipment (PPE), including chemical compatibility and respiratory equipment selection and use.
- Work practices to minimize risk.

- Work zones and Site control.
- Safe use of engineering controls and equipment.
- Decontamination procedures.
- Emergency response and escape.
- Confined space entry procedures.
- Heat and cold stress monitoring.
- Elements of a Health and Safety Plan.
- Spill containment.

Initial training also incorporates workshops for PPE and respiratory equipment use (Levels A, B and C), and respirator fit testing. Records and certification received from the course instructor documenting each employee's successful completion of the training identified above are maintained on file at Benchmark-TurnKey's Buffalo, NY office. Contractors and Subcontractors are required to provide similar documentation of training for all their personnel who will be involved in on-site work activities.

Any employee who has not been certified as having received health and safety training in conformance with 29 CFR 1910.120(e) is prohibited from working in the exclusion and contamination reduction zones, or to engage in any on-site work activities that may involve exposure to hazardous substances or wastes.

4.1.2 Site Training

Site workers are given a copy of the HASP and provided a site-specific briefing prior to the commencement of work to ensure that employees are familiar with the HASP and the information and requirements it contains. The Site briefing shall be provided by the SSHO prior to initiating field activities and shall include:

- Names of personnel and alternates responsible for Site safety and health.

- Safety, health and other hazards present on the Site.
- The site lay-out including work zones and places of refuge.
- The emergency communications system and emergency evacuation procedures.
- Use of PPE.
- Work practices by which the employee can minimize risks from hazards.
- Safe use of engineering controls and equipment on the site.
- Medical surveillance, including recognition of symptoms and signs of over-exposure as described in Chapter 5 of this HASP.
- Decontamination procedures as detailed in Chapter 12 of this HASP.
- The emergency response plan as detailed in Chapter 15 of this HASP.
- Confined space entry procedures, if required, as detailed in Chapter 13 of this HASP.
- The spill containment program as detailed in Chapter 9 of this HASP.
- Site control as detailed in Chapter 11 of this HASP.

Supplemental health and safety briefings will also be conducted by the SSHO on an as-needed basis during the course of the work. Supplemental briefings are provided as necessary to notify employees of any changes to this HASP as a result of information gathered during ongoing Site characterization and analysis. Conditions for which the SSHO may schedule additional briefings include, but are not limited to: a change in Site conditions (e.g., based on monitoring results); changes in the work schedule/plan; newly discovered hazards; and safety incidents occurring during Site work.

4.2 Supervisor Training

On-site safety and health personnel who are directly responsible for or who supervise the safety and health of workers engaged in hazardous waste operations (i.e., SSHO) shall

receive, in addition to the appropriate level of worker training described in Section 4.1, above, 8 additional hours of specialized supervisory training, in compliance with 29 CFR 1910.120(e)(4).

4.3 Emergency Response Training

Emergency response training is addressed in Appendix A of this HASP, Emergency Response Plan.

4.4 Site Visitors

Each Contractor's SSHO will provide a site-specific briefing to all Site visitors and other non-Benchmark/TurnKey personnel who enter the Site beyond the Site entry point. The site-specific briefing will provide information about Site hazards, the Site layout including work zones and places of refuge, the emergency communications system and emergency evacuation procedures, and other pertinent safety and health requirements as appropriate.

Site visitors will not be permitted to enter the exclusion zone or contaminant reduction zones unless they have received the level of training required for Site workers as described in Section 4.1.

5.0 MEDICAL MONITORING

Medical monitoring examinations are provided to Benchmark-TurnKey employees as stipulated under 29 CFR Part 1910.120(f). These exams include initial employment, annual and employment termination physicals for all Benchmark-TurnKey employees involved in hazardous waste site field operations. Post-exposure examinations are also provided for employees who may have been injured, received a health impairment, or developed signs or symptoms of over-exposure to hazardous substances or were accidentally exposed to substances at concentrations above the permissible exposure limits without necessary personal protective equipment. Such exams are performed as soon as possible following development of symptoms or the known exposure event.

Medical evaluations are performed by Health Works, an occupational health care provider under contract with Benchmark-TurnKey. Health Works is located in Seneca Square Plaza, 1900 Ridge Road, West Seneca, New York 14224. The facility can be reached at (716) 823-5050 to schedule routine appointments or post-exposure examinations.

Medical evaluations are conducted according to the Benchmark-TurnKey Medical Monitoring Program and include an evaluation of the workers' ability to use respiratory protective equipment. The examinations include:

- Occupational/medical history review.
- Physical exam, including vital sign measurement.
- Spirometry testing.
- Eyesight testing.
- Audio testing (minimum baseline and exit, annual for employees routinely exposed to greater than 85db).
- EKG (for employees >40 yrs age or as medical conditions dictate).
- Chest X-ray (baseline and exit, and every 5 years).
- Blood biochemistry (including blood count, white cell differential count, serum multiplastic screening).

- Medical certification of physical requirements (i.e., sight, musculoskeletal, cardiovascular) for safe job performance and to wear respiratory protection equipment.

The purpose of the medical evaluation is to determine an employee's fitness for duty on hazardous waste sites; and to establish baseline medical data.

In conformance with OSHA regulations, Benchmark-TurnKey will maintain and preserve medical records for a period of 30 years following termination of employment. Employees are provided a copy of the physician's post-exam report, and have access to their medical records and analyses.

6.0 SAFE WORK PRACTICES

All Benchmark-TurnKey employees shall conform to the following safe work practices during all on-site work activities conducted within the exclusion and contamination reduction zones:

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth contact is strictly prohibited.

- The hands and face must be thoroughly washed upon leaving the work area and prior to engaging in any activity indicated above.

- Respiratory protective equipment and clothing must be worn by all personnel entering the Site as required by the HASP or as modified by the Site safety officer. Excessive facial hair (i.e., beards, long mustaches or sideburns) that interferes with the satisfactory respirator-to-face seal is prohibited.

- Contact with surfaces/materials either suspected or known to be contaminated will be avoided to minimize the potential for transfer to personnel, cross contamination and need for decontamination.

- Medicine and alcohol can synergize the effects of exposure to toxic chemicals. Due to possible contraindications, use of prescribed drugs should be reviewed with the Benchmark-TurnKey occupational physician. Alcoholic beverage and illegal drug intake are strictly forbidden during the workday.

- All personnel shall be familiar with standard operating safety procedures and additional instructions contained in this Health and Safety Plan.

- On-site personnel shall use the "buddy" system. No one may work alone (i.e., out of earshot or visual contact with other workers) in the exclusion zone.

- Personnel and equipment in the contaminated area shall be minimized, consistent with effective Site operations.

- All employees have the obligation to immediately report and if possible, correct unsafe work conditions.

- Use of contact lenses on-site will not be permitted. Spectacle kits for insertion into full-face respirators will be provided for Benchmark-TurnKey employees, as requested and required.

The recommended specific safety practices for working around the contractor's equipment (e.g., backhoes, bulldozers, excavators, drill rigs etc.) are as follows:

- Although the Contractor and subcontractors are responsible for their equipment and safe operation of the Site, Benchmark-TurnKey personnel are also responsible for their own safety.

- Subsurface work will not be initiated without first clearing underground utility services.

- Heavy equipment should not be operated within 20 feet of overhead wires. This distance may be increased if windy conditions are anticipated or if lines carry high voltage. The Site should also be sufficiently clear to ensure the project staff can move around the heavy machinery safely.

- Care should be taken to avoid overhead wires when moving heavy-equipment from location to location.

- Hard hats, safety boots and safety glasses should be worn at all times in the vicinity of heavy equipment. Hearing protection is also recommended.

- The work Site should be kept neat. This will prevent personnel from tripping and will allow for fast emergency exit from the Site.

- Proper lighting must be provided when working at night.

- Construction activities should be discontinued during an electrical storm or severe weather conditions.

- The presence of combustible gases should be checked before igniting any open flame.

- Personnel shall stand upwind of any construction operation when not immediately involved in sampling/logging/observing activities.

- Personnel will not approach the edge of an unsecured trench/excavation closer than 2 feet.

7.0 PERSONAL PROTECTIVE EQUIPMENT

7.1 Equipment Selection

Personal protective equipment (PPE) will be donned when work activities may result in exposure to physical or chemical hazards beyond acceptable limits, and when such exposure can be mitigated through appropriate PPE. The selection of PPE will be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the Site, the task-specific conditions and duration, and the hazards and potential hazards identified at the Site.

Equipment designed to protect the body against contact with known or suspect chemical hazards are grouped into four categories according to the degree of protection afforded. These categories designated A through D consistent with United States Environmental Protection Agency (USEPA) Level of Protection designation, are:

- **Level A:** Should be selected when the highest level of respiratory, skin and eye protection is needed.

- **Level B:** Should be selected when the highest level of respiratory protection is needed, but a lesser level of skin protection is required. Level B protection is the minimum level recommended on initial Site entries until the hazards have been further defined by on-site studies. Level B (or Level A) is also necessary for oxygen-deficient atmospheres.

- **Level C:** Should be selected when the types of airborne substances are known, the concentrations have been measured and the criteria for using air-purifying respirators are met. In atmospheres where no airborne contaminants are present, Level C provides dermal protection only.

- **Level D:** Should not be worn on any Site with elevated respiratory or skin hazards. This is generally a work uniform providing minimal protection.

OSHA requires the use of certain PPE under conditions where an immediate danger to life and health (IDLH) may be present. Specifically, OSHA 29 CFR 1910.120(g)(3)(iii) requires use of a positive pressure self-contained breathing apparatus, or positive pressure air-line respirator equipped with an escape air supply when chemical exposure levels present

a substantial possibility of immediate serious injury, illness or death, or impair the ability to escape. Similarly, OSHA 29 CFR 1910.120(g)(3)(iv) requires donning totally-encapsulating chemical protective suits (with a protection level equivalent to Level A protection) in conditions where skin absorption of a hazardous substance may result in a substantial possibility of immediate serious illness, injury or death, or impair the ability to escape.

