Site Management Plan

Tecumseh Phase IA Business Park
Lackawanna, New York
BCP Site No. C915218

November 2021 0555-021-008

Prepared For:

Sucro Real Estate NY, LLC

Prepared By:

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SITE MANAGEMENT PLAN

TECUMSEH PHASE IA BUSINESS PARK
ERIE COUNTY
LACKAWANNA, NEW YORK

NYSDEC Site Number: C915218

November 2021 B0555-021-008

Prepared for:

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Lackawanna, New York 14218

Prepared by:

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Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

SITE MANAGEMENT PLAN
TECUMSEH PHASE IA BUSINESS PARK
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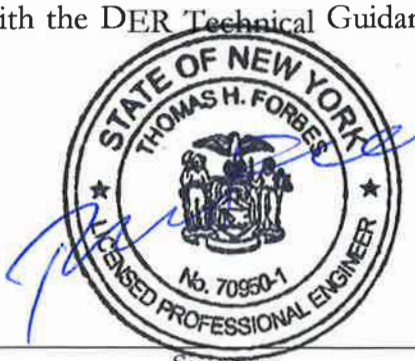
CERTIFICATION STATEMENT

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



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NYS Professional Engineer #	Date	Signature

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List of Acronyms

AS	Air Sparging
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
CLP	Contract Laboratory Program
COC	Certificate of Completion
CO2	Carbon Dioxide
CP	Commissioner Policy
DER	Division of Environmental Remediation
DUSR	Data Usability Summary Report
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ERP	Environmental Restoration Program
EWP	Excavation Work Plan
GHG	Greenhouse Gas
GWE&T	Groundwater Extraction and Treatment
HASP	Health and Safety Plan
IC	Institutional Control
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operation and Maintenance
OM&M	Operation, Maintenance and Monitoring
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
P.E. or PE	Professional Engineer
PFAS	Per- and Polyfluoroalkyl Substances
PID	Photoionization Detector
PRP	Potentially Responsible Party
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan

List of Acronyms

QEP	Qualified Environmental Professional
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RP	Remedial Party
RSO	Remedial System Optimization
SAC	State Assistance Contract
SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective
SMP	Site Management Plan
SOP	Standard Operating Procedures
SOW	Statement of Work
SPDES	State Pollutant Discharge Elimination System
SSD	Sub-slab Depressurization
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program

ES EXECUTIVE SUMMARY

The following provides a 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:	BCP Site No. C915218 Tecumseh Phase IA Business Park	
Institutional Controls:	An Environmental Easement will enforce the following Institutional Controls: 1. The property may be used for commercial use.	
	2. All ECs must be inspected at a frequency and in a manner defined in the SMP.	
	3. The use of the groundwater underlying the property is prohibited without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH) or the Erie County Department of Health (ECDOH) 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 SMP and Periodic Review Report 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. Cover system consisting of new and existing concrete building foundations and slabs; asphalt roads and parking areas; concrete sidewalks; and vegetated soil cover areas.	
Inspections:		Frequency
1. Cover inspection		Annually
Monitoring:		
1. Groundwater monitoring		Annually
Maintenance:		
1. Maintenance of cover and monitoring wells		As necessary
Site Identification:	BCP Site No. C915218 Tecumseh Phase IA Business Park	
Reporting:		
1. Groundwater data and cover inspections		Annually with PRR
2. Periodic Review Report		Annually

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

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the Tecumseh Phase IA Business Park located in Lackawanna, New York (hereinafter referred to as the "Site"). See Figure 1. The Site is currently in the New York State (NYS) Brownfield Cleanup Program BCP Site No. C915218, which is administered by New York State Department of Environmental Conservation (NYSDEC or Department).

Tecumseh Redevelopment, Inc. (Tecumseh) entered into a Brownfield Cleanup Agreement (BCA) on December 1, 2008 (and amended June 9, 2020) with the NYSDEC to remediate the Site. A second BCA Amendment, executed December 8, 2020, added Sucro Real Estate NY, LLC (Sucro) to the BCA, amended the tax parcel number, and corrected the size of the property to 12.07 acres. The third (executed July 27, 2021) and fourth (executed November 19, 2021) amendments added Sweet Life and Sweet Life by Sucro to the BCA, and reverted the size of the property back to 12.31 acres to match the 2014 survey and Environmental Easement. The site location and boundaries are shown on in Figure 2. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in Appendix A.

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 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, 6 NYCRR Part 375 and the BCA (Index #B9-0752-07-08; Site #C915218) 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 B of this SMP.

This SMP was prepared by Benchmark Civil/Environmental Engineering & Geology, PLLC (Benchmark), on behalf of Sucro Real Estate NY, LLC, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 3, 2010 (Ref. 1), 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. The NYSDEC can also make changes to the SMP or request revisions from the remedial party. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shutdown 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 project manager 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:

1. 60-day advance notice of any proposed changes in site use that are required under the terms of the BCA, 6 NYCRR Part 375 (Ref. 2) and/or Environmental Conservation Law.
2. 7-day advance notice of any field activity associated with the remedial program.
3. 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan. If the ground-intrusive activity qualifies as a change of use as defined in 6 NYCRR Part 375, the above mentioned 60-day advance notice is also required.
4. 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.
5. Notice within 48 hours of any non-routine maintenance activities.
6. 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.
7. Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

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

8. 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.
9. 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 below includes contact information for the above notifications. 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 B.

Table 1: Notifications*

Name	Contact Information	Required Notification**
Andrew Zwack NYSDEC Project Manager	(716) 851-7220 andrew.zwack@dec.ny.gov	All Notifications
Stanley Radon NYSDEC Project Manager's Supervisor	(716) 851-7220 stanley.radon@dec.ny.gov	All Notifications
Kelly Lewandowski NYSDEC Site Control	(518) 402-9569 kelly.lewandowski@dec.ny.gov	Notifications 1 and 8
Sara Bogardus NYSDOH Project Manager	(518) 402-7860 beei@health.ny.gov	Notifications 4, 6, and 7

Notes:

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

** Numbers in this column reference the numbered bullets in the notification list in this section.

2.0 SUMMARY OF PREVIOUS INVESTIGATION & REMEDIAL ACTIONS

2.1 Site Location and Description

The Site is in Lackawanna, Erie County, New York and is identified as SBL No. 141.11-1-48.12 on the Erie County Tax Map (see Figure 2). The Site is an approximately 12.31-acre area and is bounded by lands currently owned by the Buffalo and Erie County Industrial Land Development Corporation (ILDC) to the north, south, and east, and lands currently owned by Gateway trade Center to the west (see Figure 2 – Site Layout Map). The boundaries of the Site are more fully described in Appendix A –Environmental Easement. The owner/operator of the Site parcel at the time of issuance of this SMP is Sucro Real Estate NY, LLC.

2.2 Physical Setting

2.2.1 Land Use

The Site consists of existing structures previously known as Blowing Engine House No. 3, Boiler House No.3/Steam Station No. 1, Power House No. 1, Pumping Station No. 1, North Return Water Trench (NRWT), and South Return Water Trench (SRWT). The Site is zoned commercial and is currently undergoing redevelopment for raw sugar warehousing, refining, packaging, and intermodal distribution. The anticipated occupancy data for on-site buildings is October 2022.

The properties immediately south, north, east, and west of the Site include commercial properties.

2.2.2 Geology

The United States Department of Agriculture Soil Survey of Erie County, New York indicates that the Site is covered by surface soil classified as Urban Land; soil consisting of paved, foreign, or disturbed soils. Drilling logs from monitoring wells constructed on or near the Site indicate that the upper eight feet is typically composed of steel and iron-making slag, cinders, sand, and/or fill material. The fill is underlain by a peat layer and lacustrine clays and

silts that are, in turn, underlain by shale or limestone bedrock. Bedrock is estimated to be present at approximately 60 feet below grade.

Site specific boring logs are provided in Appendix C.

2.2.3 Hydrogeology

Historically, due to the proximity of Lake Erie and municipal supplied water, groundwater in the area has not been developed for industrial, agricultural, or public supply purposes. There is a deed restriction that prohibits the use of groundwater on the property. Consequently, no groundwater supply wells are present.

The groundwater isopotential map completed during the RI for the February 2016 sampling event indicates that shallow groundwater flows radially west and southwest across the Site towards the Gateway Metroport Ship Canal with a small component flowing northwest toward the Buffalo Outer Harbor. Measurements taken in Site monitoring wells indicate that the water table is generally 6 to 10 feet below ground surface (fbgs) within the soil/slag-fill unit.

A groundwater contour map is shown in Figure 3. Groundwater elevation data is provided in Table 2. Groundwater monitoring well construction logs are provided in Appendix C.

2.3 Investigation and Remedial History

The following narrative provides a remedial history timeline and a 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.

The Tecumseh Phase IA Business Park formerly supported Bethlehem Steel Corporation's steel-making operations. Steel production on the property was discontinued in 1983 and the coke ovens ceased activity in 2000.

In April 2007, TurnKey Environmental Restoration, LLC (TurnKey) field personnel collected three surface soil samples, identified as BP1A-SS-01 through BP1A-SS-03 for analysis of base-neutral semi-volatile organic compounds (SVOCs), PCBs, and RCRA-regulated metals. The analytical results indicate concentrations of certain PAHs and metals

above NYSDEC Part 375 commercial soil cleanup objectives (CSCOs). PCBs were also detected at low concentrations.

In April 2012, TurnKey completed a Remediation Investigation/Alternatives Analysis (RI-AA) Report for the Site. The report was revised and re-issued in May 2018 and September 2020 (Ref. 3). RI field activities were conducted by TurnKey in accordance with the approved April 2010 RI/AAR Work Plan for Tecumseh Phase IA Business Park (Ref. 4). Surface soil/fill, subsurface soil/fill, and groundwater samples were collected during the April 2007 and June 2010 sampling events. The surface and subsurface soil/fill samples were analyzed for TCL VOCs, TCL SVOCs, total metals, and PCBs. Percent solids and flashpoints were also tested for BP1A-TP-9 to aid in evaluating remedial options. "Hotspot" soil/fill areas were identified where non-ubiquitous constituents exceed industrial soil cleanup objectives (ISCOs) and/or had notable field observations indicating gross contamination (i.e., free product, staining, strong odor, elevated photoionization detector (PID) readings).

In January 2021, Sucro submitted and NYSDEC approved a Pre-Remedial Action Investigation Work Plan (Ref. 5) to define the lateral and vertical extent of soil/fill requiring excavation such that post-excavation confirmatory sampling would not be required. The scope of the investigation conducted between January 25 and March 25, 2021 included:

- Advancing supplemental test pits in each of the four compass directions from the original investigation locations defined as Hotspots A through H.
- Collecting soil/fill samples to delineate the nature and extent of soil/fill hotspots such that soil/fill impacts will be excavated to pre-defined extents.

Details of the following remedial measures are provided in the November 2021 Final Engineering Report (Ref. 6):

- Between May and July 2021, the hotspots were excavated and either biotreated on-site or disposed off-site.
- Groundwater monitoring well MWN-95A was installed on October 2, 2021 then developed and sampled on October 11, 2021. Well MWN-95A was installed to monitor downgradient groundwater conditions from the former Power House No. 1.
- Asbestos containing materials (ACMs) within the Site buildings were abated and disposed off-site from March to June 2021.

- ACM on the ground beneath the overhead pipe bridge was removed and disposed off-site in October 2021.
- Portions of the North Return Water Trench (NRWT) and South Return Water Trench (SRWT) within the boundaries of the Tecumseh Phase IA Business Park Site were remediated under a separate Order on Consent between Tecumseh Redevelopment Inc. and NYSDEC addressing implementation of RCRA corrective measures and are not considered part of the BCP Site.

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Decision Document dated March 2021 (Ref. 7)are as follows:

2.4.1 Groundwater:

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

RAOs for Environmental Protection

- Remove the source of ground or surface water contamination.

2.4.2 Soil:

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

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

2.5 Remaining Contamination

The Tecumseh Phase IA Business Park was remediated to achieve Track 4 Commercial Use with SSALs, which is consistent with the intended use of the Site. Residual

contamination remaining at the Site includes contaminated soil/fill although potential exposure is mitigated due to the depth of the contamination, completion of the remedial activities, and presence of a cover system consisting of the new and existing concrete building foundations and slabs; asphalt roads and parking areas; concrete sidewalks; and vegetated soil cover areas.

2.5.1 Soil/Fill

Residual soil/fill contamination remaining on-site will be covered with a demarcation layer and cover system. Newly installed utilities are backfilled with clean imported material.

Table 3 summarizes the results of all soil samples collected that exceed the Unrestricted Use (USCOs) and CSCOs at the site after completion of remedial action. Figure 4 shows the soil sample locations that exceed USCOs. The following sections describe the remaining contamination at the Site.

2.5.1.1 VOCs

No surface soil or test pit samples exhibited exceedance of USCOs or CSCOs for VOCs.

2.5.1.2 SVOCs

Several surface and subsurface soil samples exhibited exceedances of the USCOs and CSCOs for one or more SVOCs, specifically PAHs, at several locations; however, exceedances of these PAHs were generally within one order of magnitude of the USCO and the same order of magnitude as the CSCO. No samples with total PAHs above 500 mg/kg remain.

2.5.1.3 Inorganic Compounds

Several metals remain above USCOs including arsenic, barium, cadmium, chromium, copper, lead, manganese, mercury, and zinc. Metal concentrations above CSCOs are limited to arsenic, barium, cadmium, lead, manganese, and mercury in a few locations. However, only one sample (Hotspot H west wall) contains arsenic above the SSAL of 118 mg/kg; this location was adjacent to the SRWT.

2.5.1.4 Polychlorinated Biphenyls

Total PCBs were detected above the USCO in several surface soil samples and one test pit location; however, total PCBs are below the CSCO at all locations.

2.5.2 Sediment

Bottom samples were collected from the SRWT following sediment removal. Select metals (cadmium, chromium, lead, mercury, and selenium) remain at concentrations above USCOs. Only two locations contain mercury at a concentration slightly above the CSCO.

2.5.3 Groundwater

The 2016 sampling revealed slight exceedances of the NYSDEC Class GA groundwater quality standards (GWQSs; Ref. 8) in MWN-69A (pH, manganese) and MWN-70A (cyanide, manganese). Well MWN-71A could not be sampling in 2016 as it was damaged; the 2010 sampling revealed slight exceedances of GWQSs for lead, manganese, and sodium. There were no exceedances of GWQSs in newly installed well MWN-95A sampled October 11, 2021.

Table 4 summarizes the results of all samples of groundwater that exceed the SCGs after completion of the remedial action.

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 project manager.

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 D) 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 project manager.

3.2 Institutional Controls

A series of ICs is required by the Decision Document to (1) implement, maintain, and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and (3) limit the use and development of the site to commercial 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 IC boundaries are shown on the survey in Appendix A. These ICs are:

- The property may be used for commercial and industrial] use;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the 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;
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement;
- Vegetable gardens and farming on the site are prohibited; and
- An evaluation shall be performed to determine the need for further investigation and remediation should large scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible.

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 12 inches of clean 2"

run of crush gravel, asphalt pavement, railroad ballast, and new and existing concrete building foundations/slabs. Newly constructed cover system component consisting of one foot of 2" run of crush gravel and new building foundations were placed over a demarcation layer (i.e., orange plastic netting). Additional utilities will be installed in 2022; therefore, the final asphalt access roads and parking lots, concrete sidewalks, and landscaped areas (12 inches of clean soil meeting SCOs) will be completed after utility installation. Figure 5 presents the location of the cover system and applicable demarcation layers.

The Excavation Work Plan (EWP) provided in Appendix D 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 E. Any disturbance of the Site's cover system must be overseen by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

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. Unless waived by the NYSDEC, confirmation samples of applicable environmental media are required before terminating any remedial actions at the site. Confirmation samples require Category B deliverables and a Data Usability Summary Report (DUSR).

As discussed below, the NYSDEC may approve termination of a groundwater monitoring program. When a remedial party receives this approval, the remedial party will

decommission all site-related monitoring, injection and recovery wells as per the NYSDEC CP-43 policy.

The remedial party will also conduct any needed site restoration activities, such as asphalt patching and decommissioning treatment system equipment. In addition, the remedial party will conduct any necessary restoration of vegetation coverage, trees and wetlands, and will comply with NYSDEC and United States Army Corps of Engineers regulations and guidance. Also, the remedial party will ensure that no ongoing erosion is occurring on the site.