In situations where the types of chemicals, concentrations, and possibilities of contact are unknown, the appropriate level of protection must be selected based on professional experience and judgment until the hazards can be further characterized. The individual components of clothing and equipment must be assembled into a full protective ensemble to protect the worker from site-specific hazards, while at the same time minimizing hazards and drawbacks of the personal protective gear itself. Ensemble components are detailed below for levels A/B, C, and D protection.

7.2 Protection Ensembles

7.2.1 Level A/B Protection Ensemble

Level A/B ensembles include similar respiratory protection, however Level A provides a higher degree of dermal protection than Level B. Use of Level A over Level B is determined by: comparing the concentrations of identified substances in the air with skin toxicity data, and assessing the effect of the substance (by its measured air concentrations or splash potential) on the small area of the head and neck unprotected by Level B clothing.

The recommended PPE for level A/B is:

- Pressure-demand, full-face piece self-contained breathing apparatus (MSHA/-NIOSH approved) or pressure-demand supplied-air respirator with escape self-contained breathing apparatus (SCBA).
- Chemical-resistant clothing. For Level A, clothing consists of totally-encapsulating chemical resistant suit. Level B incorporates hooded one-or two-piece chemical splash suit.
- Inner and outer chemical resistant gloves.
- Chemical-resistant safety boots/shoes.

- Hardhat.

7.2.2 Level C Protection Ensemble

Level C protection is distinguished from Level B by the equipment used to protect the respiratory system, assuming the same type of chemical-resistant clothing is used. The main selection criterion for Level C is that conditions permit wearing an air-purifying device. The device (when required) must be an air-purifying respirator (MSHA/NIOSH approved) equipped with filter cartridges. Cartridges must be able to remove the substances encountered. Respiratory protection will be used only with proper fitting, training and the approval of a qualified individual. In addition, an air-purifying respirator can be used only if: oxygen content of the atmosphere is at least 19.5% in volume; substances are identified and concentrations measured; substances have adequate warning properties; the individual passes a qualitative fit-test for the mask; and an appropriate cartridge/canister is used, and its service limit concentration is not exceeded.

Recommended PPE for Level C conditions includes:

- Full-face piece, air-purifying respirator equipped with MSHA and NIOSH approved organic vapor/acid gas/dust/mist combination cartridges or as designated by the SSHO.
- Chemical-resistant clothing (hooded, one or two-piece chemical splash suit or disposable chemical-resistant one-piece suit).
- Inner and outer chemical-resistant gloves.
- Chemical-resistant safety boots/shoes.
- Hardhat.

An air-monitoring program is part of all response operations when atmospheric contamination is known or suspected. It is particularly important that the air be monitored thoroughly when personnel are wearing air-purifying respirators. Continual surveillance using direct-reading instruments is needed to detect any changes in air quality necessitating a higher level of respiratory protection.

7.2.3 Level D Protection Ensemble

As indicated above, Level D protection is primarily a work uniform. It can be worn in areas where only boots can be contaminated, where there are no inhalable toxic substances and where the atmospheric contains at least 19.5% oxygen.

Recommended PPE for Level D includes:

- Coveralls.
- Safety boots/shoes.
- Safety glasses or chemical splash goggles.
- Hardhat.
- Optional gloves; escape mask; face shield.

7.2.4 Recommended Level of Protection for Site Tasks

Based upon current information regarding both the contaminants suspected to be present at the Site and the various tasks that are included in the remedial activities, the minimum required levels of protection for these tasks shall be as identified in Table 3.

8.0 EXPOSURE MONITORING

8.1 General

Based on the results of previous investigations and the nature of the redevelopment activities at the Site, the possibility exist that organic vapors and/or particulates may be released to the air during intrusive activities that penetrate the cover system that was installed as part of the BCP remedial work.

8.1.1 On-Site Work Zone Monitoring

Benchmark-TurnKey personnel will conduct routine, real-time air monitoring during all intrusive construction phases such as excavation, backfilling, drilling, etc. The work area will be monitored at regular intervals using a photo-ionization detector (PID), combustible gas meter and a particulate meter. Observed values will be recorded and maintained as part of the permanent field record.

Additional air monitoring measurements may be made by Benchmark-TurnKey personnel to verify field conditions during subcontractor oversight activities. Monitoring instruments will be protected from surface contamination during use. Additional monitoring instruments may be added if the situations or conditions change. Monitoring instruments will be calibrated in accordance with manufacturer's instructions before use.

8.1.2 Off-Site Community Air Monitoring

In addition to on-site monitoring within the work zone(s), monitoring at the down-wind portion of the Site perimeter will be conducted. This will provide a real-time method for determination of vapor and/or particulate releases to the surrounding community as a result of ground intrusive investigation work.

Ground intrusive activities are defined in the Generic Community Air Monitoring Plan and attached as Appendix C. Ground intrusive activities that involve the penetration of the cover system include excavation, test pitting, or trenching, and the removal of building foundations and basement floors.

8.2 Monitoring Action Levels

8.2.1 On-Site Work Zone Action Levels

The PID, or other appropriate instrument(s), will be used by Benchmark-TurnKey personnel to monitor organic vapor concentrations as specified in this HASP. Combustible gas will be monitored with the "combustible gas" option on the combustible gas meter or other appropriate instrument(s). In addition, fugitive dust/particulate concentrations will be monitored during major soil intrusion (viz., well/boring installation) using a real-time particulate monitor as specified in this plan. In the absence of such monitoring, appropriate respiratory protection for particulates shall be donned. Sustained readings obtained in the breathing zone may be interpreted (with regard to other Site conditions) as follows for Benchmark-TurnKey personnel:

- Total atmospheric concentrations of unidentified vapors or gases ranging from 0 to 1 ppm above background on the PID) - Continue operations under Level D (see Appendix A).
- Total atmospheric concentrations of unidentified vapors or gases yielding sustained readings from >1 ppm to 5 ppm above background on the PID (vapors not suspected of containing high levels of chemicals toxic to the skin) - Continue operations under Level C (see Appendix A).
- Total atmospheric concentrations of unidentified vapors or gases yielding sustained readings of >5 ppm to 50 ppm above background on the PID - Continue operations under Level B (see Attachment 1), re-evaluate and alter (if possible) construction methods to achieve lower vapor concentrations.
- Total atmospheric concentrations of unidentified vapors or gases above 50 ppm on the PID - Discontinue operations and exit the work zone immediately.

The particulate monitor will be used to monitor respirable dust concentrations during all intrusive activities and during handling of Site soil/fill. Action levels based on the instrument readings shall be as follows:

- Less than 50 mg/m^3 - Continue field operations.

- 50-150 mg/m^3 - Don dust/particulate mask or equivalent

- Greater than 150 mg/m^3 - Don dust/particulate mask or equivalent. Initiate engineering controls to reduce respirable dust concentration (viz., wetting of excavated soils or tools at discretion of Site Health and Safety Officer).

Readings from the field equipment will be recorded and documented on the appropriate Project Field Forms. All instruments will be calibrated before use on a daily basis and the procedure will be documented on the appropriate Project Field Forms.

8.2.2 Community Air Monitoring Action Levels

In addition to the action levels prescribed in Section 8.2.1 for Benchmark-TurnKey personnel on-site, the following criteria shall also be adhered to for the protection of downwind receptors consistent with NYSDOH requirements (Appendix C):

- **ORGANIC VAPOR PERIMETER MONITORING:**
  - If the sustained ambient air concentration of organic vapors at the downwind perimeter of the exclusion zone exceeds 5 ppm above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the sustained organic vapor decreases below 5 ppm over background, work activities can resume with continued monitoring.

  - If the sustained ambient air concentration of organic vapors at the downwind perimeter of the exclusion zone are greater than 5 ppm over background but less than 25 ppm for the 15-minute average, activities can resume provided that: the organic vapor level 200 feet downwind of the working site or half the distance to the nearest off-site residential or commercial structure, whichever is less, but in no case less than 20 feet, is below 5 ppm over background; and more frequent intervals of monitoring, as directed by the Site Health and Safety Officer, are conducted.

  - If the sustained organic vapor level is above 25 ppm at the perimeter of the exclusion zone for the 15-minute average, the Site Health and Safety Officer must be notified and work activities shut down. The Site Health and Safety Officer will determine when re-entry of the exclusion zone is possible and will implement downwind air monitoring to ensure vapor emissions do not impact

the nearest off-site residential or commercial structure at levels exceeding those specified in the ***Organic Vapor Contingency Monitoring Plan*** below. All readings will be recorded and will be available for New York State Department of Environmental Conservation (DEC) and Department of Health (DOH) personnel to review.

- **ORGANIC VAPOR CONTINGENCY MONITORING PLAN:**

  - If the sustained organic vapor level is greater than 5 ppm over background 200 feet downwind from the work area or half the distance to the nearest off-site residential or commercial property, whichever is less, all work activities must be halted.

  - If, following the cessation of the work activities or as the result of an emergency, sustained organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest off-site residential or commercial property from the work area, then the air quality must be monitored within 20 feet of the perimeter of the nearest off-site residential or commercial structure (20-foot zone).

  - If efforts to abate the emission source are unsuccessful and if sustained organic vapor levels approach or exceed 5 ppm above background within the 20-foot zone for more than 30 minutes, or are sustained at levels greater than 10 ppm above background for longer than one minute, then the ***Major Vapor Emission Response Plan*** (see below) will automatically be placed into effect.

- **MAJOR VAPOR EMISSION RESPONSE PLAN:**

  Upon activation, the following activities will be undertaken:

  1. All Emergency Response Contacts as listed in this Health and Safety Plan and the Emergency Response Plan (Appendix A) will be advised.

  2. The local police authorities will immediately be contacted by the Site Health and Safety Officer and advised of the situation.

  3. Frequent air monitoring will be conducted at 30-minute intervals within the 20-foot zone. If two sustained successive readings below action levels are measured, air monitoring may be halted or modified by the Site Health and Safety Officer.

The following personnel are to be notified in the listed sequence in the event that a Major Vapor Emission Plan is activated:

Responsible Person	Contact	Phone Number
SSHO	Police	911
SSHO	State Emergency Response Hotline	(800) 457-7362

Additional emergency numbers are listed in the Emergency Response Plan included as Appendix A.