3.3.2.1 Cover System

The composite 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 AND SAMPLING PLAN

4.1 General

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

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

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor, soils);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance (SCGs), particularly groundwater standards and Part 375 SCOs for soil; and
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;

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

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

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site-Wide Inspection

Site-wide inspections will be performed at a minimum of once per year. These periodic inspections must be conducted when the ground surface is visible (i.e., no snow cover). Site-wide inspections will be performed by a qualified environmental professional as defined in 6 NYCRR Part 375, a P.E. who is licensed and registered in New York State, or a qualified person who directly reports to a P.E. who is licensed and registered in New York State. Modification to the frequency or duration of the inspections will require approval from the NYSDEC project manager. 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;
- Whether stormwater management systems, such as basins and outfalls, are working as designed;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

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

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

Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC project manager 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 defined in 6 NYCCR Part 375. Written confirmation must be provided to the NYSDEC project manager within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

4.3 Post-Remediation Media Monitoring and Sampling

Samples shall be collected from the groundwater monitoring wells on a routine basis. Sampling locations, required analytical parameters, and schedule are provided in Table 5 – Remedial System Sampling Requirements and Schedule below. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

Table 5 – Post Remediation Sampling Requirements and Schedule

Sampling Location	**Analytical Parameters**				
	TCL VOCs (EPA Method 8260B)	TCL SVOCs (EPA Method 8270C)	TAL Metals (EPA Method 6010/7470)	PCBs (EPA Method 8082)	**Schedule**
Monitoring Wells: MWN-69A, MWN-70A, MWN-95A	X	X	X	X	Annually

Detailed sample collection and analytical procedures and protocols are provided in Appendix H – Field Operating Procedures and Appendix F – Quality Assurance Project Plan.

4.3.1 Groundwater Sampling

Groundwater monitoring will be performed annually to assess the performance of the remedy (i.e., the basement dewatering). Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

The NYSDEC requested that Sucro install a groundwater monitoring well to monitor groundwater conditions downgradient of the former Power House No. 1 building. The groundwater sampling will monitor for metals and PCBs that were detected above GWQSs in the Power House No. 1 basement water. Table 6 summarizes the well identification number, as well as the purpose, location, depths, diameter, and screened intervals of the well. As part of the groundwater monitoring, the well is sampled to evaluate the effectiveness of the remedial system. The remedial party will measure depth to the water table before sampling.

Table 6 – Monitoring Well Construction Details

Monitoring Well ID	Well Location	Coordinates (longitude/ latitude)	Well Diameter (inches)	Elevation (above mean sea level)			
				Casing	Surface	Screen Top	Screen Bottom
MWN-69A	Cross gradient	48.8254 °N, -68.6926 °W	2	583.77	582.20	576.77	566.77
MWN-70A	Downgradient	48.8348 °N, -68.6978 °W	2	584.97	583.49	574.97	569.97
MWN-95A	Downgradient	42.8265 °N, -78.8565 °W	2	585.56	582.97	577.56	567.56

Monitoring well construction logs are included in Appendix C of this document.

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

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

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

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

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

4.3.2 Monitoring and Sampling Protocol

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

5.0 OPERATION & MAINTENANCE PLAN

5.1 General

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

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

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

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

- Flood Plain: The Site is in Zone X, which is an Area of Minimal Flood Hazard. West and along the southern portion of the Site there is a small amount of land classified as a 0.2% Annual Chance Flood Hazard area; however, this is not expected to impact the Site. Figure 6 is the FEMA Flood Map from which this information was obtained.
- Site Drainage and Storm Water Management: According to Figure 6, there is a 0.2% Annual Chance Flood Hazard area at the south end of the Site. This area has a potential for flooding in an unlikely event. Storm water modeling performed as a component of the Storm Water Pollution Prevention Plan (SWPPP) provided for two infiltration ponds and a French drain along the paved road to accommodate the additional storm water runoff generated with the increased post-development impervious area.
- Erosion is not anticipated to be a concern at the Site since most of the property is covered by hardscape and the minimal soil covered areas are vegetated.
- Electricity: There are currently four buildings on the Tecumseh Phase IA Business Park Site. Power loss and/or dips/surges in voltage due to severe weather events are not anticipated to be of concern.

- Spill/Containment Release: A raw sugar warehouse, refining, packaging, and intermodal distribution facility will be constructed on-site. Releases of sugar are possible but 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).

- Waste Generation: The Site will be used as a raw sugar warehouse, refining, packaging, and intermodal distribution facility. The only waste anticipated to be generated is standard municipal solid waste, which will be properly disposed by a permitted waste collection service.
- Energy Use: Electricity will be used for operations on-site such as general lighting.
- Emissions generated at the Site will be limited to natural-gas fired boiler emissions and fuel emissions from vehicles used on-site.
- Water Usage: Water will be required during the sugar refining process.
- Land and/or Ecosystems: There are no state or federal wetlands, significant natural communities, or rare plants/animals on the Site

6.2.1 Timing of Green Remediation Evaluations

For major remedial system components, green remediation evaluations and corresponding modifications will be undertaken as part of a formal Remedial System Optimization (RSO), or at any time that the NYSDEC project manager feels appropriate, e.g., during significant maintenance events or in conjunction with storm recovery activities.

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine operation and maintenance activities. Reporting of these modifications will be presented in the PRR.

6.2.2 Building Operations

Structures including buildings and sheds will be operated and maintained to provide for the most efficient operation of the remedy, while minimizing energy, waste generation, and water consumption.

Building operations and components will be evaluated to minimize consumption. The following are the components to be evaluated:

- Heating/cooling systems and temperature set-points
- Building skin, insulation, and building use and occupancy
- Ventilation
- Lighting and plug loads
- Grounds and property management

Transportation to and from the Site and use of consumables in relation to visiting the Site in order to conduct system checks and collect/ship samples to a laboratory for analyses have direct and inherent energy costs. The schedule and means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces expenditure of energy or resources.

Minimal energy will be expended during the annual groundwater sampling and visual Site inspection.

6.2.3 Metrics and Reporting

As discussed in Section 7.0 and as shown in Appendix G – Site Management Forms, information on energy usage, solid waste generation, transportation and shipping, water usage and land use and ecosystems will be recorded to facilitate and document consistent implementation of green remediation during site management and to identify corresponding benefits. A set of metrics has been developed.

6.3 Remedial System Optimization

A Remedial Site Optimization (RSO) study will be conducted any time that the NYSDEC project manager or the remedial party requests in writing that an in-depth

evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The management and operation of the remedial system is exceeding the estimated costs;
- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Plume shift has potentially occurred;
- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the site management to another remedial party or agency; and
- A new and applicable remedial technology becomes available.

An RSO will provide a critique of a site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the site's cleanup goals, gather additional performance or media specific data and information and provide recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

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 site management inspection, maintenance, and monitoring events will be conducted by a qualified environmental professional as defined in 6NYCRR Part 375, a P.E. who is licensed and registered in New York State, or a qualified person who directly reports to a P.E. who is licensed and registered in New York State.

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 7 and summarized in the Periodic Review Report.

Table 7: Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Inspection Report	Annually
Periodic Review Report	Annually, or as otherwise determined by the NYSDEC

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

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

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);

- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air.);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation);
- 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 NYSDEC project manager beginning sixteen (16) months after the Certificate of Completion is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually to the NYSDEC project manager or at another frequency as may be required by the NYSDEC project manager. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix A -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, fire 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.
- Identification of any wastes generated during the reporting period, along with waste characterization data, manifests, and disposal documentation.
- 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 tables and figures will include a presentation of past data as part of an evaluation of contaminant concentration trends, including but not limited to:

  - Trend monitoring graphs that present groundwater contaminant levels from before the start of the remedy implementation to the most current sampling data;
  - Trend monitoring graphs depicting system influent analytical data on a per event and cumulative basis;
  - O&M data summary tables;
  - A current plume map for sites with remaining groundwater contamination; and
  - A groundwater elevation contour map for each gauging event.

- 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 Remedial Action Work Plan (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;
  - An evaluation of trends in contaminant levels in the affected media to determine if the remedy continues to be effective in achieving remedial goals as specified by the RAWP, ROD or Decision Document; and
  - The overall performance and effectiveness of the remedy.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a qualified environmental professional as defined in 6 NYCRR Part 375 or Professional Engineer licensed to practice and registered in New York State 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 generally accepted engineering practices; and*
- *The information presented in this report is accurate and complete.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Thomas H. Forbes, of 2558 Hamburg Turnpike, Buffalo, NY 14218, am certifying as Owner's Designated Site Representative for the site."

"I certify that the New York State Education Department has granted a Certificate of Authorization to provide Professional Engineering services to the firm that prepared this Periodic Review Report."

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

The signed certification will be included in the Periodic Review Report. The Periodic Review Report will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager. The Periodic Review Report may also need to be submitted in hard-copy format if 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 or failure to conduct site management activities, a Corrective Measures Work Plan will be submitted to the NYSDEC project manager 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 project manager.

7.4 Remedial Site Optimization Report

If an RSO is to be performed (see Section 6.3), upon completion of an RSO, an RSO report must be submitted to the NYSDEC project manager for approval. A general outline for the RSO report is provided in Appendix I. The RSO report will document the research/ investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. A final engineering report and update to the SMP may also be required.

The RSO report will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager.

8.0 REFERENCES

1. NYSDEC. *DER-10 - Technical Guidance for Site Investigation and Remediation.* May 3, 2010.
2. NYSDEC. *6NYCRR Part 375, Environmental Remediation Programs*. December 14, 2006.
3. TurnKey Environmental Restoration, LLC. *Remedial Investigation/Alternatives Analysis Report (RI/AAR), Tecumseh Phase IA Business Park, Tecumseh Redevelopment Inc., Lackawanna, New York*. April 2012, revised May 2018, revised September 2020.
4. TurnKey Environmental Restoration, LLC. *Remedial Investigation/Alternatives Analysis Report (RI/AAR) Work Plan for Tecumseh Phase IA Business Park*. April 2010.
5. Benchmark Environmental Engineering & Science, PLLC. *Pre-Remedial Action Investigation Work Plan, Tecumseh Phase IA Business Park Area, Lackawanna, New York, BCP Site No. C915218*. January 2021.
6. Benchmark Civil/Environmental Engineering & Geology, PLLC. *Final Engineering Report, Tecumseh Phase IA Business Park, Lackawanna, New York, BCP Site No. C915218*. December 2021.
7. New York State Department of Environmental Conservation, Division of Environmental Remediation. *Decision Document, Tecumseh Phase IA Business Park, Brownfield Cleanup Program, Lackawanna, Erie County, Site No. C915218*. March 31, 2021.
8. 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).

TABLES

BENCHMARK

TABLE 2

SUMMARY OF GROUNDWATER ELEVATIONS

Tecumseh Phase IA Business Park - Brownfield Cleanup Program
Sucro Real Estate NY, LLC
Lackawanna, NY

Location	TOR Elevation [1] (fmsl)	2/23/2016		10/11/2021	
		DTW [2] (fbTOR)	GWE [1] (fmsl)	DTW [2] (fbTOR)	GWE [1] (fmsl)
Phase IA Monitoring Wells					
MWN-69A	583.77	7.24	576.53	NM	NM
MWN-70A	584.97	8.61	576.36	NM	NM
MWN-95A	585.56	NA	NA	8.80	576.76
Off-Site Monitoring Wells & Piezometers (used for 2016 isopotential map)					
MW-14A	586.30	5.51	580.79	NM	NM
MW-15A	586.22	4.21	582.01	NM	NM
MW-17A	584.93	6.51	578.42	NM	NM
MWN-64A	584.83	7.82	577.01	NM	NM

Notes:

1. Top of Riser (TOR) elevation and Groundwater Elevation (GWE) are measured in feet; distance above mean sea level (fmsl). Well MWN-95A surveyed by Benchmark on 11/21/2021.

Definitions:

fbTOR = feet below top of riser or casing
fmsl = feet above mean sea level.
NM = not measured.

BENCHMARK

TABLE 3

SUMMARY OF SURFACE SOIL ANALYTICAL DATA ABOVE SCOs

Tecumseh Phase IA Business Park - Brownfield Cleanup Program
Sucro Real Estate NY, LLC
Lackawanna, NY

Parameter [1]	Unrestricted SCO (mg/kg) [2]	Commercial SCO (mg/kg) [2]	April 2007 Sampling Event [3]			June 2010 Sampling Event														
			SS-01	SS-02	SS-03	SS-04	Q[4]	SS-05	SS-06	SS-07	Q	SS-08	Q	SS-09	SS-10	SS-11	SS-12	SS-13	Q	SS-14	SS-15	Q
Volatile Organic Compounds (VOCs) - mg/kg																						
1,2,4-Trimethylbenzene	**3.6**	**190**	--	--	--	--		--	--	--		--		--	--	--	--	0.0067		--	--	
Methylene Chloride	**0.05**	**500**	--	--	--	--		--	--	--		--		--	--	--	--	0.0026 J		--	--	
TOTAL VOCs (mg/kg)	**--**	**--**	--	--	--	--		--	--	--		--		--	--	--	--	*0.0093*		--	--	
Base-Neutral Semi-Volatile Organic Compounds (SVOCs) - mg/kg																						
Acenaphthylene	**100**	**500**	0.88 J	26 D	**300 D**	--		--	--	--		--		--	--	1.4 DJ	--	--		--	--	
Anthracene	**100**	**500**	1.7 J	15 D	**110**	--		--	--	--		--		--	--	1.5 DJ	--	--		--	--	
Benzo(a)anthracene	**1**	**5.6**	**8.9**	**5.1**	**69**	--		--	--	--		--		--	--	**8.1 D**	--	--		--	--	
Benzo(b)fluoranthene	**1**	**5.6**	**15**	**4.3**	**46**	--		--	--	--		--		--	--	**11 D**	--	--		--	--	
Benzo(k)fluoranthene	**0.8**	**56**	**5 J**	**1.5**	**12**	--		--	--	--		--		--	--	**4.5 DJ**	--	--		--	--	
Benzo(g,h,i)perylene	**100**	**500**	9.2	1.8	18	--		--	--	--		--		--	--	6 D	--	--		--	--	
Benzo(a)pyrene	**1**	**1**	**12**	**4.2**	**51**	--		--	--	--		--		--	--	**6.1 D**	--	--		--	--	
Chrysene	**1**	**56**	**9.8**	**4.2**	**50**	--		--	--	--		--		--	--	**14 D**	--	--		--	--	
Dibenzo(a,h)anthracene	**0.33**	**0.56**	**2.3**	**0.52**	**5.3**	--		--	--	--		--		--	--	**1.8 DJ**	--	--		--	--	
Fluoranthene	**100**	**500**	13	16 D	**110**	--		--	--	--		--		--	--	19 D	--	--		--	--	
Indeno(1,2,3-cd)pyrene	**0.5**	**5.6**	**7.8**	**1.5**	**16**	--		--	--	--		--		--	--	**4.4 DJ**	--	--		--	--	
Naphthalene	**12**	**500**	11 J	110 D	**1500 D**	--		--	--	--		--		--	--		--	--		--	--	
Phenanthrene	**100**	**500**	6.1	48 D	**480 D**	--		--	--	--		--		--	--	2.9 DJ	--	--		--	--	
Pyrene	**100**	**500**	11	22 D	**110 J**	--		--	--	--		--		--	--	20 D	--	--		--	--	
TOTAL SVOCs (mg/kg)	**--**	***500***	*114*	*260*	**2877**	--		--	--	--		--		--	--	*101*	--	--		--	--	
Polychlorinated Biphenyls (PCBs) - mg/kg																						
Aroclor 1248	**--**	**--**	ND	ND	ND	ND		ND	ND	0.019 QSU, J	J	ND		--	--	--	ND	ND		ND	0.1 QSU, D, J	NJ
Aroclor 1254	**--**	**--**	0.17 J	ND	ND	0.06 QSU,D,J	NJ	0.06 QSU,D,J	0.11 D,QSU	0.047 QSU, J	J	0.16 D,QSU		--	--	--	0.025 QSU	0.61 D,QSU		0.13 QSU,D,J	0.15 QSU, D, J	J
Aroclor 1260	**--**	**--**	ND	0.24 J	0.37	ND		ND	ND	0.045 QSU, J	J	0.06 QSU, D, J	NJ	--	--	--	0.011 QSU, J	ND		ND	0.34 QSU, D, J	J
TOTAL PCBs (mg/kg)	**0.1**	**1**	***0.17***	***0.24***	***0.37***	*0.055*		*0.064*	***0.11***	***0.111***		***0.217***		--	--	--	*0.036*	***0.61***		***0.13***	***0.59***	
Inorganic Compounds - mg/kg																						
Aluminum	**--**	**--**	--	--	--	--		--	--	--		--		ND	ND	ND	--	5310	J	--	5930	
Arsenic, Total	**13**	**16**	8.6	**54.6**	**13.8**	--		--	--	--		--		**158**	**87.6**	**82.6**	--	4.7		--	5	
Barium, Total	**350**	**400**	63.8	**6630**	80.4	--		--	--	--		--		ND	ND	ND	--	55.2		--	59.4	
Beryllium	**7.2**	**590**	--	--	--	--		--	--	--		--		ND	ND	ND	--	0.725		--	0.823	
Cadmium, Total	**2.5**	**9.3**	1.6	**6.3**	**3.4**	--		--	--	--		--		**56.2**	**29.2**	**246**	--	1.22		--	0.842	
Calcium	**--**	**--**	--	--	--	--		--	--	--		--		ND	ND	ND	--	153000 D		--	177000 D	
Chromium, Total	**1**	**1,500**	**56.2**	**130**	**207**	--		--	--	--		--		**401**	**221**	**237**	--	**381**		--	**430**	
Cobalt	**--**	**--**	--	--	--	--		--	--	--		--		ND	ND	ND	--	3.85		--	3.7	
Copper	**50**	**270**	--	--	--	--		--	--	--		--		ND	ND	ND	--	46.8		--	33.4	
Iron	**--**	**--**	--	--	--	--		--	--	--		--		ND	ND	ND	--	88200 D		--	106000 D	
Lead, Total	**63**	**1,000**	**676**	**373**	**1090**	--		--	--	--		--		**8050**	**7840**	**6630**	--	**80.1**		--	53.6	
Magnesium	**--**	**--**	--	--	--	--		--	--	--		--		ND	ND	ND	--	16700		--	18900	
Manganese	**1600**	**10,000**	--	--	--	--		--	--	--		--		ND	ND	ND	--	**17300 D**		--	**16000 D**	
Mercury, Total	**0.18**	**2.8**	**2.2**	**0.24**	**0.73**	--		--	--	--		--		**280 D**	**320 D**	**216 D**	--	**0.388**		--	**0.249**	
Nickel	**30**	**310**	--	--	--	--		--	--	--		--		ND	ND	ND	--	16.6		--	14.4	
Potassium	**--**	**--**	--	--	--	--		--	--	--		--		ND	ND	ND	--	363		--	263	
Vanadium	**--**	**--**	--	--	--	--		--	--	--		--		ND	ND	ND	--	300		--	336	
Zinc	**109**	**10,000**	--	--	--	--		--	--	--		--		ND	ND	ND	--	**220**		--	**280**	