- **EXPLOSIVE VAPORS:**
  - Sustained atmospheric concentrations of greater than 10% LEL in the work area - Initiate combustible gas monitoring at the downwind portion of the Site perimeter.
  - Sustained atmospheric concentrations of greater than 10% LEL at the downwind Site perimeter – Halt work and contact local Fire Department.

- **AIRBORNE PARTICULATE COMMUNITY AIR MONITORING**

Respirable (PM-10) particulate monitoring will be performed on a continuous basis at the upwind and downwind perimeter of the exclusion zone. The monitoring will be performed using real-time monitoring equipment capable of measuring PM-10 and integrating over a period of 15-minutes for comparison to the airborne particulate action levels. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. All readings will be recorded and will be available for NYSDEC and NYSDOH review. Readings will be interpreted as follows:

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (ug/m^3) greater than the background (upwind perimeter) reading 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 provided that the downwind PM-10 particulate levels do not

exceed 150 ug/m^3 above the upwind level and that visible dust is not migrating from the work area.

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

Pertinent emergency response information including the telephone number of the Fire Department is included in the Emergency Response Plan (Appendix A).

9.0 SPILL RELEASE/RESPONSE

This chapter of the HASP describes the potential for and procedures related to spills or releases of known or suspected petroleum and/or hazardous substances on the Site. The purpose of this Section of the HASP is to plan appropriate response, control, counter-measures and reporting, consistent with OSHA requirements in 29 CFR 1910.120(b)(4)(ii)(J) and (j)(1)(viii). The spill containment program addresses the following elements:

- Potential hazardous material spills and available controls.
- Initial notification and evaluation.
- Spill response.
- Post-spill evaluation.

9.1 Potential Spills and Available Controls

An evaluation was conducted to determine the potential for hazardous material and oil/petroleum spills at this Site. For the purpose of this evaluation, hazardous materials posing a significant spill potential are considered to be:

- CERCLA Hazardous Substances as identified in 40 CFR Part 302, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).

- Extremely Hazardous Substances as identified in 40 CFR Part 355, Appendix A, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).

- Hazardous Chemicals as defined under Section 311(e) of the Emergency Planning and Community Right-To-Know Act of 1986, where such chemicals are present or will be stored in excess of 10,000 lbs.

- Toxic Chemicals as defined in 40 CFR Part 372, where such chemicals are present or will be stored in excess of 10,000 lbs.

- Chemicals regulated under 6NYCRR Part 597, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).

Oil/petroleum products are considered to pose a significant spill potential whenever

the following situations occur:

- The potential for a "harmful quantity" of oil (including petroleum and non-petroleum-based fuels and lubricants) to reach navigable waters of the U.S. exists (40 CFR Part 112.4). Harmful quantities are considered by USEPA to be volumes that could form a visible sheen on the water or violate applicable water quality standards.

- The potential for any amount of petroleum to reach any waters of NY State, including groundwater, exists. Petroleum, as defined by NY State in 6NYCRR Part 612, is a petroleum-based heat source, energy source, or engine lubricant/maintenance fluid.

- The potential for any release, to soil or water, of petroleum from a bulk storage facility regulated under 6NYCRR Part 612. A regulated petroleum storage facility is defined by NY State as a site having stationary tank(s) and intra-facility piping, fixtures and related equipment with an aggregate storage volume of 1,100 gallons or greater.

The evaluation indicates that, based on Site history and decommissioning records, a hazardous material spill and/or a petroleum product spill is not likely to occur during redevelopment efforts.

9.2 Initial Spill Notification and Evaluation

Any worker who discovers a hazardous substance or oil/petroleum spill will immediately notify the Project Manager and SSHO. The worker will, to the best of his/her ability, report the material involved, the location of the spill, the estimated quantity of material spilled, the direction/flow of the spill material, related fire/explosion incidents, if any, and any associated injuries. The Emergency Response Plan presented in Attachment H2 of this HASP will immediately be implemented if an emergency release has occurred.

Following initial report of a spill, the Project Manager will make an evaluation as to whether the release exceeds RQ levels. If an RQ level is exceeded, the Project Manager will notify the Site owner and NYSDEC at 1-800-457-7362 within 2 hours of spill discovery. The Project Manager will also determine what additional agencies (e.g., USEPA) are to be

contacted regarding the release, and will follow-up with written reports as required by the applicable regulations.

9.3 Spill Response

For all spill situations, the following general response guidelines will apply:

- Only those personnel involved in overseeing or performing containment operations will be allowed within the spill area. If necessary, the area will be roped, ribboned, or otherwise blocked off to prevent unauthorized access.
- Appropriate PPE, as specified by the SSHO, will be donned before entering the spill area.
- Ignition points will be extinguished/removed if fire or explosion hazards exist.
- Surrounding reactive materials will be removed.
- Drains or drainage in the spill area will be blocked to prevent inflow of spilled materials or applied materials.

For minor spills, the Contractor will maintain a Spill Control and Containment Kit in the Field Office or other readily accessible storage location. The kit will consist of, at a minimum, a 50 lb. bag of "speedy dry" granular absorbent material, absorbent pads, shovels, empty 5-gallon pails and an empty open-top 55-gallon drum. Spilled materials will be absorbed, and shoveled into a 55-gallon drum for proper disposal (NYSDEC approval will be secured for on-site treatment of the impacted soils/absorbent materials, if applicable). Impacted soils will be hand-excavated to the point that no visible signs of contamination remains, and will be drummed with the absorbent.

In the event of a major release or a release that threatens surface water, a spill response contractor will be called to the Site. The response contractor may use heavy equipment (e.g., excavator, backhoe, etc.) to berm the soils surrounding the spill Site or create diversion trenching to mitigate overland migration or release to navigable waters. Where feasible, pumps will be used to transfer free liquid to storage containers. Spill control/cleanup contractors in the Western New York area that may be contacted for assistance include:

- The Environmental Service Group of NY, Inc.: (716) 695-6720
- Environmental Products and Services, Inc.: (716) 447-4700
- Op-Tech: (716) 873-7680

9.4 Post-Spill Evaluation

If a reportable quantity of hazardous material or oil/petroleum is spilled as determined by the Project Manager, a written report will be prepared as indicated in Section 9.2. The report will identify the root cause of the spill, type and amount of material released, date/time of release, response actions, agencies notified and/or involved in cleanup, and procedures to be implemented to avoid repeat incidents. In addition, all re-useable spill cleanup and containment materials will be decontaminated, and spill kit supplies/disposable items will be replenished.

10.0 HEAT/COLD STRESS MONITORING

Since some of the work activities at the Site will be scheduled for both the summer and winter months, measures will be taken to minimize heat/cold stress to Benchmark-TurnKey employees. The Site Safety and Health Officer and/or his or her designee will be responsible for monitoring Benchmark-TurnKey field personnel for symptoms of heat/cold stress.

10.1 Heat Stress Monitoring

Personal protective equipment may place an employee at risk of developing heat stress, a common and potentially serious illnesses often encountered at construction, landfill, waste disposal, industrial or other unsheltered sites. The potential for heat stress is dependent on a number of factors, including environmental conditions, clothing, workload, physical conditioning and age. Personal protective equipment may severely reduce the body's normal ability to maintain temperature equilibrium (via evaporation and convection), and require increased energy expenditure due to its bulk and weight.

Proper training and preventive measures will mitigate the potential for serious illness. Heat stress prevention is particularly important because once a person suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat related illness. To avoid heat stress, the following steps should be taken:

- Adjust work schedules.
- Modify work/rest schedules according to monitoring requirements.
- Mandate work slowdowns as needed.
- Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided.
- Provide shelter (air-conditioned, if possible) or shaded areas to protect personnel during rest periods.
- Maintain worker's body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat (i.e., eight fluid ounces

must be ingested for approximately every 1 lb of weight lost). The normal thirst mechanism is not sensitive enough to ensure that enough water will be consumed to replace lost perspiration. When heavy sweating occurs, workers should be encouraged to drink more.

- Train workers to recognize the symptoms of heat related illness.

Heat-Related Illness - Symptoms:

- Heat rash may result from continuous exposure to heat or humid air.

- Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include: muscle spasms; pain in the hands, feet and abdomen.

- Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include: pale, cool, moist skin; heavy sweating; dizziness; nausea; fainting.

- Heat stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occur. Competent medical help must be obtained. Signs and symptoms are: red, hot, usually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse; coma.

The monitoring of personnel wearing protective clothing should commence when the ambient temperature is 70 degrees Fahrenheit or above. For monitoring the body's recuperative ability to excess heat, one or more of the following techniques should be used as a screening mechanism.

- Heart rate may be measured by the radial pulse for 30 seconds as early as possible in the resting period. The rate at the beginning of the rest period should not exceed 100 beats per minute. If the rate is higher, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest periods stay the same, If the pulse rate is 100 beats per minute at the beginning of the nest rest period, the following work cycle should be further shortened by 33%.

- Body temperature may be measured orally with a clinical thermometer as early as possible in the resting period. Oral temperature at the beginning of the rest period should not exceed 99.6 degrees Fahrenheit. If it does, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest period remains the same. However, if the oral temperature exceeds 99.6 degrees Fahrenheit at the beginning of the next period, the work cycle may be further shortened by 33%. Oral temperature should be measured at the end of the rest period to make sure that it has dropped below 99.6 degrees Fahrenheit. No Benchmark-TurnKey employee will be permitted to continue wearing semi-permeable or impermeable garments when his/her oral temperature exceeds 100.6 degrees Fahrenheit.

10.2 Cold Stress Monitoring

Exposure to cold conditions may result in frostbite or hypothermia, each of which progresses in stages as shown below.

- **Frostbite** occurs when body tissue (usually on the extremities) begins to freeze. The three states of frostbite are:

    1) **Frost nip** - This is the first stage of the freezing process. It is characterized by a whitened area of skin, along with a slight burning or painful sensation. Treatment consists of removing the victim from the cold conditions, removal of boots and gloves, soaking the injured part in warm water (102 to 108 degrees Fahrenheit) and drinking a warm beverage. Do not rub skin to generate friction/ heat.