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. SCO = Soil Cleanup Objective: Unrestricted (Protection of Public Health) and Commercial Use per NYSDEC 6NYCRR Part 375-6.8(b), Final December 2006.
3. Additional SVOCs were detected but at concentrations well below unrestricted use. Samples only analyzed for RCRA Metals.
4. Data qualifiers per third-party Data Usability Summary Report (DUSR)

Acronyms:

ND = Parameter not detected above laboratory detection limit.
" -- " = not analyzed for this parameter or no individual SCO

BOLD = Value exceeds Unrestricted Use SCO
BOLD = Value exceeds Commercial Use SCO
= Removed during hotspot excavation

Laboratory Qualifiers (located next to the sample result):

J = Analyte was detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
D = Dilution required.
ID4 = Benzo(b)fluoranthene coelutes with Benzo(k)fluoranthene. The reported result is a summation of the isomers and the concentration is based on the response factor of Benzo(b)fluoranthene.
B = Analyte was detected in associated Method Blank.
QSU = Sulfur (EPA 3660) clean-up performed on extract.
W1 = Sample was prepared and analyzed utilizing a medium level extraction.

Data Validation Qualifiers (under separate column "Q"):

J = The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
NJ = The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.

BENCHMARK

TABLE 3

SUMMARY OF SUBSURFACE SOIL ANALYTICAL DATA ABOVE SCOs

Tecumseh Phase IA Business Park - Brownfield Cleanup Program
Sucro Real Estate NY, LLC
Lackawanna, NY

Parameter [1]	Unrestricted SCO (mg/kg) [2]	Commercial SCO (mg/kg) [2]	Sample Location and Depth Interval (fbgs)																													
			TP - 1		TP - 2		TP - 3		TP - 4		TP - 5		TP - 6		TP - 7		TP - 8		TP - 9		TP - 10		TP - 11		TP - 12		TP - 13		TP - 14		TP - 15		TP - 16	
			0.5-3.0	Q[3]	0.5-3.5	Q	0.5-2.5	Q	0.5-4.5	Q	0.5-6.0	Q	0.5-6.0	Q	0.5-5.5	Q	0.5-5.5	Q	1.0-5.5	Q	0.0-2.0	Q	0.5-3.0	Q	0.5-6.0	Q	0.5-4.0	Q	0.5-6.0	Q	0.5-6.5	Q	0.5-5.5	Q
Volatile Organic Compounds (VOCs) - mg/kg																																
Acetone	**0.05**	**500**	--		--		--		--		0.0055 J		--		--		--		ND		ND		--		--		--		--		--		--	
Benzene	**0.06**	**44**	--		--		--		--		ND		--		--		--		ND		ND		ND		0.01 J		--		--		ND		--	
1,1-Dichloroethane	**--**	**--**	--		--		--		--		ND		--		--		--		0.077 W1,J	J	ND		--		--		--		--		--		--	
Ethylbenzene	**1**	**390**	--		--		--		--		ND		--		--		--		ND	J	0.056 W1,J		ND		0.023		--		--		ND		--	
n-Butylbenzene	**12**	**500**	--		--		--		--		ND		--		--		--		ND	J	ND		1.5 D		0.04		--		--		ND		--	
sec-Butylbenzene	**11**	**500**	--		--		--		--		ND		--		--		--		0.085 W1,J	J	ND		ND		ND		--		--		ND		--	
Isopropylbenzene	**--**	**--**	--		--		--		--		ND		--		--		--		ND	J	ND		ND		0.0076 J		--		--		0.0059 J		--	
p-Cymene	**--**	**--**	--		--		--		--		ND		--		--		--		0.12 W1	J	ND		ND		ND		--		--		ND		--	
n-Propylbenzene	**3.9**	**500**	--		--		--		--		ND		--		--		--		ND	J	ND		ND		ND		--		--		0.002 J		--	
Styrene	**--**	**--**	--		--		--		--		ND		--		--		--		ND		0.23 W1		--		--		--		--		--		--	
Toluene	**0.7**	**500**	--		--		--		--		ND		--		--		--		ND	J	0.24 W1		**2.5 D**		0.056		--		--		0.025		--	
1,1,1-Trichloroethane	**--**	**--**	--		--		--		--		ND		--		--		--		0.13 W1	J	ND		--		--		--		--		--		--	
Trichloroethene	**--**	**--**	--		--		--		--		ND		--		--		--		0.34 W1	J	1.8 W1		--		--		--		--		--		--	
1,2,4-Trimethylbenzene	**3.6**	**190**	--		--		--		--		ND		--		--		--		0.79 W1	J	0.85 W1		**8.1 D**		0.057		--		--		0.041		--	
1,3,5-Trimethylbenzene	**8.4**	**190**	--		--		--		--		ND		--		--		--		0.29 W1	J	0.36 W1		4 D		0.018		--		--		0.012		--	
o-Xylene	**0.26**	**500**	--		--		--		--		ND		--		--		--		0.18 W1	J	**0.33 W1**		**3.1 D**		0.047		--		--		0.035		--	
m-Xylene	**0.26**	**500**	--		--		--		--		ND		--		--		--		0.13 W1,J	J	**0.69 W1**		--		--		--		--		--		--	
Xylenes, Total	**--**	**500**	--		--		--		--		ND		--		--		--		0.3 W1	J	1 W1		11 D		0.14		--		--		0.08		--	
Naphthalene	**--**	**500**	--		--		--		--		--		--		--		--		--		--		260 BD		0.85 B		--		--		0.2 B		--	
Methylcyclohexane	**--**	**--**	--		--		--		--		ND		--		--		--		ND	J	0.14 W1		--		--		--		--		--		--	
Methyl tert butyl ether	**0.93**	**500**	--		--		--		--		ND		--		--		--		ND		ND		ND		0.021		--		--		ND		--	
Methylene Chloride	**0.05**	**500**	--		--		--		--		0.0067		--		--		--		ND		ND		ND		--		--		--		--		--	
TOTAL VOCs (mg/kg)	**--**	**--**	**--**		***--***		***--***		***--***		***0.0122***		***--***		***--***		***--***		***2.14***		***4.70***		***279***		***1.13***		***--***		***--***		***0.321***		***--***	
Base-Neutral Semi-Volatile Organic Compounds (SVOCs) - mg/kg																																
Acenaphthene	**20**	**500**	ND		ND		ND		ND		ND		ND		9.2 DJ		ND		1.1 DJ	J	1.2 DJ		6.5 DJ		6.6 DJ		0.11 DJ		ND		ND		0.14 DJ	
Acenaphthylene	**100**	**500**	0.081 DJ		0.35 DJ		ND		0.31 DJ		ND		0.16 J		18 DJ		ND		1 DJ	J	7.2 D		47 D		57 D		0.74 DJ		0.34 DJ		0.48 DJ		0.43 DJ	
Anthracene	**100**	**500**	0.046 DJ		0.28 DJ		ND		0.31 DJ		0.2 DJ		0.026 J		48 D		0.065 DJ		1.7 DJ	J	8.4 D		47 D		76 D		0.7 DJ		0.39 DJ		0.29 DJ		0.42 DJ	
Benzo(a)anthracene	**1**	**5.6**	0.44 DJ		**1.9 D**		0.19 DJ		**1.5 DJ**		**1.4 DJ**		0.18 J		**77 D**		0.41 DJ		**4.2 DJ**	J	**13 D**		**66 D**		**170 D**		**3.7 D**		**1.6 D**		**2.2 D**		**2.3 D**	
Benzo(b)fluoranthene	**1**	**5.6**	0.74 DJ		**2.4 D**		0.23 DJ		**1.6 D,ID4,J**		**1.6 DJ**		0.36		**75 D**		0.48 DJ		**7.2 DJ**	J	**11 D**		**60 D**		**150 D**		**5.2 D**		**2 D**		**3 D**		**3.3 D**	
Benzo(k)fluoranthene	**0.8**	**56**	0.22 DJ		**2.7 D**		0.065 DJ		ND		0.58 DJ		0.13 J		**83 D**		0.31 DJ		**8 DJ**	J	**12 D**		**67 D**		**170 D**		**1.8 D**		0.67 DJ		**1.1 D**		**1 DJ**	
Benzo(g,h,i)perylene	**100**	**500**	0.32 DJ		0.55 DJ		0.09 DJ		0.4 DJ		1.4 DJ		0.32		18 DJ		0.45 DJ		3 DJ	J	2.9 DJ		15 DJ		31 D		3.4 D		1.4 D		1.9 D		1.9 DJ	
Benzo(a)pyrene	**1**	**1**	0.56 DJ		**1.4 DJ**		0.17 DJ		**1.1 DJ**		**1.4 DJ**		0.32		**50 D**		0.44 DJ		**5.3 DJ**	J	**8.3 D**		**41 D**		**110 D**		**4.2 D**		**1.7 D**		**2.6 D**		**2.5 D**	
Benzyl alcohol	**--**	**--**	ND		ND		ND		ND		ND		ND		ND		ND		ND		0.39 DJ		ND		ND		ND		ND		ND		ND	
Chrysene	**1**	**56**	0.47 DJ		**1.9 D**		0.17 DJ		**1.4 DJ**		**1.7 DJ**		0.21		**71 D**		0.65 DJ		**4.4 DJ**	J	**12 D**		**61 D**		**140 D**		**3.4 D**		**1.4 D**		**2**		**2 D**	
2-Chloronaphthalene	**--**	**--**	ND		ND		ND		ND		ND		ND		ND		ND		ND		0.25 DJ		ND		ND		ND		ND		ND		ND	
4-Chloroaniline	**--**	**--**	ND		ND		ND		ND		ND		ND		13 DJ		ND		ND		9.1 D		61 D		ND		ND		ND		ND		ND	
Dibenzo(a,h)anthracene	**0.33**	**0.56**	ND		0.2 DJ		ND		0.13 DJ		**0.34 DJ**		0.075 J		**7.4 DJ**		0.14 DJ		ND		**1 DJ**		**5.4 DJ**		**13 DJ**		ND		ND		**0.57 DJ**		ND	
Dibenzofuran	**7**	**350**	ND		ND		ND		ND		ND		0.034 J		30 DJ		ND		ND		6.8 D		40 D		19 DJ		0.14 DJ		0.1 DJ		0.067 DJ		0.17 DJ	
2,4-Dichlorophenol	**--**	**--**	ND		ND		ND		ND		ND		ND		ND		ND		6.8 DJ	J	ND		ND		ND		ND		ND		ND		ND	
Di-n-octyl phthalate	**--**	**--**	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		0.85 DJ		ND		ND		ND		ND	
Fluoranthene	**100**	**500**	0.52 DJ		2.4 D		0.28 DJ		2.8 D		2 DJ		0.14 J		**170 D**		0.57 DJ		4.4 DJ	J	25 D		**120 D**		**330 D**		6.6 D		3.2 D		2.8 D		3.1 D	
Fluorene	**30**	**500**	ND		ND		ND		0.093 DJ		ND		ND		**61 D**		ND		ND	J	10 D		**55 D**		**46 D**		1.6 DJ		0.076 DJ		ND		0.19 DJ	
Indeno(1,2,3-cd)pyrene	**0.5**	**5.6**	0.29 DJ		**0.52 DJ**		0.083 DJ		0.4 DJ		**1 DJ**		0.28		**19 DJ**		0.41 DJ		ND	J	**2.3 DJ**		**14 DJ**		**31 D**		**2.8 DJ**		**1.1 D**		**1.7 D**		**1.7 DJ**	
2-Methylnaphthalene	**--**	**--**	ND		0.084 DJ		0.037 DJ		ND		ND		0.082 J		21 DJ		ND		ND		11 D		77 D		ND		0.1 DJ		0.037 DJ		0.091 DJ		0.15 DJ	
Naphthalene	**12**	**500**	ND		0.11 DJ		ND		0.16 DJ		ND		0.069 J		**41 D**		ND		ND		**29 D**		**200 D**		6.5 DJ		0.31 DJ		0.1 DJ		0.12 DJ		0.32 DJ	
4-Nitrophenol	**--**	**--**	ND		ND		ND		ND		ND		ND		ND		ND		25 DJ	J	ND		ND		ND		ND		ND		ND		ND	
N-Nitrosodiphenylamine	**--**	**--**	ND		ND		ND		ND		ND		ND		ND		ND		1.2 DJ	J	0.54 DJ		1.6 DJ		ND		ND		ND		ND		ND	
Phenanthrene	**100**	**500**	0.14 DJ		0.39 DJ		0.16 DJ		1.2 DJ		0.98 DJ		0.1 J		**250 D**		0.3 DJ		3.9 DJ	J	31 D		**170 D**		**240 D**		2.6 D		1.9 D		1.1 D		1.5 DJ	
Pyrene	**100**	**500**	0.55 DJ		2.3 D		0.24 DJ		2.6 D		2.2 D		0.14 J		**130 D**		0.62 DJ		5.2 DJ	J	22 D		**100 D**		**240 D**		5.6 D		2.6 D		2.3 D		2.8 D	
TOTAL SVOCs (mg/kg)	**--**	***500***	***4.38***		***17.5***		***1.72***		***14.0***		***14.8***		***2.63***		***1,192***		***4.85***		***82.4***		***224***		***1,255***		***1,837***		***43***		***18.6***		***22.3***		***23.9***	
Polychlorinated Biphenyls (PCBs) - mg/kg																																
Aroclor 1260	**--**	**--**	ND		ND		ND		ND		0.22 D,QSU		ND		ND		ND		ND		ND		ND		0.03		0.027		ND		ND			
TOTAL PCBs (mg/kg)	**0.1**	**1**	***0***		***0***		***0***		***0***		***0.22***		***0***		***0***		***0***		***0***		***0***		***0***		***0***		***0.03***		***0.027***		***0***		***0***	
Inorganic Compounds - mg/kg																																
Aluminum	**--**	**--**	ND		ND		ND		ND		14900	J	ND		ND		ND		2990	J	ND		ND		ND		ND		ND		ND		ND	
Arsenic, Total	**13**	**16**	ND		**120**		ND		**17.8 J**		**36.3**		**14.7**		**31.9**		**15.2**		**14.6**	J	**20.6**		**25.6**		**30.5**		**18.7**		**21.3**		**30.8**		**17.4**	
Barium, Total	**350**	**400**	ND		ND		ND		ND		155	J	ND		ND		ND		72.3	J	ND		ND		ND		ND		ND		ND		ND	
Beryllium	**7.2**	**590**	ND		ND		ND		ND		2.49		ND		ND		ND		0.577	J	ND		ND		ND		ND		ND		ND		ND	
Cadmium, Total	**2.5**	**9.3**	ND		1.1		ND		1.12 J		1.68		0.75		2.35		**6.86**		0.679	J	1.26		**7.49**		**8.99**		2.47		1.26		**2.54**		**3.55**	
Calcium	**--**	**--**	ND		ND		ND		ND		134000 D	J	ND		ND		ND		8130	J	ND		ND		ND		ND		ND		ND		ND	
Chromium, Total	**1**	**1,500**	**7.96**	J	**25.2**	J	**6.88**	J	**32 J**	J	**26.2**	J	**8.28**	J	**58.9**	J	**164**	J	**28.8**	J	**49.5**	J	**71.2**	J	**64.2**	J	**76.4**	J	**75.8**	J	**97.4**	J	**55.4**	J
Cobalt	**--**	**--**	ND		ND		ND		ND		5.78		ND		ND		ND		4.95	J	ND		ND		ND		ND		ND		ND		ND	
Copper	**50**	**270**	ND		ND		ND		ND		**57.9**		ND		ND		ND		31.2	J	ND		ND		ND		ND		ND		ND		ND	
Iron	**--**	**--**	ND		ND		ND		ND		118000 D		ND		ND		ND		31800	J	ND		ND		ND		ND		ND		ND		ND	
Lead, Total	**63**	**1,000**	21.3	J	**111**	J	12.6	J	**91.1 J**	J	**180**		44.8	J	**258**	J	**542**	J	46.4	j	**825**	J	**496**	J	**775**	J	**434**	J	**2530**	J	**531**	J	**351**	J
Magnesium	**--**	**--**	ND		ND		ND		ND		31700		ND		ND		ND		1360	J	ND		ND		ND		ND		ND		ND		ND	
Manganese	**1600**	**10,000**	ND		ND		ND		ND		**3580 BD**		ND		ND		ND		1230	J	ND		ND		ND		ND		ND		ND		ND	
Mercury, Total	**0.18**	**2.8**	0.0658		0.141		ND		**0.245 J**		**0.467**		0.11 D		**0.925 D**		**6.05 D**		**0.286**	J	**17.7 D**		**13.6 D**		**30.5 D**		**1.47 D**		**1.5 D**		**0.261**		**0.587**	
Nickel	**30**	**310**	ND		ND		ND		ND		12.2		ND		ND		ND		10.6	J	ND		ND		ND		ND		ND		ND		ND	
Sodium	**--**	**--**	ND		ND		ND		ND		495		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Cyanide, Total	**27**	**27**	ND		ND		ND		ND		1.5		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	