    2) **Superficial Frostbite** - This is the second stage of the freezing process. It is characterized by a whitish gray area of tissue, which will be firm to the touch but will yield little pain. The treatment is identical for Frost nip.

    3) **Deep Frostbite** - In this final stage of the freezing process the affected tissue will be cold, numb and hard and will yield little to no pain. Treatment is identical to that for Frost nip.

- **Hypothermia** is a serious cold stress condition occurring when the body loses heat at a rate faster than it is produced. If untreated, hypothermia may be fatal. The stages of hypothermia may not be clearly defined or visible at first, but generally include:

1) Shivering
2) Apathy (i.e., a change to an indifferent or uncaring mood)
3) Unconsciousness
4) Bodily freezing

Employees exhibiting signs of hypothermia should be treated by medical professionals. Steps that can be taken while awaiting help include:

1) Remove the victim from the cold environment and remove wet or frozen clothing. (Do this carefully as frostbite may have started.)

2) Perform active re-warming with hot liquids for drinking (Note: do not give the victim any liquid containing alcohol or caffeine) and a warm water bath (102 to 108 degrees Fahrenheit).

3) Perform passive re-warming with a blanket or jacket wrapped around the victim.

In any potential cold stress situation, it is the responsibility of the Site Health and Safety Officer to encourage the following:

- Education of workers to recognize the symptoms of frostbite and hypothermia.
- Workers should dress warmly, with more layers of thin clothing as opposed to one thick layer.
- Personnel should remain active and keep moving.
- Personnel should be allowed to take shelter in a heated areas, as necessary.
- Personnel should drink warm liquids (no caffeine or alcohol if hypothermia has set in).
- For monitoring the body's recuperation from excess cold, oral temperature recordings should occur:
  - At the Site Safety Technicians discretion when suspicion is based on changes in a worker's performance or mental status.

- At a workers request.

- As a screening measure, two times per shift, under unusually hazardous conditions (e.g., wind chill less than 20 degrees Fahrenheit or wind chill less than 30 degrees Fahrenheit with precipitation).

- As a screening measure, whenever anyone worker on-site develops hypothermia.

Any person developing moderate hypothermia (a core body temperature of 92 degrees Fahrenheit) will not be allowed to return to work for 48 hours without the recommendation of a qualified medical doctor.

11.0 WORK ZONES AND SITE CONTROL

Work zones around the areas designated for BCP related activities will be established on a daily basis and communicated to employees and other Site users by the SSHO. It shall be each Contractor's Site Safety and Health Officer's responsibility to ensure that Site workers are aware of the work zone boundaries and to enforce proper procedures in each area. The zones will include:

- Exclusion Zone ("Hot Zone") - The area where contaminated materials may be exposed, excavated or handled and all areas where contaminated equipment or personnel may travel. Flagging tape will delineate the zone. All personnel entering the Exclusion Zone must wear the prescribed level of personal protective equipment identified in Section 7.

- Contamination Reduction Zone - The zone where decontamination of personnel and equipment takes place. Any potentially contaminated clothing, equipment and samples must remain in the Contamination Reduction Zone until decontaminated.

- Support Zone - The part of the site that is considered non-contaminated or "clean." Support equipment will be located in this zone, and personnel may wear normal work clothes within this zone.

In the absence of other task-specific work zone boundaries established by the SSHO, the following boundaries will apply to all investigation and construction activities involving disruption or handling of Site soils or groundwater:

- Exclusion Zone: 50 foot radius from the outer limit of the sampling/construction activity.

- Contaminant Reduction Zone: 100 foot radius from the outer limit of the sampling/construction activity.

- Support Zone: Areas outside the Contaminant Reduction Zone.

Access of non-essential personnel to the Exclusion and Contamination Reduction Zones will be strictly controlled by the SSHO. Only personnel who are essential to the

completion of the task will be allowed access to these areas and only if they are wearing the prescribed level of protection. Entrance of all personnel must be approved by the SSHO.

The SSHO will maintain a Health and Safety Logbook containing the names of Benchmark-TurnKey workers and their level of protection. The zone boundaries may be changed by the SSHO as environmental conditions warrant, and to respond to the necessary changes in work locations on-site.

12.0 DECONTAMINATION

12.1 Decontamination for Benchmark-TurnKey Employees

The degree of decontamination required is a function of a particular task and the environment within which it occurs. The following decontamination procedure will remain flexible, thereby allowing the decontamination crew to respond appropriately to the changing environmental conditions that may arise at the Site. All Benchmark-TurnKey personnel on-site shall follow the procedure below, or the Contractor's procedure (if applicable), whichever is more stringent.

Station 1 - Equipment Drop: Deposit visibly contaminated (if any) re-useable equipment used in the contamination reduction and exclusion zones (tools, containers, monitoring instruments, radios, clipboards, etc.) on plastic sheeting.

Station 2 - Boots and Gloves Wash and Rinse: Scrub outer boots and outer gloves. Deposit tape and gloves in waste disposal container.

Station 3 - Tape, Outer Boot and Glove Removal: Remove tape, outer boots and gloves. Deposit tape and gloves in waste disposal container.

Station 4 - Canister or Mask Change: If worker leaves exclusive zone to change canister (or mask), this is the last step in the decontamination procedure. Worker's canister is exchanged, new outer gloves and boot cover donned, and worker returns to duty.

Station 5 - Outer Garment/Face Piece Removal: Protective suit removed and deposited in separate container provided by Contractor. Face piece or goggles are removed if used. Avoid touching face with fingers. Face piece and/or goggles deposited on plastic sheet. Hard hat removed and placed on plastic sheet.

Station 6 - Inner Glove Removal: Inner gloves are the last personal protective equipment to be removed. Avoid touching the outside of the gloves with bare fingers. Dispose of these gloves in waste disposal container.

Following PPE removal, personnel shall wash hands, face and forearms with absorbent wipes. If field activities proceed for duration of 6 consecutive months or longer, shower facilities will be provided for worker use in accordance with OSHA 29 CFR

1910.120(n).

12.2 Decontamination for Medical Emergencies

In the event of a minor, non-life threatening injury, personnel should follow the decontamination procedures as defined, and then administer first-aid.

In the event of a major injury or other serious medical concern (e.g., heat stroke), immediate first-aid is to be administered and the victim transported to the hospital in lieu of further decontamination efforts unless exposure to a Site contaminant would be considered "Immediately Dangerous to Life or Health."

12.3 Decontamination of Field Equipment

The Contractor in accordance with his approved Health and Safety Plan in the Contamination Reduction Zone will conduct decontamination of heavy equipment. As a minimum, this will include manually removing heavy soil contamination, followed by steam cleaning on an impermeable pad.

Benchmark-TurnKey personnel will conduct decontamination of all tools used for sample collection purposes. It is expected that all tools will be constructed of nonporous, nonabsorbent materials (i.e., metal), which will aid in the decontamination effort. Any tool or part of a tool made of porous, absorbent material (i.e., wood) will be placed into suitable containers and prepared for disposal.

Decontamination of bailers, split-spoons, spatula knives, and other tools used for environmental sampling and examination shall be as follows:

- Disassemble the equipment
- Water wash to remove all visible foreign matter.
- Wash with detergent.
- Rinse all parts with distilled-deionized water.
- Allow to air dry.
- Wrap all parts in aluminum foil or polyethylene.

13.0 CONFINED SPACE ENTRY

OSHA 29 CFR 1910.146 identifies a confined space as a space that is large enough and so configured that an employee can physically enter and do assigned work, has limited or restricted means for entry and exit, and is not intended for continuous employee occupancy. Confined spaces include, but are not limited to, trenches, storage tanks, process vessels, pits, sewers, tunnels, underground utility vaults, pipelines, sumps, wells, and excavations.

Confined space entry by Benchmnark-TurnKey employees is not anticipated to be necessary to complete the BCP activities identified in Section 2.0. In the event that the scope of work changes or confined space entry appears necessary, the Project Manager will be consulted to determine if feasible engineering alternatives to confined space entry can be implemented. If confined space entry by Benchamrk-TurnKey employees cannot be avoided through reasonable engineering measures, task-specific confined space entry procedures will be developed and a confined-space entry permit will be issued through Benchmark-TurnKey's corporate Health and Safety Director. Benchmark-TurnKey employees shall not enter a confined space without these procedures and permits in place.

14.0 FIRE PREVENTION AND PROTECTION

14.1 General Approach

Recommended practices and standards of the National Fire Protection Association (NFPA) and other applicable regulations will be followed in the development and application of Project Fire Protection Programs. When required by regulatory authorities, the project management will prepare and submit a Fire Protection Plan for the approval of the contracting officers, authorized representative or other designated official. Essential considerations for the Fire Protection Plan will include:

- Proper Site preparation and safe storage of combustible and flammable materials.
- Availability of coordination with private and public fire authorities.
- Adequate job-site fire protection and inspections for fire prevention.
- Adequate indoctrination and training of employees.

14.2 Equipment and Requirements

Fire extinguishers will be provided by each Contractor and are required on all heavy equipment and in each field trailer. Fire extinguishers will be inspected, serviced, and maintained in accordance with the manufacturer's instructions. As a minimum, all extinguishers shall be checked monthly and weighed semi-annually, and recharged if necessary. Recharge or replacement shall be mandatory immediately after each use.

14.3 Flammable and Combustible Substances

All storage, handling or use of flammable and combustible substances will be under the supervision of qualified persons. All tanks, containers and pumping equipment, whether portable or stationary, used for the storage and handling of flammable and combustible liquids, will meet the recommendations of the National Fire Protection Association.

14.4 Hot Work

If the scope of work necessitates welding or blowtorch operation, the hot work permit presented in Appendix B will be completed by the SSHO and reviewed/issued by the Project Manager.

15.0 EMERGENCY INFORMATION

In accordance with OSHA 29 CFR Part 1910, an Emergency Response Plan is attached to this HASP as Appendix A. The hospital route map is presented within Appendix A as Figure 1.

16.0 REFERENCES

1. New York State Department of Environmental Conservation. *DER-10; Technical Guidance for Site Investigation and Remediation.* May 2010.