BENCHMARK

TABLE 3

SUMMARY OF SUBSURFACE SOIL ANALYTICAL DATA ABOVE SCOs

Tecumseh Phase IA Business Park - Brownfield Cleanup Program
Sucro Real Estate NY, LLC
Lackawanna, NY

Parameter [1]	Unrestricted SCO (mg/kg) [2]	Commercial SCO (mg/kg) [2]	Sample Location and Depth Interval (fbgs)																											
			TP - 1		TP - 2		TP - 3		TP - 4		TP - 5		TP - 6		TP - 7		TP - 8		TP - 9		TP - 10		TP - 11		TP - 12		TP - 13		TP - 14		TP - 15		TP - 16	
			0.5-3.0	Q[3]	0.5-3.5	Q	0.5-2.5	Q	0.5-4.5	Q	0.5-6.0	Q	0.5-6.0	Q	0.5-5.5	Q	0.5-5.5	Q	1.0-5.5	Q	0.0-2.0	Q	0.5-3.0	Q	0.5-6.0	Q	0.5-4.0	Q	0.5-6.0	Q	0.5-6.5	Q	0.5-5.5	Q
TCLP - mg/L		--																														
Trichloroethene	**0.5**	**0.5**	--		--		--		--		--		--		--		--		0.0068 DJ		--		--		--		--		--		--		--	
Barium, Total	**100**	**100**	--		--		--		--		--		--		--		--		0.478 B1, B		--		--		--		--		--		--		--	
Cadmium, Total	**1**	**1**	--		--		--		--		--		--		--		--		0.01		--		--		--		--		--		--		--	
Chromium, Total	**5**	**5**	--		--		--		--		--		--		--		--		0.0079 BT, B		--		--		--		--		--		--		--	
Lead, Total	**5**	**5**	--		--		--		--		--		--		--		--		0.178 BT, B		--		--		--		--		--		--		--	
Flashpoint (^{0}F)	**--**	**--**	--		--		--		--		--		--		--		--		>176		--		--		--		--		--		--		--	

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. SCO = Soil Cleanup Objective: Unrestricted (Protection of Public Health) and Commercial Use per NYSDEC 6NYCRR Part 375-6.8(b), Final December 2006.
3. Data qualifiers per third-party Data Usability Summary Report (DUSR)

Acronyms:
ND = Parameter not detected above laboratory detection limit.
" -- " = not analyzed for this parameter or no individual SCO

BOLD = Value exceeds Unrestricted SCO
BOLD = Value exceeds Commercial Use SCO
= Removed during hotspot excavation

Laboratory Qualifiers (located next to the sample result):
J = Analyte was detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
D = Dilution required.
ID4 = Benzo(b)fluoranthene coelutes with Benzo(k)fluoranthene. The reported result is a summation of the isomers and the concentration is based on the response factor of Benzo(b)fluoranthene.
B = Analyte was detected in associated Method Blank.
QSU = Sulfur (EPA 3660) clean-up performed on extract.
W1 = Sample was prepared and analyzed utilizing a medium level extraction.

Data Validation Qualifiers (under separate column "Q"):
J = The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.

BENCHMARK

TABLE 3

SUMMARY OF HOTSPOT B DELINEATION SOIL/FILL ANALYTICAL DATA ABOVE SCOs

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NY

Parameter [1]	Unrestricted SCOs[2] (mg/kg)	Commercial SCOs[2] (mg/kg)	Hotspot B Delineation Sample Locations (BPIA-TP-10)							
			EAST			SOUTH				COMPOSITE
			BPIA-TP-10 SW10FT-E1	BPIA-TP-10 STEP-OUT	BPIA-TP-10 BTM15FT-1	BPIA-TP-10 SW20FT-S1	BPIA-TP-10 STEP-OUT	BPIA-TP-10 BTM20FT-1	BPIA-TP-10 COMP
			10FT	NA	15FT	20FT	NA	40FT	40FT	
			0.5-3.5'	[3]	3'	0.5-4'	[3]	4'	
			1/26/21		3/9/21	1/26/21		3/9/21		1/26/21
TAL Metals - mg/kg										
Mercury	**0.18**	**2.8**	**5.1**		**4.4**			**5.3**	**4.5**	NA
TCLP Metals - mg/L										
Mercury	**0.2**	**0.2**	NA		NA			NA	NA	0.00017 J

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 Part 375 Soil Cleanup Objectives (SCOs).
3. No additional 5-foot step out bottom sample was required for the TP-10 delineation area.

Definitions:

NA = Sample not analyzed for parameter.

J = Estimated value; result is less than the sample quantitation limit but greater than zero.

BOLD	Result exceeds Unrestricted SCO
BOLD	Result exceeds Commercial SCO
	Removed during hotspot excavation

BENCHMARK

TABLE 3

SUMMARY OF HOTSPOT B DELINEATION SOIL/FILL ANALYTICAL DATA ABOVE SCOs

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NY

Parameter [1]	Unrestricted SCOs[2] (mg/kg)	Commercial SCOs[2] (mg/kg)	Hotspot B Delineation Sample Locations (BPIA-TP-11)								
			WEST (NORTH)	WEST (CENTER)				WEST (SOUTH)		SOUTH		COMPOSITE
			BPIA-TP-11 SW10FT-W1	BPIA-TP-11 SW10FT-W2	BD-3	BPIA-TP-11 BTM10FT-1	BPIA-TP-11 SW15FT-W5	BPIA-TP-11 SW10FT-W3	BPIA-TP-11 SW15FT-W6	BPIA-TP-11 SW10FT-S1	BPIA-TP-11 BTM10FT-2	BPIA-TP-10 COMP
			10FT	10FT	W2 10FT	10FT	15FT	10FT	15FT	10FT	10FT	
			0.5-6'	0.5-6'	0.5-6'	6'	0.5-6'	0.5-6'	0.5-6'	0.5-4.5'	4.5'	
						1/26/21						
TCL Semi-Volatile Organic Compounds (SVOCs) - mg/kg [3]												
Acenaphthene	**20**	**500**	0.16 J			0.25 J	ND		ND	ND	ND	NA
Acenaphthylene	**100**	**500**	0.63 J			6.8	1.2		ND	1.5 J	1 J	NA
Anthracene	**100**	**500**	0.84 J			7.1	1.4		ND	0.98 J	1.6 J	NA
Benzo(a)anthracene	**1**	**5.6**	**2.4**			**19**	**6.2**		ND	**4.4**	**3.4 J**	NA
Benzo(a)pyrene	**1**	**1**	**2.3**			**16**	**6.8**		0.21 J	**5.1**	**5.5**	NA
Benzo(b)fluoranthene	**1**	**5.6**	**3**			**22**	**9.4**		0.41 J	**8.1**	**5.9**	NA
Benzo(g,h,i)perylene	**100**	**500**	0.8 J			4.5	2.5		0.3 J	3.2 J	5.1	NA
Benzo(k)fluoranthene	**0.8**	**56**	**1.3**	4.5 J F1		**9.3**	**4.1**	31	0.21 J	**3.2 J**	**1.3 J**	NA
Carbazole	**--**	**--**	0.22 J			0.67 J	0.35 J		ND	ND	ND	NA
Chrysene	**1**	**56**	**2.4**	8.6 J F2		**17**	**6.7**	50	ND	**4.7**	**4.2 J**	NA
Dibenz(a,h)anthracene	**0.33**	**0.56**	**0.34 J**			**2**	**0.73 J**		ND	**0.78 J**	ND	NA
Dibenzofuran	**7**	**350**	ND			0.73 J	ND		ND	ND	ND	NA
Fluoranthene	**100**	**500**	4.4		250	45 DL	10		0.22 J	7	8.1	NA
Fluorene	**30**	**500**	0.25 J			2.7	0.2 J		ND	ND	1 J	NA
Indeno(1,2,3-cd)pyrene	**0.5**	**5.6**	**0.81 J**	3.7 J F1 F2		**5**	**2.5**		0.24 J	**2.1 J**	**2.2 J**	NA
Naphthalene	**12**	**500**	ND			0.24 J	ND		ND	ND	ND	NA
Phenanthrene	**100**	**500**	2.4			17	3.5		ND	1.7 J	7	NA
Pyrene	**100**	**500**	3.4		170	26	8.1		0.18 J	5.3	6.6	NA
TAL Metals - mg/kg												
Mercury	**0.18**	**2.8**	**4.3**	0.73 F1		**1.2**	NA	1	NA	**0.51**	**0.76**	NA
TCLP Metals - mg/L												
Mercury	**0.2**	**0.2**	NA			NA	NA		NA	NA	NA	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 Part 375 Soil Cleanup Objectives (SCOs).
3. Sample results were reported by the laboratory in micograms per kilogram (ug/kg) and converted to milligram per kilogram (mg/kg) for comparison to SCOs.

Definitions:

ND = Parameter not detected above laboratory detection limit.
NA = Sample not analyzed for parameter.
"--" = No SCO available.

J = Estimated value; result is less than the sample quantitation limit but greater than zero.
F1 = MS and/or MSD Recovery is outside acceptance limits.
F2 = MS/MSD RPD exceeds control limits.

BOLD	Result exceeds Unrestricted SCO
BOLD	Result exceeds Commercial SCO
	Removed during hotspot excavation

BENCHMARK

TABLE 3

SUMMARY OF HOTSPOT B DELINEATION SOIL/FILL ANALYTICAL DATA ABOVE SCOs

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NY

Parameter [1]	Unrestricted SCOs[2] (mg/kg)	Commercial SCOs[2] (mg/kg)	Hotspot B Delineation Sample Locations (BPIA-TP-12)												
			EAST (NORTH)			EAST (SOUTH)	NORTH (EAST)				NORTH (WEST)		NORTH		COMPOSITE
			BPIA-TP-12 SW15FT-E1	BPIA-TP-12 BTMHDPT-1	BPIA-TP-12 SW15FT-E3	BPIA-TP-12 SW10FT-E2	BPIA-TP-12 SWMHDPT-1	BPIA-TP-12 BTMHDPT-2	BPIA-TP-12 SW10FT-E3	BPIA-TP-12 BTMHDPT-3	BPIA-TP-12 SW10FT-E1	BPIA-TP-12 SW10FT-E4	BPIA-TP-12 SWMHDPT-2	BPIA-TP-12 BTMHDPT-4	BPIA-TP-12 COMP
			10FT	4FT	15FT	10FT	10FT	4FT	10FT	4FT	10FT	10FT	10FT	4FT	
			0.5-4.5'	4.5'	0.5-3.5'	0.5-4.5'	0.5-4.5'	4'	0.5-4.5'	4'	0.5-4.5'	0.5-4.5'	0.5-4.5'	4'	
			1/26/21										3/9/21		1/26/21
TCL Semi-Volatile Organic Compounds (SVOCs) - mg/kg [3]															
2,4-Dimethylphenol	--	--			NA	ND									NA
2-Methylnaphthalene	--	--			NA	0.35 J									NA
2-Methylphenol	--	--			NA	ND									NA
4-Methylphenol	--	--			NA	ND									NA
Acenaphthene	**20**	**500**			NA	4.1							62	42 DL	NA
Acenaphthylene	**100**	**500**			NA	2.8									NA
Anthracene	**100**	**500**			NA	10							110		NA
Benzo(a)anthracene	**1**	**5.6**			NA	**22**									NA
Benzo(a)pyrene	**1**	**1**			NA	**20**									NA
Benzo(b)fluoranthene	**1**	**5.6**			NA	**28**									NA
Benzo(g,h,i)perylene	**100**	**500**			NA	6.4									NA
Benzo(k)fluoranthene	**0.8**	**56**	7.5	9.8	NA	**13**	23	12	16		10	15			NA
Biphenyl	--	--			NA	ND									NA
Bis(2-ethylhexyl) phthalate	--	--			NA	ND									NA
Carbazole	--	--			NA	3.1									NA
Chrysene	**1**	**56**	11	15	NA	**22**	35	21	25		32	33			NA
Dibenz(a,h)anthracene	**0.33**	**0.56**			NA	**2.3**									NA
Dibenzofuran	**7**	**350**			NA	1.9	12		9.3		10	8.4	60	43 DL	NA
Fluoranthene	**100**	**500**			NA	52					140 DL		300	300 DL	NA
Fluorene	**30**	**500**			NA	3.9							81	50 DL	NA
Indeno(1,2,3-cd)pyrene	**0.5**	**5.6**	4.8	4.5	NA	**6.9**									NA
Naphthalene	**12**	**500**			NA	0.89 J	24						440	74 DL	NA
Phenanthrene	**100**	**500**			NA	27							440	320 DL	NA
Phenol	**0.33**	**500**			NA	ND					0.4 J			1.9 J	NA
Pyrene	**100**	**500**			NA	40							410	250 DL	NA
TAL Metals - mg/kg															
Mercury	**0.18**	**2.8**			**3.7**	**3.2**									NA
TCLP Metals - mg/L															
Mercury	**0.2**	**0.2**			NA	NA									0.0023

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 Part 375 Soil Cleanup Objectives (SCOs).
3. Sample results were reported by the laboratory in micograms per kilogram (ug/kg) and converted to milligram per kilogram (mg/kg) for comparison to SCOs.