TABLES

BENCHMARK Environmental Engineering & Science, PLLC

TABLE 1

TOXICITY DATA FOR CONSTITUENTS OF POTENTIAL CONCERN

Site Health & Safety Plan
500 Seneca Street Site
Buffalo, New York

Parameter	Synonyms	CAS No.	Code	Concentration Limits [1]		
				PEL	TLV	IDLH
Polycyclic Aromatic Hydrocarbons (PAHs): ppm						
Benz(a)anthracene	*none*	56-55-3	*none*	--	--	--
Benzo(a)pyrene	*none*	50-32-8	*none*	--	--	--
Benzo(b)fluoranthene	*none*	205-99-2	*none*	--	--	--
Indeno(1,2,3-cd)pyrene	*none*	193-39-5	*none*	--	--	--
Inorganic Compounds: mg/m^3						
Mercury	*none*	7439-97-6	C-0.1	0.1	0.05	10

Notes:

1. Concentration limits as reported by NIOSH Pocket Guide to Chemical Hazards, February 2004 (NIOSH Publication No. 97-140, fourth printing with chages and updates.
2. " -- " = concentration limit not available; exposure should be minimized to the extent feasible through appropriate engineering controls & PPE.

Explanation:

C-## = Ceiling Level equals the maximum exposure concentration allowable during the work day.

IDLH = Immediately Dangerous to Life or Health.

TLV = Threshold Limit Value, established by American Conference of Industrial Hygienists (ACGIH), equals the maximum exposure concentration allowable for 8 hours/day @ 40 hr

TLVs are the amounts of chemicals in the air that almost all healthy adult workers are predicted to be able to tolerate without adverse effects. There are three types.

TLV-TWA (TLV-Time-Weighted Average) which is averaged over the normal eight-hour day/forty-hour work week. (Most TLVs.)

TLV-C or Ceiling limits are the concentration that should not be exceeded during any part of the working exposure.

Unless the initials "STEL" or "C" appear in the Code column, the TLV value should be considered to be the eight-hour TLV-TWA.

PEL = Permissible Exposure Limit, established by OSHA, equals the maximium exposure conconcentration allowable for 8 hours per day @ 40 hours per week

BENCHMARK Environmental Engineering & Science, PLLC

TABLE 2

POTENTIAL ROUTES OF EXPOSURE TO THE CONSTITUENTS OF POTENTIAL CONCERN

Site Health & Safety Plan
500 Seneca Street Site
Buffalo, New York

Activity [1]	Direct Contact with Soil/Fill	Inhalation of Vapors or Dust
Redevelopment Activities That May Penetrate the Cover System		
Test Pit or Excavations that penetrate the Cover System to Remove Soil Beneath	x	x
Removal of Concrete Foundation and Basement Floors	x	x
Import of Backfill Materials for use a Fill at the Site requiring Analytical Sampling	x	x
Export of Materials from the Site that will require Analytical Sampling	x	x
Community Air Monitoring while Excavating Potentially Impacted Materials	x	x

Notes:
1. Activity as described in Section 1.4 of the Health and Safety Plan.

BENCHMARK Environmental Engineering & Science, PLLC

TABLE 3

REQUIRED LEVELS OF PROTECTION
FOR BCP REDEVELOPMENT TASKS

Site Health & Safety Plan
500 Seneca Street Site
Buffalo, New York

Activity	Respiratory Protection [1]	Clothing	Gloves [2]	Boots [2, 3]	Other Required PPE/Modifications [2, 4]
Remedial Investigation Tasks					
Test Pit or Excavations that penetrate the Cover System to Remove Soil Beneath	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
Removal of Concrete Foundation and Basement Floors	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	SGSS
Import of Backfill Materials for use a Fill at the Site requiring Analytical Sampling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	SGSS
Export of Materials from the Site that will require Analytical Sampling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
Community Air Monitoring while Excavating Potentially Impacted Materials	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS

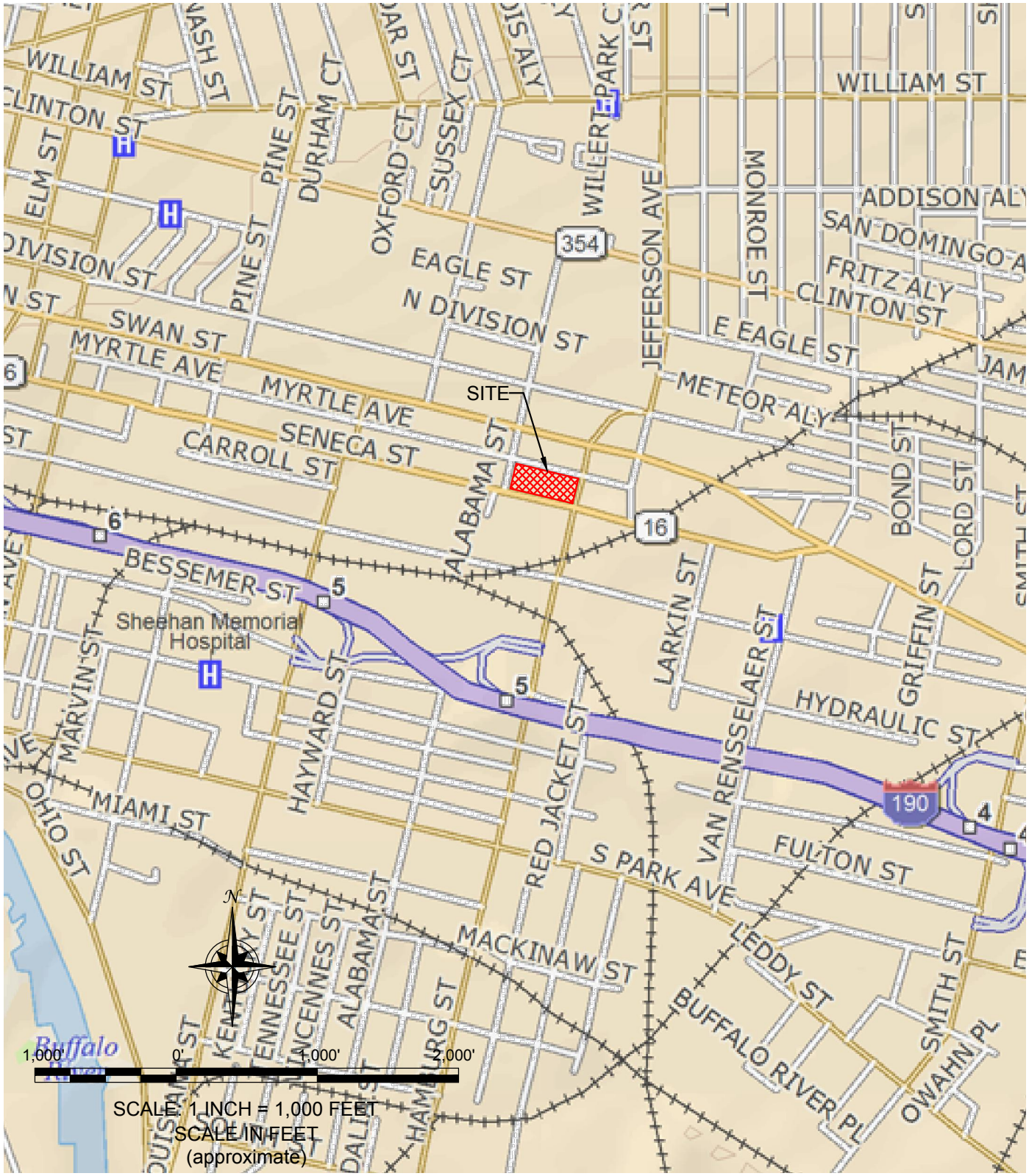
Notes:

1. Respiratory equipment shall conform to guidelines presented in Section 7.0 of this HASP. The Level C requirement is an air-purifying respirator equiped with organic compound/acid gas/dust cartridge.
2. HH = hardhat; L= Latex; L/N = latex inner glove, nitrile outer glove; N = Nitrile; S = Saranex; SG = safety glasses; SGSS = safety glasses with sideshields; STSS = steel toe safety shoes.
3. Latex outer boot (or approved overboot) required whenever contact with contaminated materials may occur. SSHO may downgrade to STSS (steel-toed safety shoes) if contact will be limited to cover/replacement soils.
4. Dust masks shall be donned as directed by the SSHO (site safety and health officer) or site safety technician whenever potentially contaminated airborne particulates (i.e., dust) are present in significant amounts in the breathing zone. Goggles may be substituted with safety glasses w/side-shields whenever contact with contaminated liquids is not anticipated.

FIGURES

F:\CAD\Benchmark\500 Seneca Street, LLC\RI Work Plan\Figure 1; Site Location and Vicinity Map.dwg

FIGURE 1



BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

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SUITE 300
BUFFALO, NY 14218
(716) 856-0599

PROJECT NO.: 0270-012-001

DATE: NOVEMBER 2012

DRAFTED BY: JGT

SITE LOCATION AND VICINITY MAP

HEALTH AND SEFETY PLAN

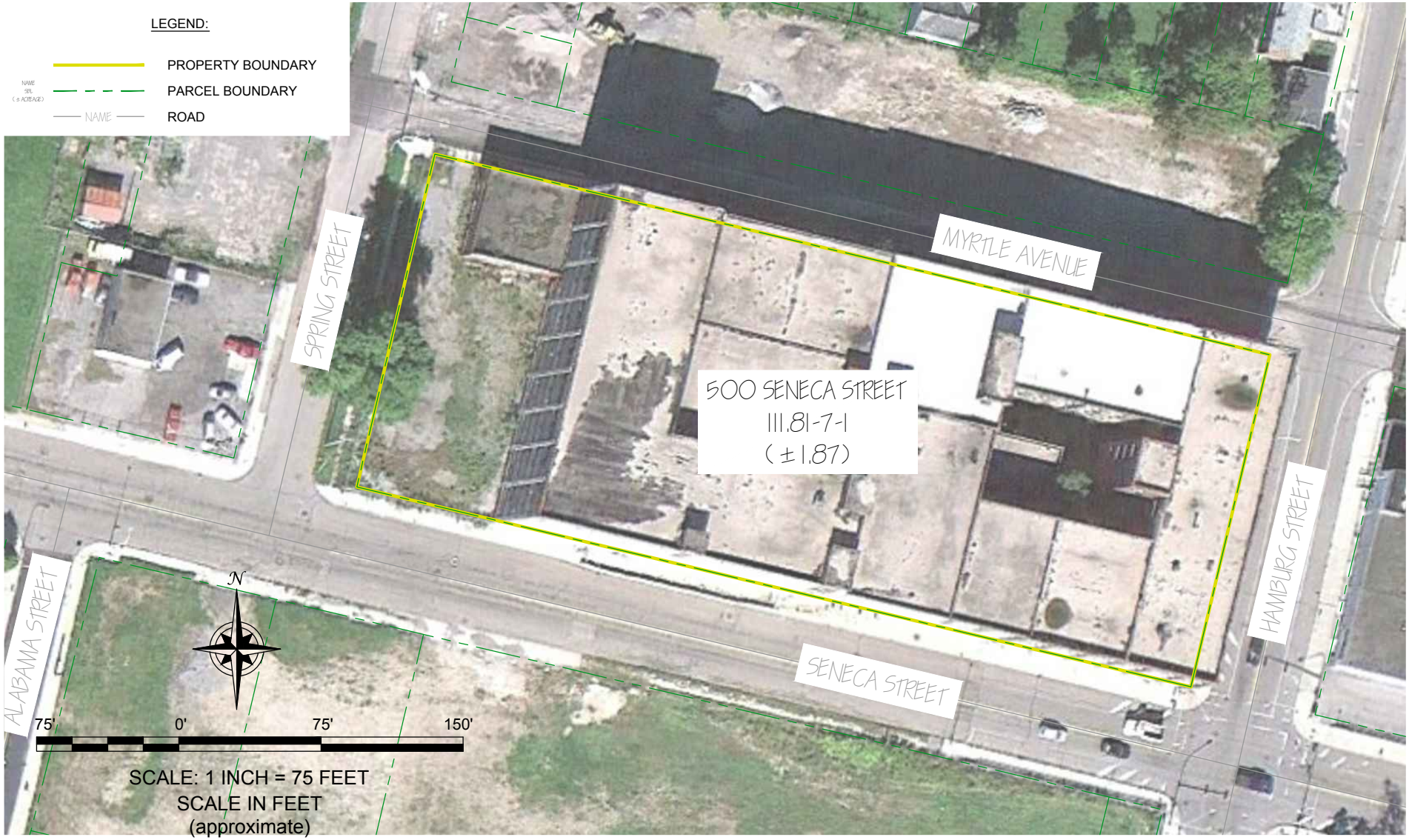
500 SENECA STREET SITE

BUFFALO, NEW YORK

PREPARED FOR

500 SENECA STREET, LLC

F:\CAD\Benchmark\500 Seneca Street, LLC\RI Work Plan\Figure 2; Site Plan (Aerial).dwg



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PROJECT NO.: 0270-012-001

DATE: NOVEMBER 2012

DRAFTED BY: JGT

SITE PLAN (AERIAL)

HEALTH AND SAFETY PLAN

500 SENECA STREET SITE

BUFFALO, NEW YORK

PREPARED FOR

500 SENECA STREET, LLC

FIGURE 2

ATTACHMENT A

EMERGENCY RESPONSE PLAN

BENCHMARK

EMERGENCY RESPONSE PLAN
for
BROWNFIELD CLEANUP PROGRAM ACTIVITIES

500 SENECA STREET SITE
BUFFALO, NEW YORK

October 2015 0270-012-001

Prepared for:

500 SENECA STREET, LLC

500 SENECA STREET SITE
HEALTH AND SAFETY PLAN FOR ACTIVITIES
APPENDIX A: EMERGENCY RESPONSE PLAN

TABLE OF CONTENTS

LIST OF FIGURES

1.0 GENERAL

This report presents the site-specific Emergency Response Plan (ERP) referenced in the Site Health and Safety Plan (HASP) prepared for Brownfield Cleanup Program related activities at the 500 Seneca Street Site in Buffalo, New York. This appendix of the HASP describes potential emergencies that may occur at the Site; procedures for responding to those emergencies; roles and responsibilities during emergency response; and training all workers must receive in order to follow emergency procedures. This ERP also describes the provisions this Site has made to coordinate its emergency response planning with other contractors on-site and with off-site emergency response organizations.

This ERP is consistent with the requirements of 29 CFR 1910.120(l) and provides the following site-specific information:

- Pre-emergency planning.
- Personnel roles, lines of authority, and communication.
- Emergency recognition and prevention.
- Safe distances and places of refuge.
- Evacuation routes and procedures.
- Decontamination procedures.
- Emergency medical treatment and first aid.
- Emergency alerting and response procedures.
- Critique of response and follow-up.
- Emergency personal protective equipment (PPE) and equipment.

2.0 PRE-EMERGENCY PLANNING

This Site has been evaluated for potential emergency occurrences, based on site hazards, the required work tasks, the site topography, and prevailing weather conditions. The results of that evaluation indicate the potential for the following site emergencies to occur at the locations indicated.

Type of Emergency:

1. Medical, due to physical injury

Source of Emergency:

1. Slip/trip/fall

Location of Source:

1. Non-specific

3.0 ON-SITE EMERGENCY RESPONSE EQUIPMENT

Emergency procedures may require specialized equipment to facilitate worker rescue, contamination control and reduction, or post-emergency clean up. Emergency response equipment available on the Site is listed below. The equipment inventory and storage locations are based on the potential emergencies described above. This equipment inventory is designed to meet on-site emergency response needs and any specialized equipment needs that off-site responders might require because of the hazards at this Site but not ordinarily stocked.

Any additional personal protective equipment (PPE) required and stocked for emergency response is also listed in below. During an emergency, the Emergency Response Coordinator (ERC) is responsible for specifying the level of PPE required for emergency response. At a minimum, PPE used by emergency responders will comply with Section 7.0, Personal Protective Equipment, of this HASP. Emergency response equipment is inspected at regular intervals and maintained in good working order. The equipment inventory is replenished as necessary to maintain response capabilities.

Emergency Equipment	Quantity	Location
First Aid Kit	1	Site Vehicle
Chemical Fire Extinguisher	2 (minimum)	All heavy equipment and Site Vehicle

Emergency PPE	Quantity	Location
Full-face respirator	1 for each worker	Site Vehicle
Chemical-resistant suits	4 (minimum)	Site Vehicle

4.0 EMERGENCY PLANNING MAPS

An area-specific map of the Site will be developed on a daily basis during performance of field activities. The map will be marked to identify critical on-site emergency planning information, including: emergency evacuation routes, a place of refuge, an assembly point, and the locations of key site emergency equipment. Site zone boundaries will be shown to alert responders to known areas of contamination. There are no major topographical features, however the direction of prevailing winds/weather conditions that could affect emergency response planning are also marked on the map. The map will be posted at site-designated place of refuge and inside the Benchmark personnel field vehicle.

5.0 EMERGENCY CONTACTS

The following identifies the emergency contacts for this ERP.

Benchmark's Emergency Telephone Numbers:

Corporate Health and Safety Director: ***Thomas H. Forbes***
Work: (716) 856-0599
Mobile: (716) 864-1730

Site Safety and Health Officer (SSHO): ***Bryan C. Hann***
Work: (716) 856-0635
Mobile: (716) 870-1165

Alternate SSHO: ***Nathan Munley***
Work: (716) 856-0635
Mobile: (716) 289-1072

BUFFALO GENERAL HOSPITAL (ER):	(716) 859-5600
FIRE:	911
AMBULANCE:	911
BUFFALO POLICE:	911
STATE EMERGENCY RESPONSE HOTLINE:	(800) 457-7362
NATIONAL RESPONSE HOTLINE:	(800) 424-8802
NYSDOH:	(716) 847-4385
NYSDEC:	(716) 851-7220
NYSDEC 24-HOUR SPILL HOTLINE:	(800) 457-7252

The Site location is:

500 Seneca Street
Buffalo, New York 14204
Site Phone Number: (Insert Cell Phone or Field Trailer): _____

6.0 EMERGENCY ALERTING & EVACUATION

Internal emergency communication systems are used to alert workers to danger, convey safety information, and maintain site control. Any effective system can be employed. Two-way radio headsets or field telephones are often used when work teams are far from the command post. Hand signals and air-horn blasts are also commonly used. Every system must have a backup. It shall be the responsibility of each contractor's Site Health and Safety Officer to ensure all personnel entering the site understand an adequate method of internal communication. Unless all personnel are otherwise informed, the following signals shall be used.

1) Emergency signals by portable air horn, siren, or whistle: two short blasts, personal injury; continuous blast, emergency requiring site excavation.

2) Visual signals: hand gripping throat, out of air/cannot breathe; hands on top of head, need assistance; thumbs up, affirmative/ everything is OK; thumbs down, no/negative; grip partner's wrist or waist, leave area immediately.

If evacuation notice is given, site workers leave the worksite with their respective buddies, if possible, by way of the nearest exit. Emergency decontamination procedures detailed in Section 12.0 of the HASP are followed to the extent practical without compromising the safety and health of site personnel. The evacuation routes and assembly area will be determined by conditions at the time of the evacuation based on wind direction, the location of the hazard source, and other factors as determined by rehearsals and inputs from emergency response organizations. Wind direction indicators are located so that workers can determine a safe up wind or cross wind evacuation route and assembly area if not informed by the emergency response coordinator at the time the evacuation alarm sounds. Since work conditions and work zones within the site may be changing on daily basis, it shall be the responsibility of the construction Site Health and Safety Officer to review evacuation routes and procedures as necessary and to inform all Benchmark-TurnKey workers of any changes.