Definitions:

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

BOLD	Result exceeds Unrestricted SCO
BOLD	Result exceeds Commercial SCO
	Removed during hotspot excavation

BENCHMARK

TABLE 3

SUMMARY OF HOTSPOT C DELINEATION SOIL/FILL ANALYTICAL DATA ABOVE SCOs

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NY

Parameter [1]	Unrestricted SCOs[2] (mg/kg)	Commercial SCOs[2] (mg/kg)	Hotspot C Delineation Sample Locations (BPIA-TP-7)				
			NORTH		SOUTH	EAST	WEST
			BPIA-TP-7 SW10FT-N	BPIA-TP-7 BTM10FT-1	BPIA-TP-7 SW10FT-S	BPIA-TP-7 SW10FT-E	BPIA-TP-7 SW10FT-W
			10FT	10FT	10FT	10FT	10FT
			0.5-5.5'	5.5'	0.5-5.5'	0.5-5.5'	0.5-5.5'
			1/25/21				
TCL Semi-Volatile Organic Compounds (SVOCs) - mg/kg [3]							
2-Methylnaphthalene	--	--	ND	ND	ND	0.19 J	0.33 J
Acenaphthene	**20**	**500**	ND	0.15 J	0.2 J	0.22 J	0.44 J
Acenaphthylene	**100**	**500**	1.2	1.3	2.3	3.1	3
Anthracene	**100**	**500**	0.98 J	1.9	1.7	2.5	3.6
Benzo(a)anthracene	**1**	**5.6**	**2.9**	**4.7**	**6**	**9.1**	**10**
Benzo(a)pyrene	**1**	**1**	**3.3**	**4.8**	**7.5**	**10**	**9.5**
Benzo(b)fluoranthene	**1**	**5.6**	**4.8**	**6.9**	**10**	**12**	**12**
Benzo(g,h,i)perylene	**100**	**500**	2	2.2	4.3	5.3	4
Benzo(k)fluoranthene	**0.8**	**56**	**1.6**	**2.5**	**3.3**	**6.0**	**4.5**
Carbazole	--	--	0.26 J	0.61 J	0.46 J	0.63 J	0.85 J
Chrysene	**1**	**56**	**3.2**	**4.4**	**6.2**	**8.8**	**8.7**
Dibenz(a,h)anthracene	**0.33**	**0.56**	**0.69 J**	**0.74 J**	**1.3**	**1.6**	**1.5**
Dibenzofuran	**7**	**350**	ND	0.2 J	0.13 J	0.17 J	0.6 J
Fluoranthene	**100**	**500**	5.1	8.4	11	16	18
Fluorene	**30**	**500**	0.17 J	0.27 J	0.2 J	0.45 J	1.5
Indeno(1,2,3-cd)pyrene	**0.5**	**5.6**	**2.0**	**2.2**	**4.2**	**5.3**	**4.3**
Naphthalene	**12**	**500**	ND	0.21 J	0.22 J	0.24 J	0.48 J
Phenanthrene	**100**	**500**	2.1	3.5	3.5	5.2	10
Pyrene	**100**	**500**	4.3	6.5	8.7	13	13

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 Part 375 Soil Cleanup Objectives (SCOs).
3. Sample results reported by laboratory in micograms per kilogram (ug/kg) and converted to milligram per kilogram (mg/kg) for comparison to SCOs.

Definitions:

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

BOLD	Result exceeds Unrestricted SCO
BOLD	Result exceeds Commercial SCO

BENCHMARK

TABLE 3

SUMMARY OF HOTSPOT D DELINEATION SOIL/FILL ANALYTICAL DATA ABOVE SCOs

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NY

Parameter [1]	Unrestricted SCOs[2] (mg/kg)	Commercial SCOs[2] (mg/kg)	Hotspot D Delineation Sample Locations (BPIA-SS-03)						
			NORTH			SOUTH	EAST	WEST	COMPOSITE
			BPIA-SS-03 SW10FT-N	BD-1	BPIA-SS-03 BTM10FT-1	BPIA-SS-03 SW10FT-S	BPIA-SS-03 SW10FT-E	BPIA-SS-03 SW10FT-W	BPIA-SS-03 COMP
			10FT	10FT	10TF	10FT	10FT	10FT	
			0-2"	0-2"	2"	0-2"	0-2"	0-2"	
			1/25/21						
TCL Semi-Volatile Organic Compounds (SVOCs) - mg/kg [3]									
Anthracene	**100**	**500**	ND	0.29 J	ND	ND	ND	ND	ND
Atrazine	**--**	**--**	ND	ND	ND	ND	0.27 J	ND	ND
Benzo(a)anthracene	**1**	**5.6**	0.66 J	0.74 J	ND	0.24 J	**1.1**	0.44 J	ND
Benzo(a)pyrene	**1**	**1**	0.68 J	0.78 J	ND	0.32 J	**1.1**	0.5 J	ND
Benzo(b)fluoranthene	**1**	**5.6**	0.76 J	**1.2**	ND	0.35 J	**1.5**	0.6 J	ND
Benzo(g,h,i)perylene	**100**	**500**	0.41 J	0.38 J	ND	0.24 J	0.56 J	0.25 J	ND
Benzo(k)fluoranthene	**0.8**	**0.8**	0.49 J	0.35 J	ND	0.16 J	**0.89 J**	0.31 J	ND
Carbazole	**--**	**--**	ND	ND	ND	ND	0.13 J	ND	ND
Chrysene	**1**	**56**	0.69 J	0.83 J	ND	0.29 J	**1.3**	0.52 J	ND
Dibenz(a,h)anthracene	**0.33**	**0.56**	ND	ND	ND	ND	0.19 J	ND	ND
Fluoranthene	**100**	**500**	1.2	1.4	1.9 J	0.4 J	2.1	0.87 J	ND
Indeno(1,2,3-cd)pyrene	**0.5**	**5.6**	0.36 J	0.31 J	ND	0.14 J	**0.51 J**	0.25 J	ND
Phenanthrene	**100**	**500**	0.81 J	0.9 J	ND	0.27 J	0.96 J	0.51 J	ND
Pyrene	**100**	**500**	1	1	1.3 J	0.29 J	1.6	0.67 J	ND
TAL Metals - mg/kg									
Arsenic	**13**	**16**	4.4	4.4	4.2	2.5	5.7	5.8	NA
Cadmium	**2.5**	**9.3**	1.3	2.3	0.86	1.4	0.44	0.4	NA
Lead	**63**	**1,000**	**95.7 F1**	**80.5**	62.7	41.1	**175**	41.9	NA
Mercury	**0.18**	**2.8**	**0.49 F1 F2**	0.064	**0.4**	0.07	**0.35**	0.17	NA
TCLP Metals - mg/L									
Arsenic	**5**	**5**	NA	NA	NA	NA	NA	NA	ND
Cadmium	**1**	**1**	NA	NA	NA	NA	NA	NA	ND
Lead	**5**	**5**	NA	NA	NA	NA	NA	NA	0.014 J
Mercury	**0.2**	**0.2**	NA	NA	NA	NA	NA	NA	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 Part 375 Soil Cleanup Objectives (SCOs).
3. Sample results were reported by the laboratory in micograms per kilogram (ug/kg) and converted to milligram per kilogram (mg/kg) for comparison to SCOs.

Definitions:

ND = Parameter not detected above laboratory detection limit.
NA = Sample not analyzed for parameter.
"--" = No SCO available.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
F1 = MS and/or MSD Recovery is outside acceptance limits.
F2 = MS/MSD RPD exceeds control limits.

BOLD	Result exceeds Unrestricted SCO
BOLD	Result exceeds Commercial SCO

BENCHMARK

TABLE 3

SUMMARY OF HOTSPOT E DELINEATION SOIL/FILL ANALYTICAL DATA ABOVE SCOs

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NY

Parameter [1]	Unrestricted SCOs[2] (mg/kg)	Commercial SCOs[2] (mg/kg)	Hotspot E Delineation Sample Locations (BPIA-SS-09)														
			NORTH			SOUTH								EAST	WEST		COMPOSITE
			BPIA-SS-09 SW10FT-N	BD-5	BPIA-SS-09 BTM15FT-2	BPIA-SS-09 SW10FT-S	BPIA-SS-09 BTM10FT-1	BPIA-SS-09 SW10FT-3	BPIA-SS-09 BTM15FT-1	BPIA-SS-09 BTM15FT-3	BPIA-SS-09 SW20FT-3	BPIA-SS-09 SW30FT-S	BPIA-SS-09 SW30FT-3	BPIA-SS-09 SW40FT-S	BPIA-SS-09 SW10FT-E	BPIA-SS-09 SW10FT-W	BPIA-SS-09 SW11.7FT-W	BPIA-SS-09 COMP
			10FT	10FT	15FT	10FT	10FT	10FT	10FT	15FT	20FT	30FT	30FT	40FT	10FT	10FT	11.7FT	
			0-2"	0-2"	2"	0-2"	0-2"	0-2"	0-2"	4"	0-2"	0-2"	0-2"	0-4"	0-2"	0-2"	0-2"	
						1/25/21				3/9/21			3/25/21			1/25/21		
TAL Metals - mg/kg																		
Arsenic	**13**	**16**	**18.9 F1**	10.6	NA					NA				NA	8.5		NA	NA
Cadmium	**2.5**	**9.3**	**7**	**4.1**	NA	4	2.8			NA				NA	2.2		NA	NA
Lead	**63**	**1,000**	**1320 F2**	**365**	NA	689				NA				NA	**919**		**1210**	NA
Mercury	**0.18**	**2.8**	**1.9 F2**	**0.45**	**0.65**					**4**				**5.3**	**4.9**		**0.4**	NA
TCLP Metals - mg/L																		
Arsenic	**5**	**5**	NA	NA	NA					NA				NA	NA		NA	0.0056 J
Cadmium	**1**	**1**	NA	NA	NA					NA				NA	NA		NA	0.0011 J
Lead	**5**	**5**	NA	NA	NA					NA				NA	NA		NA	0.034
Mercury	**0.2**	**0.2**	NA	NA	NA					NA				NA	NA		NA	0.00028

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 Part 375 Soil Cleanup Objectives (SCOs).

Definitions:

NA = Sample not analyzed for parameter.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
F1 = MS and/or MSD Recovery is outside acceptance limits.
F2 = MS/MSD RPD exceeds control limits.

BOLD	Result exceeds Unrestricted SCO
BOLD	Result exceeds Commercial SCO
	Removed during hotspot excavation

BENCHMARK

TABLE 3

SUMMARY OF HOTSPOT F DELINEATION SOIL/FILL ANALYTICAL DATA ABOVE SCOs

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NY

Parameter [1]	Unrestricted SCOs [2] (mg/kg)	Commercial SCOs [2] (mg/kg)	Hotspot F Delineation Sample Locations (BPIA-SS-10)															
			NORTH		SOUTH	EAST											WEST	COMPOSITE
			BPIA-SS-10 SW15FT-N	BPIA-SS-10 BTM15FT-2	BPIA-SS-10 SW10FT-S	BPIA-SS-10 SW33FT-E	BPIA-SS-10 BTM33FT-2	BPIA-SS-10 SW10FT-W	BPIA-SS-10 BTM12FT-5	BPIA-SS-10 SW33FT-E	BPIA-SS-10 BTM33FT-2	BPIA-SS-10 SW10FT-W	BPIA-SS-10 COMP
			15FT	15FT	10FT	33FT	33FT	10FT	12 FT	33FT	33FT	10FT	
			0-2"	2"	0-2"	0-2"	4"	0-2"	12"	0-2"	4"	0-2"	
			1/25/21			3/9/21			3/25/21		3/9/21		1/25/21	
TAL Metals - mg/kg														
Arsenic	**13**	**16**	NA	NA	**26.7**				NA	NA		NA	**24.9**	NA
Cadmium	**2.5**	**9.3**	NA	NA	**8**				NA	NA		NA	**10.3**	NA
Lead	**63**	**1,000**	NA	NA	**701**				NA	NA		NA	**3530**	NA
Mercury	**0.18**	**2.8**	**5**	**0.95**	**2.3**				**1.2**	**3.1**		**3.9**	**1.8**	NA
TCLP Metals - mg/L														
Arsenic	**5**	**5**	NA	NA	NA				NA	NA		NA	NA	ND
Cadmium	**1**	**1**	NA	NA	NA				NA	NA		NA	NA	0.077
Lead	**5**	**5**	NA	NA	NA				NA	NA		NA	NA	0.092
Mercury	**0.2**	**0.2**	NA	NA	NA				NA	NA		NA	NA	0.00012 J

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 Part 375 Soil Cleanup Objectives (SCOs).

Definitions:

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

BOLD	Result exceeds Unrestricted SCO
BOLD	Result exceeds Commercial SCO
	Removed during hotspot excavation

TABLE 3

SUMMARY OF HOTSPOT G DELINEATION SOIL/FILL ANALYTICAL DATA ABOVE SCOs

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NY

Parameter [1]	Unrestricted SCOs[2] (mg/kg)	Commercial SCOs[2] (mg/kg)	Hotspot G Delineation Sample Locations (BPIA-SS-11)													
			NORTH						SOUTH				EAST	WEST		COMPOSITE
			BPIA-SS-11 SW10FT-N	BPIA-SS-11 BTM15FT-1	BPIA-SS-11 BTM15FT-3	BD-6	BPIA-SS-11 BTM15FT-4	BPIA-SS-11 BTM15FT-5	BPIA-SS-11 SW10FT-S	BPIA-SS-11 BTM10FT-1	BPIA-SS-11 SW15FT-S	BPIA-SS-11 BTM15FT-2	BPIA-SS-11 SW10FT-E	BPIA-SS-11 SW10FT-W	BPIA-SS-11 SW15FT-W	BPIA-SS-11 COMP
			10FT	15FT	15FT	15FT	15FT	15FT	10FT	10FT	15FT	15FT	10FT	10FT	15FT	
			0-2"	2"	4"	4"	6"	12"	0-2"	2"	0-2"	2"	0-2"	0-2"	0-2"	
			1/26/21		3/9/21			3/25/21			1/26/21					
TAL Metals - mg/kg																
Arsenic	**13**	**16**	**54.5**	NA	NA	NA	NA	NA	27.4	25.4	NA	NA	12	121	**70.4**	NA
Cadmium	**2.5**	**9.3**	**33.7**	NA	NA	NA	NA	NA	2.8	4.5	NA	NA	1.8	15.8	NA	NA
Lead	**63**	**1,000**	**597**	NA	NA	NA	NA	NA	462	496	NA	NA	**369**	1610	NA	NA
Mercury	**0.18**	**2.8**	**4.4**	6.7	70	24.8	11	**1.4**	5.8	7.3	**4.9**	**1.3**	**2.8**	0.38	NA	NA
TCLP Metals - mg/L																
Arsenic	**5**	**5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0075 J
Cadmium	**1**	**1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0095
Lead	**5**	**5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.14
Mercury	**0.2**	**0.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0015

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 Part 375 Soil Cleanup Objectives (SCOs).

Definitions:
NA = Sample not analyzed for parameter.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.

BOLD	Result exceeds Unrestricted SCO
BOLD	Result exceeds Commercial SCO
	Removed during hotspot excavation

BENCHMARK

TABLE 3

SUMMARY OF HOTSPOT H DELINEATION SOIL/FILL ANALYTICAL DATA ABOVE SCOs

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NY

Parameter [1]	Unrestricted SCOs[2] (mg/kg)	Commercial SCOs[2] (mg/kg)	Hotspot H Delineation Sample Locations (BPIA-TP-2)					
			NORTH		SOUTH	EAST	WEST	COMPOSITE
			BPIA-TP-2 SW10FT-N	BPIA-TP-2 BTM10FT-1	BPIA-TP-2 SW10FT-S	BPIA-TP-2 SW10FT-E	BPIA-TP-2 SW9FT-W [3]	BPIA-TP-2 COMP
			10FT	10FT	10FT	10FT	9FT	
			0.5-4'	4'	0.5-4'	0.5-4'	0.5-4'	
			1/26/21					
TAL Metals - mg/kg								
Arsenic	**13**	**16**	**37.4**	**72.4**	**93.9**	**98.8**	**134**	NA
TCLP Metals - mg/L								
Mercury	**0.2**	**0.2**	NA	NA	NA	NA	NA	0.015

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 Part 375 Soil Cleanup Objectives (SCOs).
3. The western sidewall sample was collected as close to South Return Water Trench (SRWT) as possible at 9 feet from the original test pit location. No additional 5-foot step out sample was collected due to the SRWT.