Personnel exiting the site will gather at a designated assembly point. To determine that everyone has successfully exited the site, personnel will be accounted for at the assembly

site. If any worker cannot be accounted for, notification is given to the SSHO (***Bryan Hann*** or ***Nathan Munley***) so that appropriate action can be initiated. Contractors and subcontractors on this site have coordinated their emergency response plans to ensure that these plans are compatible and that source(s) of potential emergencies are recognized, alarm systems are clearly understood, and evacuation routes are accessible to all personnel relying upon them.

7.0 EXTREME WEATHER CONDITIONS

In the event of adverse weather conditions, the Site Safety and Health Officer in conjunction with the Contractor's SSHO will determine if engineering operations can continue without sacrificing the health and safety of site personnel. Items to be considered prior to determining if work should continue include but are not limited to:

- Potential for heat/cold stress.
- Weather-related construction hazards (e.g., flooding or wet conditions producing undermining of structures or sheeting, high wind threats, etc).
- Limited visibility.
- Potential for electrical storms.
- Limited site access/egress (e.g., due to heavy snow)

8.0 EMERGENCY MEDICAL TREATMENT & FIRST AID

Personnel Exposure:

The following general guidelines will be employed in instances where health impacts threaten to occur acute exposure is realized:

- Skin Contact: Use copious amounts of soap and water. Wash/rinse affected area for at least 15 minutes. Decontaminate and provide medical attention. Eyewash stations will be provided on site. If necessary, transport to Buffalo General Hospital.

- Inhalation: Move to fresh air and, if necessary, transport to Hospital.

- Ingestion: Decontaminate and transport to Hospital.

Personal Injury:

Minor first-aid will be applied on-site as deemed necessary. In the event of a life threatening injury, the individual should be transported to Hospital via ambulance. The Site Health and Safety Officer will supply available chemical specific information to appropriate medical personnel as requested.

First aid kits will conform to Red Cross and other applicable good health standards, and shall consist of a weatherproof container with individually sealed packages for each type of item. First aid kits will be fully equipped before being sent out on each job and will be checked weekly by the SSHO to ensure that the expended items are replaced.

Directions to Buffalo General Hospital (see Figure 1):

The following directions describe the best route from the Site to Buffalo General Hospital:

- Travel west along Seneca Street (0.6 miles)
- Turn right on Michigan Avenue (1.5 miles)
- Turn left onto High Street (0.2 miles)
- Hospital on the right (100 High Street)

9.0 EMERGENCY RESPONSE CRITIQUE & RECORD KEEPING

Following an emergency, the SSHO and Project Manager shall review the effectiveness of this Emergency Response Plan (ERP) in addressing notification, control and evacuation requirements. Updates and modifications to this ERP shall be made accordingly. It shall be the responsibility of each contractor to establish and assure adequate records of the following:

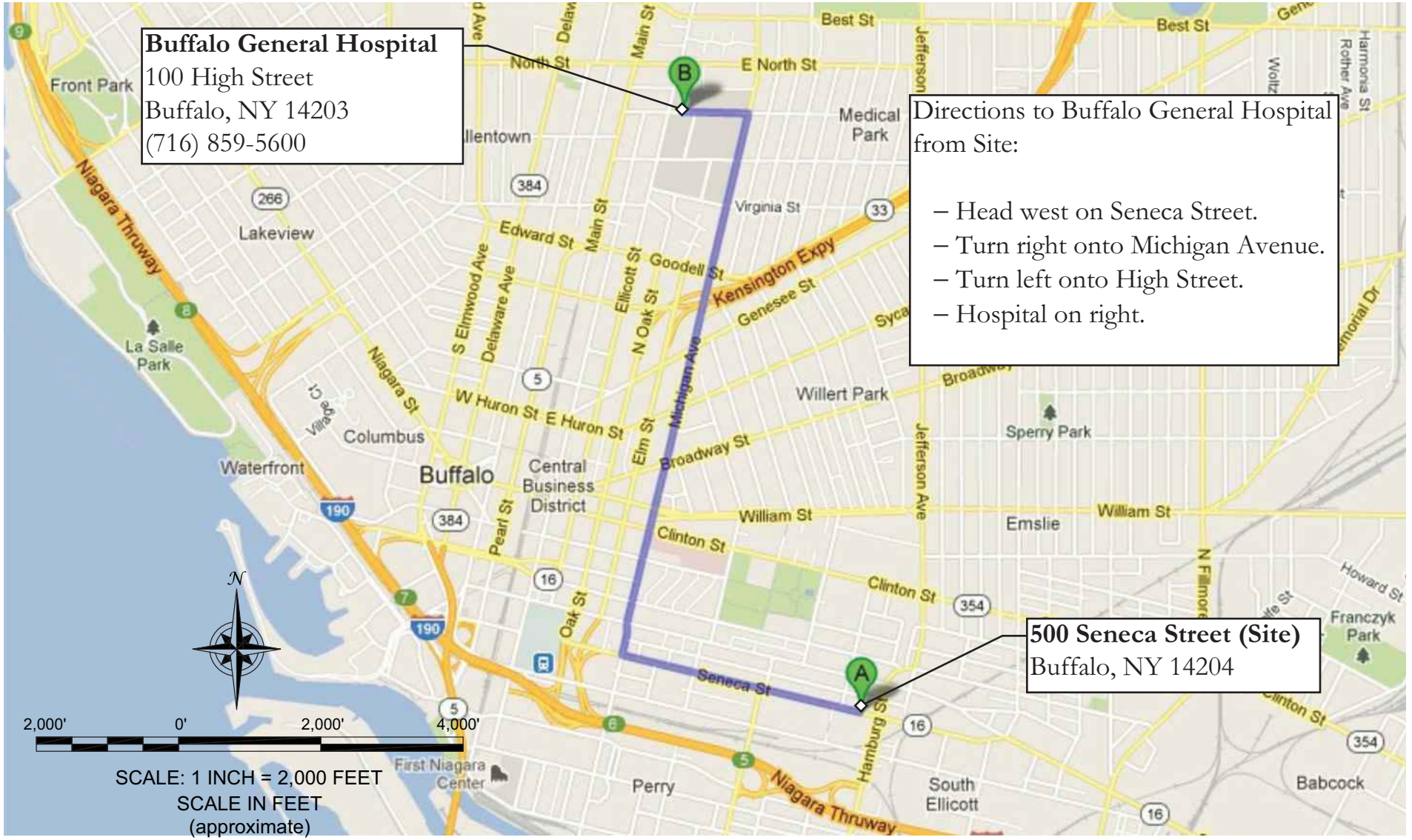
- Occupational injuries and illnesses.
- Accident investigations.
- Reports to insurance carrier or State compensation agencies.
- Reports required by the client.
- Records and reports required by local, state, federal and/or international agencies.
- Property or equipment damage.
- Third party injury or damage claims.
- Environmental testing logs.
- Explosive and hazardous substances inventories and records.
- Records of inspections and citations.
- Safety training.

10.0 EMERGENCY RESPONSE TRAINING

All persons who enter the worksite, including visitors, shall receive a site-specific briefing about anticipated emergency situations and the emergency procedures by the SSHO. Where this site relies on off-site organizations for emergency response, the training of personnel in those off-site organizations has been evaluated and is deemed adequate for response to this site.

FIGURES

F:\CAD\Benchmark\500 Seneca Street, LLC\RI Work Plan\Figure A-1; Hospital Route Map.dwg



BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

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BUFFALO, NY 14218
(716) 856-0599

PROJECT NO.: 0270-012-001

DATE: NOVEMBER 2012

DRAFTED BY: JGT

HOSPITAL ROUTE MAP

EMERGENCY RESPONCE PLAN

500 SENECA STREET SITE

BUFFALO, NEW YORK

PREPARED FOR

500 SENECA, LLC

FIGURE A-1

ATTACHMENT B

HOT WORK PERMIT FORM

BENCHMARK

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

HOT WORK PERMIT

PART 1 - INFORMATION

Issue Date:

Date Work to be Performed: Start: Finish (permit terminated):

Performed By:

Work Area:

Object to be Worked On:

PART 2 - APPROVAL

(for 1, 2 or 3: mark Yes, No or NA)*

Will working be on or in: Finish (permit terminated):

1. Metal partition, wall, ceiling covered by combustible material?	yes	no
2. Pipes, in contact with combustible material?	yes	no
3. Explosive area?	yes	no

* = If any of these conditions exist (marked "yes"), a permit will not be issued without being reviewed and approved by Thomas H. Forbes (Corporate Health and Safety Director). Required Signature below.

PART 3 - REQUIRED CONDITIONS**

(Check all conditions that must be met)

	PROTECTIVE ACTION		PROTECTIVE EQUIPMENT
	Specific Risk Assessment Required		Goggles/visor/welding screen
	Fire or spark barrier		Apron/fireproof clothing
	Cover hot surfaces		Welding gloves/gauntlets/other:
	Move movable fire hazards, specifically		Wellintons/Knee pads
	Erect screen on barrier		Ear protection: Ear muffs/Ear plugs
	Restrict Access		B.A.: SCBA/Long Breather
	Wet the ground		Respirator: Type:
	Ensure adequate ventilation		Cartridge:
	Provide adequate supports		Local Exhaust Ventilation
	Cover exposed drain/floor or wall cracks		Extinguisher/Fire blanket
	Fire watch (must remain on duty during duration of permit)		Personal flammable gas monitor
	Issue additional permit(s):		

Other precautions:

** Permit will not be issued until these conditions are met.

SIGNATURES

Orginating Employee: Date:

Project Manager: Date:

Part 2 Approval: Date:

ATTACHMENT C

NYSDOH GENERIC COMMUNITY AIR MONITORING PLAN

BENCHMARK

Appendix C1
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

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

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

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

Community Air Monitoring Plan

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

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

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

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

VOC Monitoring, Response Levels, and Actions

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

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

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

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

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

Particulate Monitoring, Response Levels, and Actions

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

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

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

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

December 2009

Appendix C2
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50^{o} C (14 to 122^{o} F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

APPENDIX G

SITE MANAGEMENT FORMS

New York State Department of Environmental Conservation
Division of Environmental Remediation, 11th Floor
625 Broadway, Albany, New York 12233-7011
Phone: (518) 402-9553 **Fax:** (518) 402-9577
Website: www.dec.ny.gov

45-Day Reminder Notice: Site Management Periodic Review

,

September 29, 2009
Site Name:
Site No.:
Site Address:
, NY

Dear :

This is a reminder that as part of the last phase of a site's remedial program (i.e., "Site Management" (SM)), a progress report for your site is to be submitted by you, the site owner or Remedial Party, to the New York State Department of Environmental Conservation (Department) by . This report, now referred to as the Periodic Review Report (PRR) documents the implementation of and compliance with the Site Management requirements for this site. SM is a concept defined in regulation (6 NYCRR 375-1.2(at)). A suggested outline for the PRR is enclosed. If the site is comprised of multiple properties or parcels, then you as the owner or Remedial Party must arrange to submit one PRR for all parcels that comprise the site.