Definitions:

NA = Sample not analyzed for parameter.

BOLD	Result exceeds Unrestricted SCO
BOLD	Result exceeds Commercial SCO

BENCHMARK

TABLE 4

SUMMARY OF GROUNDWATER ANALYTICAL DATA

Tecumseh Phase IA Business Park - Brownfield Cleanup Program
Sucro Real Estate NY, LLC
Lackawanna, New York

PARAMETER [1]	GWQS [2]	MW - 16A		MWN - 69A		MWN - 69A [3]		MWN - 69A[3]		MWN - 70A		MWN - 70A [3]		MWN - 70A [3]		MWN - 71A[5]		P - 45S		B - 2		MWN-95A	
		6/30/2010		2/23/2016		6/30/2010		5/7/2014		2/23/2016		6/30/2010		5/7/2014		6/30/2010		6/30/2010		6/30/2010		10/11/2021	
Field Measurements [4]:																							
		Initial	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*
pH (units)	**6.5 - 8.5**	7.54	7.41	6.66	6.59	**6.17**	**6.37**	6.56	**6.42**	7.17	7.18	**6.46**	6.60	7.52	7.22	7.12	7.14	8.35	8.23	6.79	6.83	8.43	8.32
Temperature (°C)	**--**	14.3	14.6	9.0	8.0	15.1	15.3	9.4	10.1	7.2	6.7	17.0	17.4	8.8	9.8	14.8	14.4	15.4	15.5	14.3	14.8	19.5	20.0
Sp. Conductance (uS)	**--**	776.5	759.2	1170	1321	1625	1618	971	1468	42	40	102	104	102	103	723	732	638	642	1,664	1,719	2,664	2,763
Turbidity (NTU)	**--**	15.6	4.5	18.80	12.30	45.2	50.6	43.7	128	13.4	8.49	18.4	7.26	21.0	16.9	10.9	3.90	2.5	2.64	16.6	4.54	628	17.0
DO (ppm)	**--**	1.23	1.12	4.37	2.40	1.44	1.14	3.37	1.86	2.91	2.59	2.64	2.57	1.76	1.57	1.85	1.71	2.13	1.94	1.56	1.51	1.00	1.13
Eh (mV)	**--**	-120	-105	-17	-23	-64	-74	-15	-18	-34	-37	-74	-79	-94	-75	--126	--124	--101	--69	--106	--116	95	-231
Total Inorganic Compounds (mg/L):																							
Arsenic - Total	**0.025**	ND		ND		ND		ND		0.0091 J		ND		ND		ND		0.0127 J		ND		5.34	
Barium - Total	**1**	--		0.2		--		0.12		0.16		--		0.35		0.0308		ND		--		94.52	
Cadmium	**5**	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		0.09 J	
Chromium - Total	**0.05**	ND		0.0014 J		ND		ND		ND		ND		ND		ND		ND		ND		1.44	
Copper	**0.2**	--		0.002 J		--		--		0.0031 J		--		--		ND		ND		--		--	
Cyanide- Total	**0.2**	--		0.13		--		--		**1 J**		--		--		ND		ND		--		--	
Iron - Total	**0.3****	--		--		--		--		--		--		--		**3.45**		ND		--		--	
Lead - Total	**0.025**	ND		ND		ND		ND		ND		ND		ND		ND		**0.0462**		ND		3.16	
Magnesium - Total	**35***	--		--		--		--		--		--		--		19.5		ND		--		--	
Manganese - Total	**0.3****	--		**0.96 B**		--		--		**0.53 B**		--		--		**1.7**		ND		--		--	
Mercury	**0.7**	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		0.25	
Nickel - Total	**0.1**	--		0.002 J		--		--		ND		--		--		ND		ND		--		--	
Potassium - Total	**--**	--		--		--		--		--		--		--		22.5		ND		--		--	
Sodium - Total	**20**	--		--		--		--		--		--		--		**23.9 J**		ND		--		--	
Zinc - Total	**2***	--		0.0055 JB		--		--		0.0025 J		--		--		--		--		--		--	
Volatile Organic Compounds (ug/L):																							
Benzene	**1**	ND		ND		0.026 J		ND		ND		0.15 J		ND		ND		ND		ND		--	
m-Xylene & p-Xylene	**5**	ND		ND		ND		ND		ND		0.069 J		ND		ND		ND		ND		--	
Toluene	**5**	ND		ND		ND		ND		ND		0.13 J		ND		ND		0.06 J		ND		--	
Xylenes, total	**5**	ND		ND		ND		ND		ND		0.069 J		ND		ND		ND		ND		--	

BENCHMARK

TABLE 4

SUMMARY OF GROUNDWATER ANALYTICAL DATA

Tecumseh Phase IA Business Park - Brownfield Cleanup Program
Sucro Real Estate NY, LLC
Lackawanna, New York

PARAMETER [1]	GWQS [2]	MW - 16A	MWN - 69A	MWN - 69A [3]	MWN - 69A[3]	MWN - 70A	MWN - 70A [3]	MWN - 70A [3]	MWN - 71A[5]	P - 45S	B - 2	MWN-95A
		6/30/2010	2/23/2016	6/30/2010	5/7/2014	2/23/2016	6/30/2010	5/7/2014	6/30/2010	6/30/2010	6/30/2010	10/11/2021
Semi-Volatile Organic Compounds (ug/L):												
Acenaphthene	**20**	ND	ND	ND	ND	ND	ND	ND	ND	5.1	ND	--
Carbazole	**--**	ND	ND	ND	ND	ND	ND	ND	ND	0.84 J	ND	--
Dibenzofuran	**--**	ND	ND	ND	ND	ND	ND	ND	ND	2.7 J	ND	--
Di-n-butyl phthalate	**50**	ND	ND	ND	ND	ND	ND	ND	0.37 J	0.34 J	0.43 J	--
Fluoranthene	**50**	ND	ND	ND	ND	ND	ND	ND	ND	1.2 J	ND	--
Fluorene	**50**	ND	ND	ND	ND	ND	ND	ND	ND	1.4 J	ND	--
Pyrene	**50**	ND	ND	ND	ND	ND	ND	ND	ND	0.67 J	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. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV) as per 6 NYCRR Part 703.
3. Groundwater collected from the June 2010 and the May 2014 monitoring event were only analyzed for those parameters listed in the April 2010 Remedial Investigation Work Plan.
4. Field measurements were collected immediately before and after groundwater sample collection.
5. After 2010 the well was damaged; no further samples collected.

Acronyms:
ND = Parameter not detected above laboratory detection limit.
" -- " = not analyzed for this parameter or no individual SCO
" * " = Groundwater Quality Guidance Value
" ** " = Iron + Manganese GWQS = 0.5 mg/L

BOLD = Analytical result exceeds NYSDEC Class GA GWQS

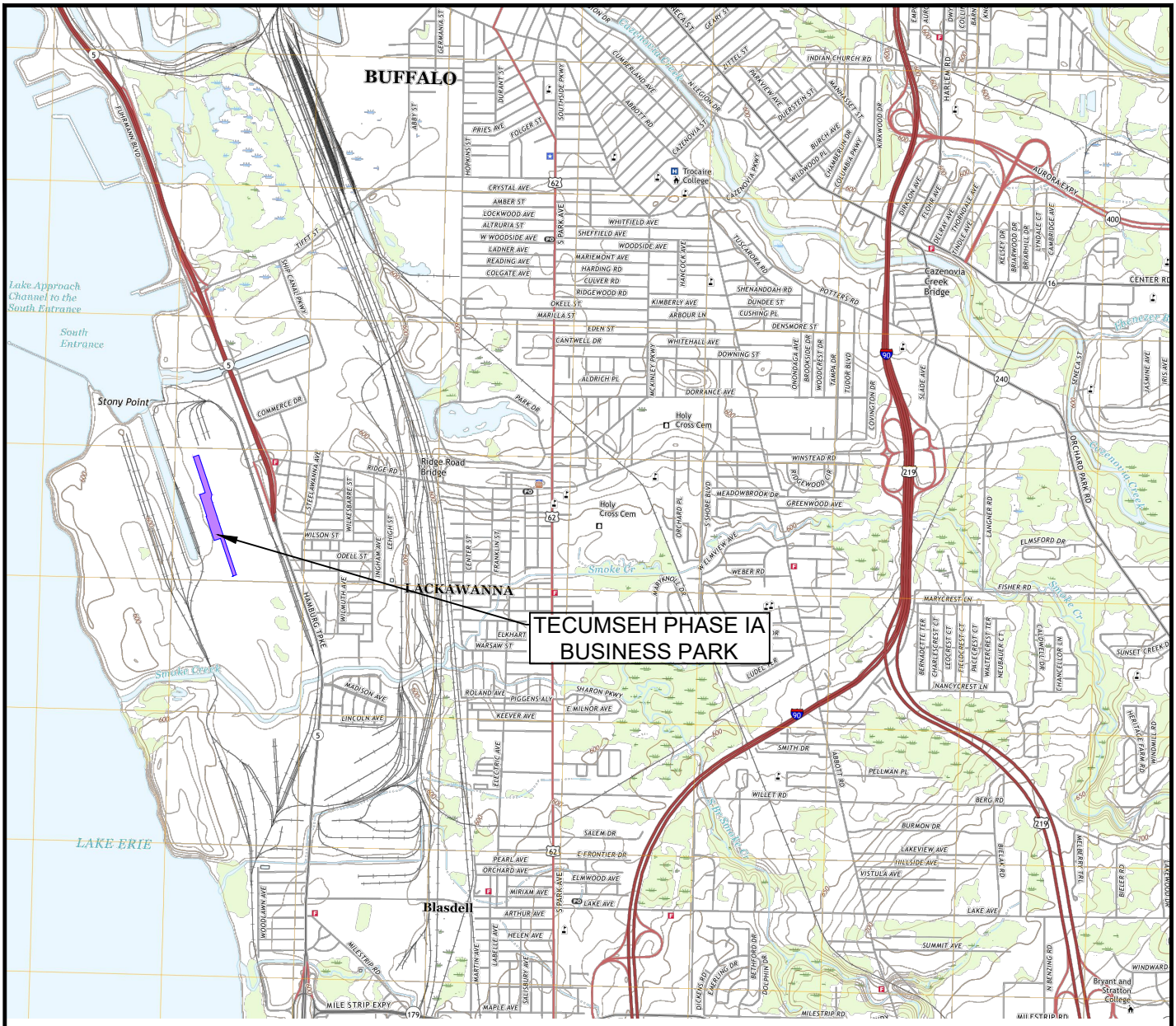
Laboratory Qualifiers (located next to the sample result):
J = Analyte was detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL).
B= Parameter was found in method blank.

Data Validation Qualifiers (under separate column "Q"):
J = The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.

FIGURES

F:\CAD\Benchmark\Sucro Real Estate NY, LLC\2021 SMP\Figure 1; Site Location and Vicinity Map_SMP.dwg, 11/23/2021 1:29:57 PM

FIGURE 1

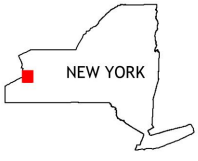


BASEMAP PER USGS QUADRANGLE BUFFALO SOUTHEAST 2019

4,000' 0' 4,000' 8,000'

SCALE: 1 INCH = 4,000 FEET
SCALE IN FEET
(approximate)

N



QUADRANGLE LOCATION

BENCHMARK IN ASSOCIATION WITH TURNKEY ENVIRONMENTAL RESTORATION, LLC

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

PROJECT NO.: 0555-021-008

DATE: NOVEMBER 2021

DRAFTED BY: RFL

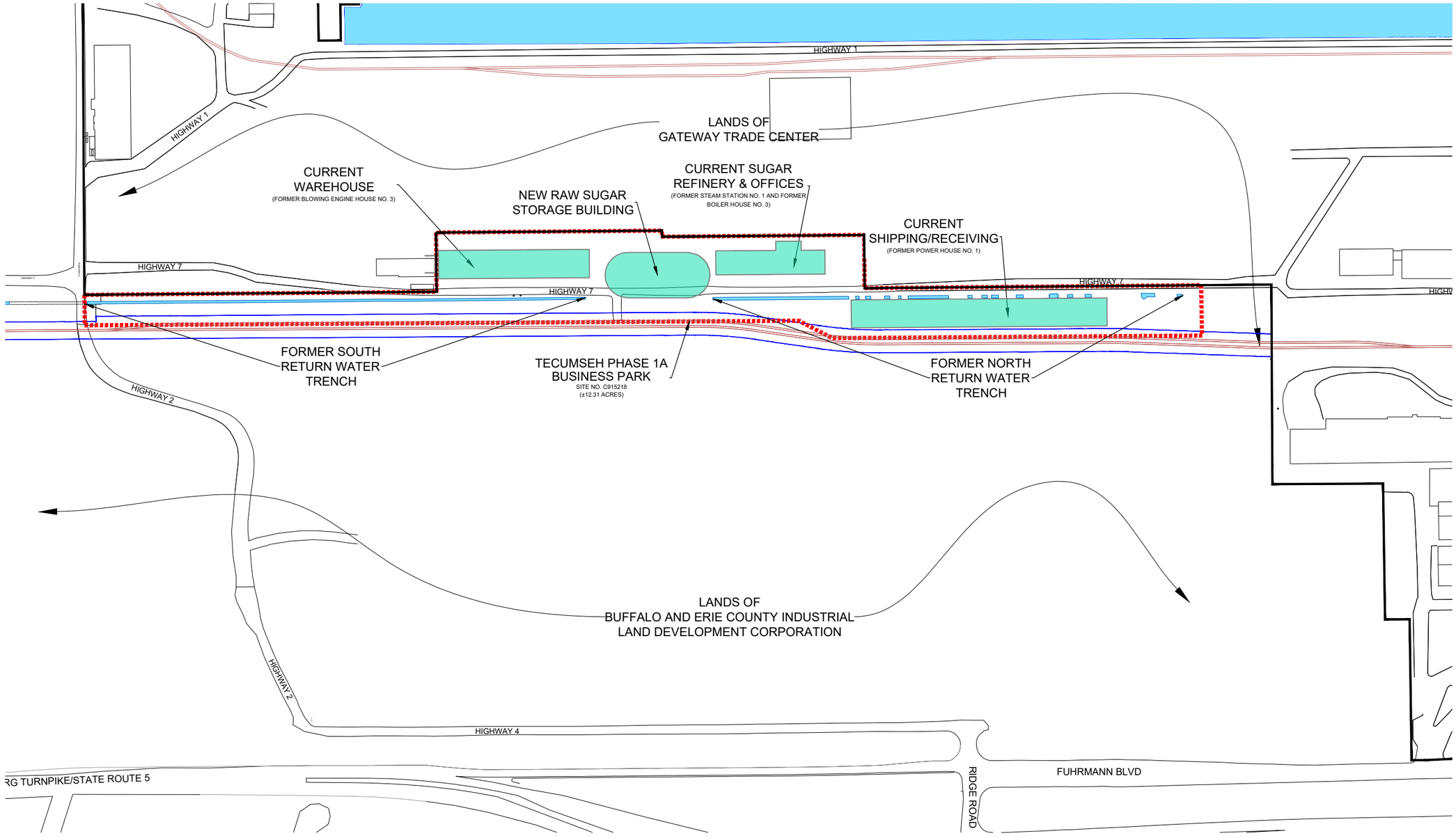
SITE LOCATION & VICINITY MAP

SITE MANAGEMENT PLAN

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NEW YORK

PREPARED FOR

SUCRO REAL ESTATE NY, LLC



300' 0' 300' 600'

SCALE: 1 INCH = 300 FEET
SCALE IN FEET
(approximate)

LEGEND:

- SUCRO PROPERTY AND BROWNFIELD CLEANUP SITE BOUNDARY
- RAILROAD TRACK
- EXISTING SUCRO BUILDING / STRUCTURE

DATE: NOVEMBER 2021
DRAFTED BY: RFL

TURNKEY ENVIRONMENTAL RESTORATION, LLC
IN ASSOCIATION WITH
BENCHMARK

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

JOB NO.: 0555-021-008

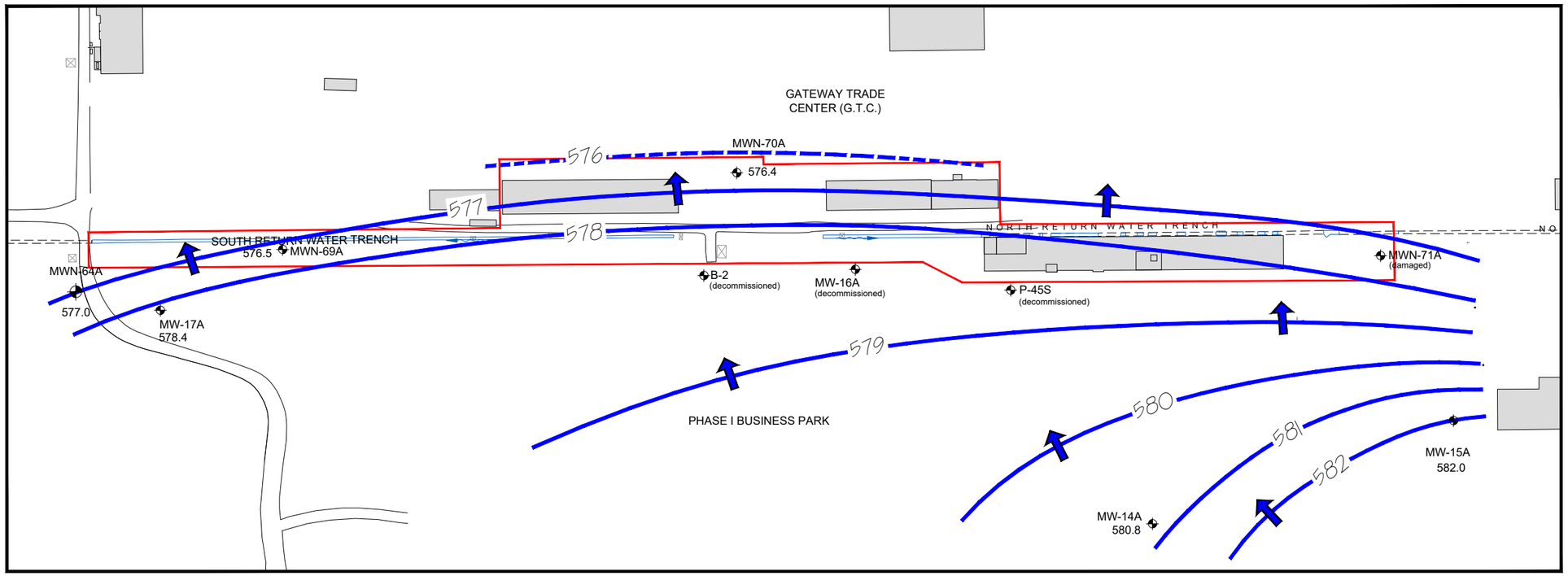
SITE LAYOUT MAP

SITE MANAGEMENT PLAN

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NEW YORK

PREPARED FOR
SUCRO REAL ESTATE NY, LLC

FIGURE 2



300' 0' 300' 600'

SCALE: 1 INCH = 300 FEET
SCALE IN FEET
(approximate)

N

LEGEND:

- SUCRO PROPERTY AND BROWNFIELD CLEANUP SITE BOUNDARY
- EXISTING BUILDING / STRUCTURE
- UTILITY POLE
- B-2 (578.2) — EXISTING OFF-SITE MONITORING WELL WITH GROUNDWATER ELEVATION
- P-45S — DECOMMISSIONED OFF-SITE PIEZOMETER
- MWN-69A (576.3) — PHASE IA MONITORING WELL (3) WITH GROUNDWATER ELEVATION
- 577 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION

NOTES:

1. The groundwater contours shown were developed using linear interpolation between groundwater well water elevations, results of previous groundwater contour maps, and engineering judgement.
2. The bottom of the North and South Return Water Trenches are at approximate elevation of 570 feet. It is believed that when the groundwater elevation proximate to the trenches is above 570 feet, the trenches are groundwater sinks.
3. Well MW-16A and piezometers B-2 and P-45S were decommissioned on September 25, 2012 as part of a separate railroad expansion project.

DATE: NOVEMBER 2021
DRAFTED BY: RFL

F:\CAD\Benchmark\Sucro Real Estate NY, LLC\2021 SMP\Figure 3 Isopotential Map - Feb 2016.dwg, 11/23/2021 1:35:49 PM

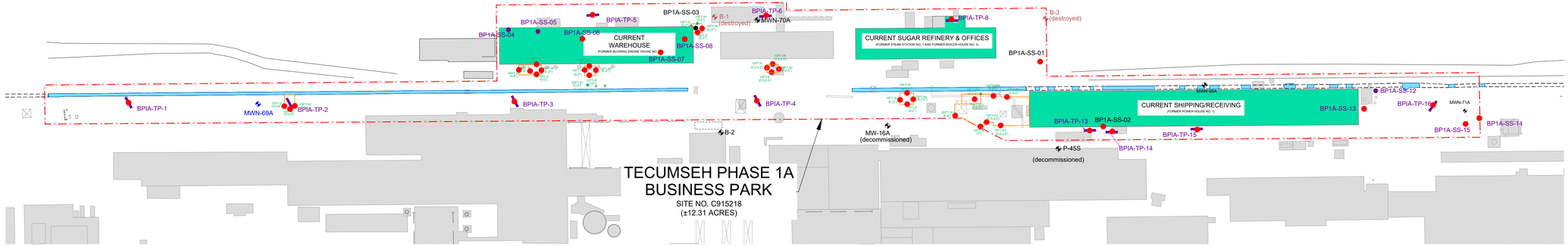
GROUNDWATER CONTOUR MAP - FEBRUARY 2016

SITE MANAGEMENT PLAN
TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NEW YORK
PREPARED FOR
SUCRO REAL ESTATE NY, LLC.

FIGURE 3

BENCHMARK IN ASSOCIATION WITH TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218,
(716) 856-0599

JOB NO.: 0555-021-008



LEGEND:

- SUCRO PROPERTY AND BROWNFIELD CLEANUP SITE BOUNDARY
- SUCRO BUILDING / STRUCTURE (RAW SUGAR SHED NOT SHOWN FOR CLARITY)
- CONCRETE, FOUNDATION, RUINS, ETC. (shape & size varies)
- EXISTING OFF-SITE BUILDING / STRUCTURE
- DEMOLISHED BUILDING/HISTORICAL FEATURE
- B-2 — EXISTING OFF-SITE MONITORING WELL
- P-45S — DECOMMISSIONED OFF-SITE PIEZOMETER
- MWN-69A — PHASE IA BPA MONITORING WELL
- B-1 (destroyed) — ABANDONED MONITORING WELL
- BP1A-SS-01 — PHASE IA BPA SURFACE SOIL SAMPLE [APRIL 2007]
- BP1A-SS-04 — PHASE IA BPA SURFACE SOIL SAMPLE
- BPIA-TP-3 — PHASE IA BPA TEST PIT
- BP1A-B-01 — PHASE IA BPA BORING LOCATION
- SOIL/FILL SAMPLE EXCEEDANCE OF USCO
- 10FT-S (0-2') — HOT SPOT EXCAVATION CONFIRMATORY END-POINT SAMPLE
- HOT SPOT EXCAVATION

N

120' 0' 120' 240'

SCALE: 1 INCH = 120 FEET
SCALE IN FEET
(approximate)

BENCHMARK ENVIRONMENTAL ENGINEERING, PLLC
TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218
(716) 856-0599

JOB NO.: 0071-010-350

REVISIONS

NO.	BY	DATE	REMARKS

SEAL

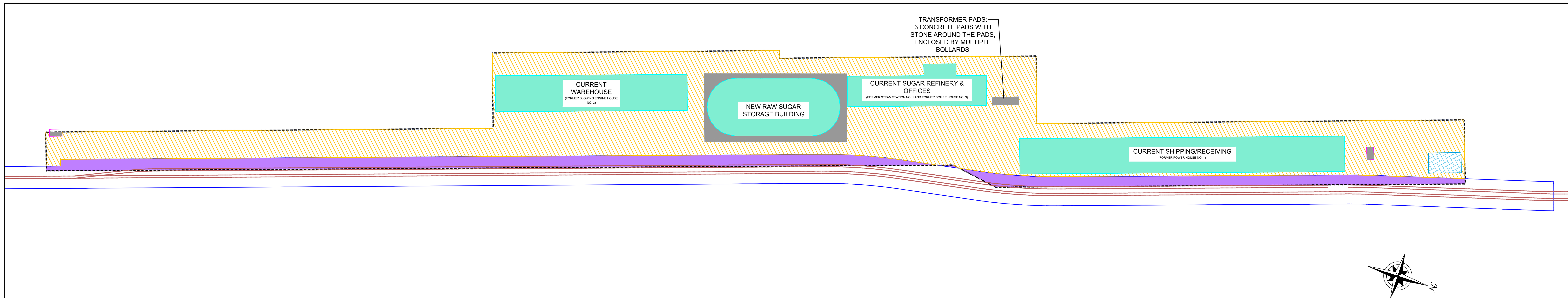
DRAWN BY: RFL
DATE: NOVEMBER 2021
CHECKED BY:
APPROVED BY:

EXCEEDANCES OF UNRESTRICTED SCOs

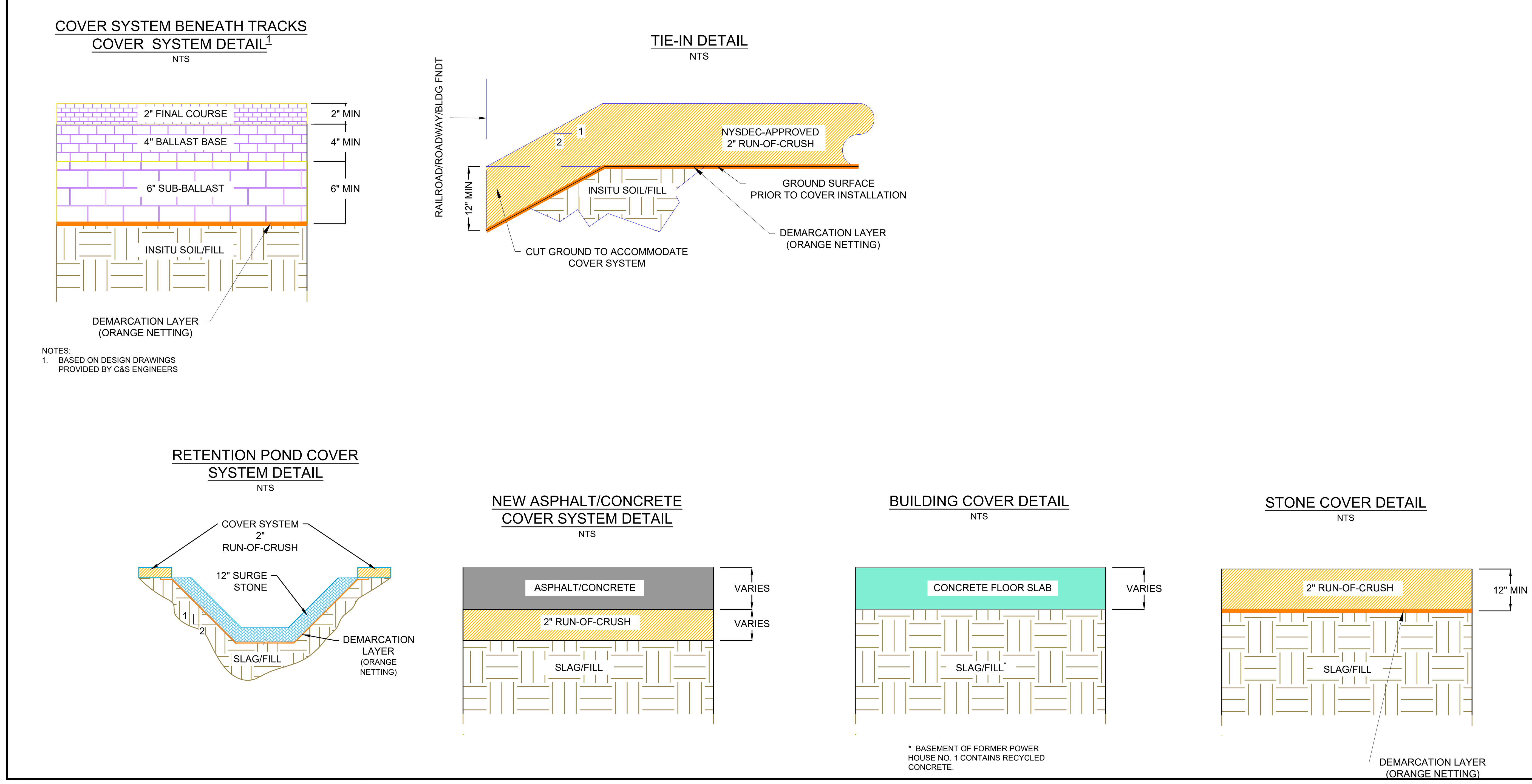
SITE MANAGEMENT PLAN
TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NEW YORK

PREPARED FOR:
SUCRO REAL ESTATE NY, LLC.

FIGURE 4



SCALE: 1 INCH = 125 FEET
SCALE IN FEET
(approximate)



LEGEND:

- PL — PL: SUCRO PROPERTY AND BROWNFIELD CLEANUP SITE BOUNDARY
- RAILROAD TRACK
- COVER - HARDSCAPE BUILDING
- COVER - RAILROAD TRACK AND ROW
- COVER - STONE
- COVER - HARDSCAPE ASPHALT/CONCRETE
- COVER - LIFT STATION CONCRETE TOP
- RETENTION POND - SURGE STONE COVER SYSTEM

BENCHMARK IN ASSOCIATION WITH TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

JOB NO.: B0555-021-008

REVISIONS

NO.	BY	DATE	REMARKS

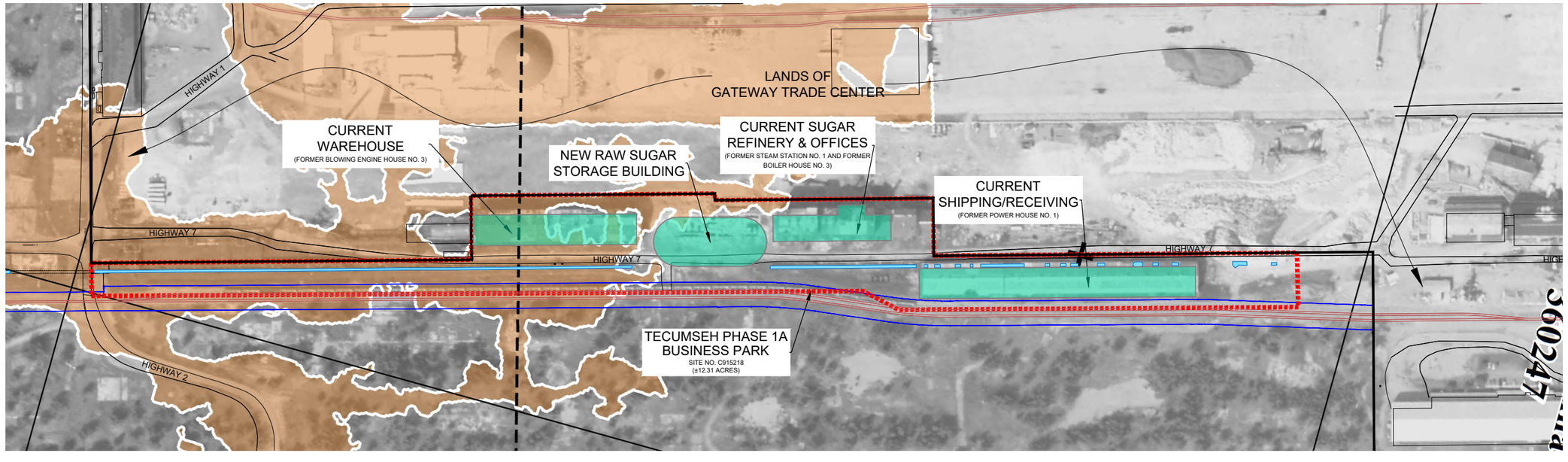
SEAL

DRAWN BY: RFL
DATE: NOVEMBER 2021
CHECKED BY:
APPROVED BY:

COVER SYSTEM PLAN AND DETAILS

SITE MANAGEMENT PLAN
TECUMSEH PHASE 1A BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NEW YORK
PREPARED FOR
SUCRO REAL ESTATE NY, LLC

FIGURE 5



300' 0' 300' 600'

SCALE: 1 INCH = 300 FEET
SCALE IN FEET
(approximate)

N

LEGEND:

- SUCRO PROPERTY AND BROWNFIELD CLEANUP SITE BOUNDARY
- RAILROAD TRACK
- EXISTING SUCRO BUILDING / STRUCTURE

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee See Notes. Zone X
	Area with Flood Risk due to Levee Zone D
OTHER AREAS	NO SCREEN Area of Minimal Flood Hazard Zone X
	Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
	18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	513 Base Flood Elevation Line (BFE)
OTHER FEATURES	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM provided by the US Census Bureau(2016) and the USDA NAIP(2015).