Depending on the age of the remedial program for your site, the document(s) governing SM for your site will be different. Previously, SM requirements were contained in separate documents with specific titles (e.g., Operation, Maintenance, and Monitoring Plan or Soil Management Plan) and are now being incorporated into one comprehensive "Site Management Plan" (SMP). A SMP may contain one or all of the following elements as applicable to the site; a plan to maintain institutional and/or engineering controls ("IC/EC Plan"), a plan for monitoring the performance and effectiveness of the selected remedy ("Monitoring Plan"), and/or a plan for the operation and maintenance of the selected remedy ("O&M Plan"). Additionally, the requirements for SM are normally stated in the decision document (e.g., Record of Decision) and/or the legal agreement directing the remediation of the site (e.g., order on consent, voluntary agreement, etc.).

When you submit the PRR (by the due date above), please sign and include the enclosed forms documenting that all SM requirements are being met. If there is some reason you cannot certify that all SM requirements are being met, you should indicate this and include a statement of explanation in the PRR with a schedule for addressing the problem(s). The Periodic Review process will not be considered complete until all necessary corrective measures are completed and any required controls are certified. Instructions for completing the certifications are enclosed.

Enclosures

ec: , Project Manager
, Bureau Director
Hazardous Waste Remediation Engineer, Region
Gary Litwin, DOH

cc:

Enclosure
Periodic Review Report (PRR) General Guidance

I. Introduction: (½-page or less)

A. Provide a brief summary of site, nature and extent of contamination, and remedial history.

B. Effectiveness of the Remedial Program - Provide overall conclusions regarding;
   1. progress made during the reporting period toward meeting the remedial objectives for the site
   2. the ultimate ability of the remedial program to achieve the remedial objectives for the site.

C. Compliance
   1. Identify any areas of non-compliance regarding the major elements of the Site Management Plan (SMP, i.e., the Institutional/Engineering Control (IC/EC) Plan, the Monitoring Plan, and the Operation & Maintenance (O&M) Plan).
   2. Propose steps to be taken and a schedule to correct any areas of non-compliance.

D. Recommendations
   1. recommend whether any changes to the SMP are needed
   2. recommend any changes to the frequency for submittal of PRRs (increase, decrease)
   3. recommend whether the requirements for discontinuing site management have been met.

II. Site Overview (one page or less)

A. Describe the site location, boundaries (figure), significant features, surrounding area, and the nature and extent of contamination prior to site remediation.

B. Describe the chronology of the main features of the remedial program for the site, the components of the selected remedy, cleanup goals, site closure criteria, and any significant changes to the selected remedy and site that have been made since remedy selection.

III. Evaluate Remedy Performance, Effectiveness, and Protectiveness

A. Using tables, graphs, charts and bulleted text to the extent practicable, describe the effectiveness of the remedy in achieving the remedial goals for the site. Base findings, recommendations, and conclusions on objective data. Evaluations should be presented simply and concisely.

IV. IC/EC Plan Compliance Report (if applicable)

A. IC/EC Requirements and Compliance
   1. Describe each control, its objective, and how performance of the control is evaluated.
   2. Summarize the status of each goal (whether it is fully in place and its effectiveness).
   3. Corrective Measures: describe steps proposed to address any deficiencies in ICECs.
   4. Conclusions and recommendations for changes.

B. IC/EC Certification
   1. The certification must be complete (even if there are IC/EC deficiencies), and certified by the appropriate party as set forth in a Department-approved certification form(s).

V. **Monitoring Plan Compliance Report (if applicable)**

A. Components of the Monitoring Plan (tabular presentations preferred) - Describe the requirements of the monitoring plan by media (i.e., soil, groundwater, sediment, etc.) and by any remedial technologies being used at the site.

B. Summary of Monitoring Completed During Reporting Period - Describe the monitoring tasks actually completed during this PRR reporting period. Tables and/or figures should be used to show all data.

C. Comparisons with Remedial Objectives - Compare the results of all monitoring with the remedial objectives for the site. Include trend analyses where possible.

D. Monitoring Deficiencies - Describe any ways in which monitoring did not fully comply with the monitoring plan.

E. Conclusions and Recommendations for Changes - Provide overall conclusions regarding the monitoring completed and the resulting evaluations regarding remedial effectiveness.

VI. **Operation & Maintenance (O&M) Plan Compliance Report (if applicable)**

A. Components of O&M Plan - Describe the requirements of the O&M plan including required activities, frequencies, recordkeeping, etc.

B. Summary of O&M Completed During Reporting Period - Describe the O&M tasks actually completed during this PRR reporting period.

C. Evaluation of Remedial Systems - Based upon the results of the O&M activities completed, evaluated the ability of each component of the remedy subject to O&M requirements to perform as designed/expected.

D. O&M Deficiencies - Identify any deficiencies in complying with the O&M plan during this PRR reporting period.

E. Conclusions and Recommendations for Improvements - Provide an overall conclusion regarding O&M for the site and identify problems, their severity, and any suggested improvements requiring changes in the O&M Plan.

VII. **Overall PRR Conclusions and Recommendations**

A. Compliance with SMP - For each component of the SMP (i.e., IC/EC, monitoring, O&M), summarize;

1. whether all requirements of each plan were met during the reporting period
2. any requirements not met such as new completed exposure pathways resulting in unacceptable risk
3. proposed plans and a schedule for coming into full compliance.

B. Performance and Effectiveness of the Remedy - Based upon your evaluation of the components of the SMP, form conclusions about the performance of each component and the ability of the remedy to achieve the remedial objectives for the site.

C. Future PRR Submittals

1. Recommend, with supporting justification, whether the frequency of the submittal of PRRs should be changed (either increased or decreased).
2. If the requirements for site closure have been achieved, contact the Department's Project Manager for the site to determine what, if any, additional documentation is needed to support a decision to discontinue site management.

VIII. **Additional Guidance**

A. Additional guidance regarding the preparation and submittal of an acceptable PRR can be obtained from the Department's Project Manager for the site.

WHERE to mail the signed Certification Form by :

New York State Department of Environmental Conservation

Attn: , Project Manager

Please note that extra postage may be required.

Enclosure 1

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No.

Site Name

Site Address: Zip Code:
City/Town:
County:
Allowable Use(s) (if applicable, does not address local zoning):
Site Acreage:
Owner:
, , NY

Reporting Period: to

Verification of Site Details **Box 2**

	YES	NO
1. Is the information in Box 1 correct?	☐	☐
If NO, are changes handwritten above or included on a separate sheet?	☐	
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☐
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
3. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☐
If YES, is documentation (or evidence that documentation has been previously submitted) included with this certification?	☐	
4. If use of the site is restricted, is the current use of the site consistent with those restrictions?	☐	☐
If NO, is an explanation included with this certification?	☐	
5. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	☐	☐
If YES, is the new information or evidence that new information has been previously submitted included with this Certification?	☐	
6. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), are the assumptions in the Qualitative Exposure Assessment still valid (must be certified every five years)?	☐	☐
If NO, are changes in the assessment included with this certification?	☐	

SITE NO. Box 3

Description of Institutional Controls

Box 4

Description of Engineering Controls

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) 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 is accurate and compete.

YES	NO
☐	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) 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;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☐	☐

3. If this site has an Operation and Maintenance (O&M) Plan (or equivalent as required in the Decision Document);

   I certify by checking "YES" below that the O&M Plan Requirements (or equivalent as required in the Decision Document) are being met.

YES	NO
☐	☐

4. If this site has a Monitoring Plan (or equivalent as required in the remedy selection document);

   I certify by checking "YES" below that the requirements of the Monitoring Plan (or equivalent as required in the Decision Document) is being met.

YES	NO
☐	☐

IC CERTIFICATIONS
SITE NO.

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 2 and/or 3 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 _____ at _____,
print name print business address

am certifying as _____(Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

_____ _____
Signature of Owner or Remedial Party Rendering Certification Date

IC/EC CERTIFICATIONS

Box 7

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE

I certify that all information in Boxes 4 and 5 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 _____ at _____,
print name print business address

am certifying as a Qualified Environmental Professional for the _____

(Owner or Remedial Party) for the Site named in the Site Details Section of this form.

_____ _____ _____
Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification Stamp (if Required) Date

Enclosure 2

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the six questions in the Verification of Site Details Section. Questions 5 and 6 only refer to sites in the Brownfield Cleanup Program. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional / Engineering Controls (Boxes 3, 4, and 5)

1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party is to petition the Department requesting approval to remove the control.

2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

3. If you cannot certify "YES" for each Control and/or certify the other SM Plan components that are applicable, continue to complete the remainder of this **Certification** form. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a statement of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

   If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) is to be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7):

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page. Where the only control is an Institutional Control on the use of the property the certification statement in Box 6 shall be completed and may be made by the property owner. Where the site has Institutional and Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional (see table below).

Table 1. Signature Requirements for Control Certification Page

Type of Control	Example of IC/EC	Required Signatures
EC which does not include a treatment system or engineered caps.	Fence, Clean Soil Cover, Individual House Water Treatment System, Vapor Mitigation System	A site or property owner or remedial party, and a QEP. (P.E. license not required)
EC that includes treatment system or an engineered cap.	Pump & Treat System providing hydraulic control of a plume, Part 360 Cap.	A site or property owner or remedial party, and a QEP with a P.E. license.

APPENDIX H

ELECTRONIC COPY