LIMIT OF MODERATE WAVE ACTION: Zone AE has been divided by a Limit of Moderate Wave Action (LiMWA). The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between Zone VE and the LiMWA (or between the shoreline and the LiMWA for areas where Zone VE is not identified) will be similar to, but less severe than, those in Zone VE.

Limit of Moderate Wave Action (LiMWA)

SCALE

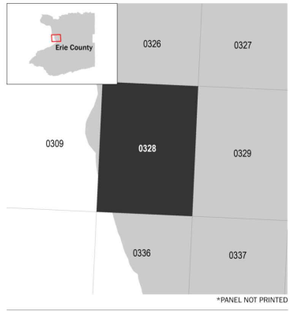
Map Projection:
NAD 1983 UTM Zone 18N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



*PANEL NOT PRINTED

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

ERIE COUNTY, NEW YORK
(All Jurisdictions)

PANEL 328 OF 807

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
BUFFALO, CITY OF	360230	0328	J
LACKAWANNA, CITY OF	360247	0328	J

VERSION NUMBER
2.3.3.5

MAP NUMBER
36029C0328J

MAP REVISED
JUNE 16, 2021

DATE: NOVEMBER 2021
DRAFTED BY: RFL

F:\CAD\Benchmark\Sucro Real Estate NY, LLC\2021 SMP\Figure 6; FEMA Map_SMP..dwg, 11/23/2021 1:43:54 PM

TURNKEY ENVIRONMENTAL RESTORATION, L.L.C.
IN ASSOCIATION WITH
BENCHMARK
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218,
(716) 856-0599

JOB NO.: 0555-021-008

FEMA MAP

SITE MANAGEMENT PLAN

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NEW YORK

PREPARED FOR

SUCRO REAL ESTATE NY, LLC

FIGURE 6

APPENDIX A

ENVIRONMENTAL EASEMENT
SITE SURVEY

ENGINEERING / INSTITUTIONAL CONTROLS

- COVER SYSTEM THE COVER SYSTEM IS A PERMANENT CONTROL. PROCEDURES FOR THE INSPECTION AND MAINTENANCE OF THIS COVER ARE PROVIDED IN THE MONITORING PLAN IN SECTION 4 OF THE SITE MANAGEMENT PLAN (SMP).
- COMPLIANCE WITH THE ENVIRONMENTAL EASEMENT AND THE SMP BY THE GRANTOR AND THE GRANTOR'S SUCCESSORS AND ASSIGNS;
- ALL ENGINEERING CONTROLS MUST BE OPERATED AND MAINTAINED AS SPECIFIED IN THE SMP;
- ALL ENGINEERING CONTROLS ON THE CONTROLLED PROPERTY MUST BE INSPECTED AT A FREQUENCY AND IN A MANNER DEFINED IN THE SMP;
- GROUNDWATER, SOIL VAPOR AND OTHER ENVIRONMENTAL OR PUBLIC HEALTH MONITORING MUST BE PERFORMED AS DEFINED IN THE SMP;
- 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;
- THE USE AND DEVELOPMENT OF THE SITE IS LIMITED TO COMMERCIAL AND INDUSTRIAL USES ONLY AS DESCRIBED IN 6NYCRR PART 375-1.8(G) (2) (III) & (IV).
- THE PROPERTY MAY NOT BE USED FOR A HIGHER LEVEL OF USE, SUCH AS RESTRICTED RESIDENTIAL USE WITHOUT ADDITIONAL REMEDIATION AND AMENDMENT OF THE ENVIRONMENTAL EASEMENT AS APPROVED BY THE NYSDEC;
- ALL FUTURE ACTIVITIES ON THE PROPERTY THAT WILL DISTURB REMAINING CONTAMINATED MATERIAL MUST BE CONDUCTED IN ACCORDANCE WITH THE SMP;
- THE USE OF THE GROUNDWATER UNDERLYING THE PROPERTY IS PROHIBITED WITHOUT TREATMENT RENDERING IT SAFE FOR INTENDED USE;
- THE SITE OWNER OR REMEDIAL PARTY WILL SUBMIT TO NYSDEC A WRITTEN STATEMENT THAT CERTIFIES, UNDER PENALTY OF PERJURY, THAT: (1) CONTROLS EMPLOYED AT THE CONTROLLED PROPERTY ARE UNCHANGED FROM THE PREVIOUS CERTIFICATION OR THAT ANY CHANGES TO THE CONTROLS WERE APPROVED BY THE NYSDEC; AND, (2) NOTHING HAS OCCURRED THAT IMPAIRS THE ABILITY OF THE CONTROLS TO PROTECT PUBLIC HEALTH AND ENVIRONMENT OR THAT CONSTITUTE A VIOLATION OR FAILURE TO COMPLY WITH THE SMP.

ENVIRONMENTAL EASEMENT DESCRIPTION FOR BUSINESS PARK PHASE 1A TITLE No.1313-25071 (AMENDED) FOR BCP SITES C915218

ALL THAT TRACT OR PARCEL OF LAND, SITUATE IN THE CITY OF LACKAWANNA, COUNTY OF ERIE AND STATE OF NEW YORK, BEING PART OF LOTS 20, 21, 22, 23 AND 25 OF THE OGDEN GORE TRACT AND BEING DESIGNATED AS BCP SITE NO. C915218, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF LANDS CONVEYED TO GATEWAY TRADE CENTER INC. BY DEED RECORDED IN THE ERIE COUNTY CLERK'S OFFICE IN LIBER 10886 OF DEEDS AT PAGE 1064;

THENCE ALONG SAID LANDS SO CONVEYED TO GATEWAY TRADE CENTER INC., BY DEED AFORESAID, THE FOLLOWING 7 COURSES AND DISTANCES:

1. N 18°-42'-31" W A DISTANCE OF 1001.28 FEET TO A POINT;
2. S 71°-17'-29" W A DISTANCE OF 168.48 FEET TO A POINT;
3. N 18°-42'-31" W A DISTANCE OF 642.00 FEET TO A POINT;
4. N 71°-17'-29" E A DISTANCE OF 17.30 FEET TO A POINT;
5. N 18°-42'-31" W A DISTANCE OF 574.67 FEET TO A POINT;
6. N 71°-17'-29" E A DISTANCE OF 151.18 FEET TO A POINT;
7. N 18°-42'-30" W A DISTANCE OF 956.68 FEET TO A POINT;

THENCE N 71°-00'-00" E, A DISTANCE OF 143.37 FEET TO A POINT;

THENCE S 18°-23'-42" E, A DISTANCE OF 1051.55 FEET TO A POINT;

THENCE S 09°-40'-30" W, A DISTANCE OF 106.50 FEET TO A POINT;

THENCE S 18°-22'-06" E, A DISTANCE OF 2030.00 FEET TO A POINT;

THENCE S 71°-11'-53" W, A DISTANCE OF 86.73 FEET TO THE POINT OF BEGINNING, CONTAINING 12.31 ACRES OF LAND, MORE OR LESS.

EXCEPTING AND RESERVING THEREFROM, THOSE PORTIONS THERE OF LYING WITHIN THE NORTH AND SOUTH RETURN WATER TRENCHES.

BEING PART OF THE PIECE OR PARCEL OF LAND IN A BARGAIN AND SALE DEED DATED 5/06/2003 AND RECORDED 5/22/2003 IN LIBER 11040 OF DEEDS AT PAGE 8953 IN THE ERIE COUNTY CLERK'S OFFICE. THIS PARCEL OF LAND IS PART OF THE OVERALL DEED.

SCHEDULE B, SECTION 2: CHICAGO TITLE INSURANCE COMPANY COMMITMENT FOR TITLE INSURANCE #1313-25071:

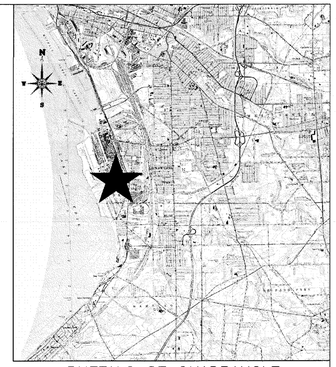
EXCEPTION NUMBER:

9. LEASE BETWEEN TECUMSEH REDELOPMENT INC. AND BQ ENERGY LLC RECORDED IN LIBER 11214 AT PAGE 4899 AIRSPACE AND IN LIBER 11216 OF DEEDS AT PAGE 7305 ON MAY 21, 2008. (DOES NOT AFFECT PREMISES)

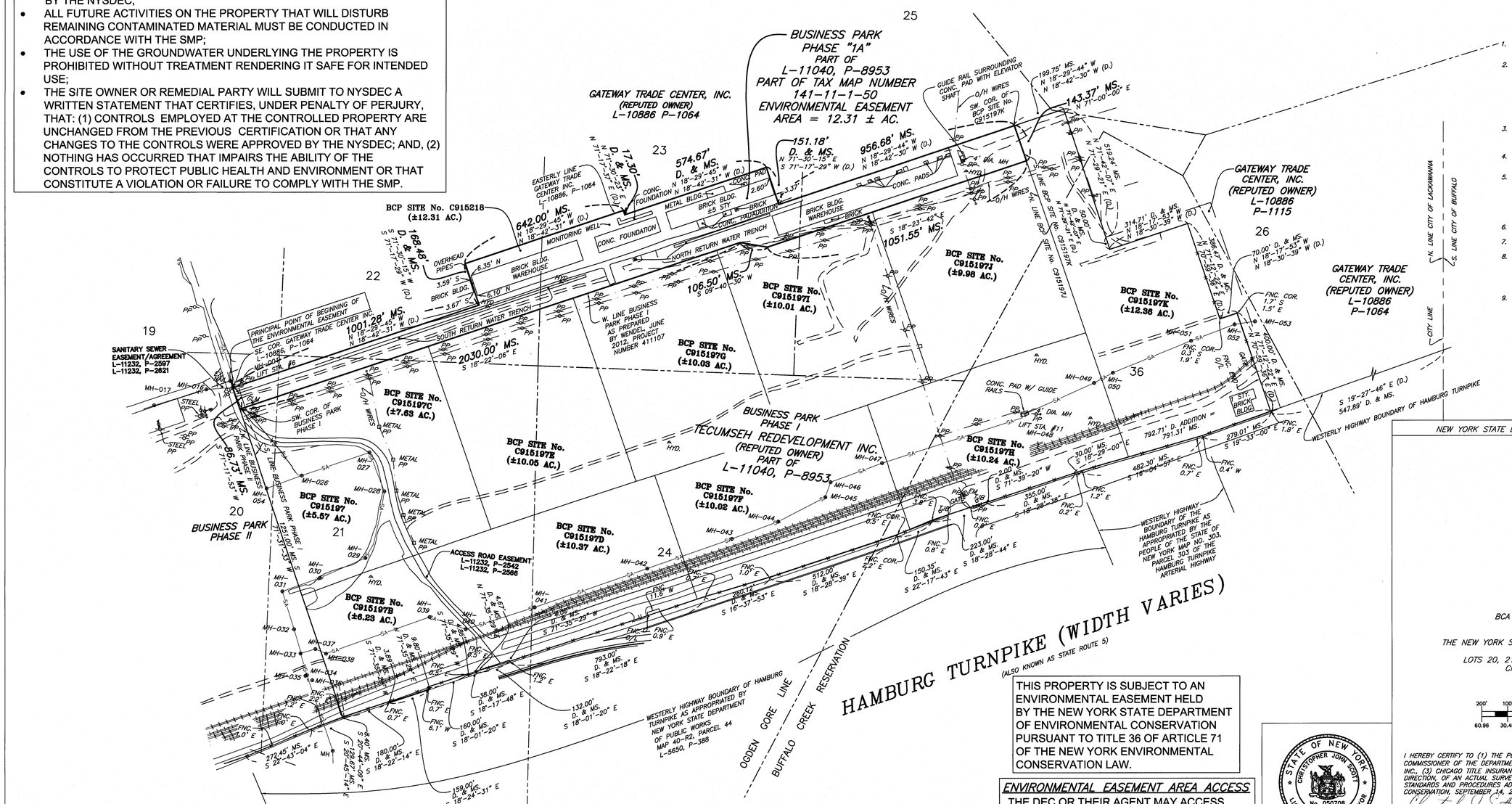
   *NOTE: NON-DISTURBANCE AGREEMENT RECORDED IN LIBER 11196 OF DEEDS AT PAGE 544

10. RIGHT OF WAY GRANTED TO NATIONAL FUEL GAS DISTRIBUTION CORPORATION RECORDED IN LIBER 1120 OF DEEDS AT PAGE 2359. (UNABLE TO PLOT)
11. EASEMENT GRANTED TO NIAGARA MOHAWK POWER CORPORATION AND VERIZON NEW YORK INC. RECORDED IN LIBER 11228 OF DEEDS AT PAGE 3555 ON MAY 9, 2012. (DOES NOT AFFECT PREMISES)
12. EASEMENT GRANTEDTO KB BUSINESS PARK REDEVELOPMENT LLC RECORDED IN LIBER 11232 OF DEEDS AT PAGE 2542 ON OCTOBER 29, 2012. (PLOTTED HEREON)
13. EASEMENT GRANTED TO KB BUSINESS PARK REDEVELOPMENT LLC IN LIBER 11232 OF DEEDS AT PAGE 2597 ON OCTOBER 29, 2012. (PLOTTED HEREON)
14. EASEMENT GRANTED TO KB BUSINESS PARK REDEVELOPMENT LLC IN LIBER 11232 AT PAGE 2653 ON OCTOBER 29, 2012. (DOES NOT AFFECT PREMISES)
15. AGREEMENT FOR MAINTENANCE OF PRIVATE ROADWAYS BETWEEN TECUMSEH REDEVELOPMENT, INC. AND KB BUSINESS PARK REDEVELOPMENT LLC IN LIBER 11232 AT PAGE 2621 ON OCTOBER 29, 2012. (PLOTTED HEREON)
16. AGREEMENT FOR SANITARY SEWER LINE BETWEEN TECUMSEH REDEVELOPMENT, INC. AND KB BUSINESS PARK REDEVELOPMENT LLC IN LIBER 11232 OF DEEDS AT PAGE 2621. (PLOTTED HEREON)
17. EASEMENT FOR BETHLEHEM STEEL CORPORATION TO NIAGARA MOHAWK POWER CORPORATION IN LIBER 10500 OF DEEDS AT PAGE 613. (DOES NOT AFFECT PREMISES)

THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM THE NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NY 12233 OR AT DERWEB@GW.DEC.STATE.NY.US.



BUFFALO SE QUADRANGLE, 7.5 MINUTE SERIES (TOPOGRAPHIC)
PROJECT LOCATION SKETCH
NOT TO SCALE



GENERAL NOTES:

1. HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83), WESTERN ZONE, US SURVEY FEET.
2. MONUMENTS ACQUIRED:
   NGS MONUMENT "LEHR" PID: AE2177
   NORTHING: 1030094.885
   EASTING: 1076447.880
   SITE CONTROL MONUMENT PIN WITH ALUMINUM CAP "BSP2"
   NORTHING: 1024721.330
   EASTING: 1076610.356
3. BUFFALO CREEK RESERVATION & OGDEN GORE TRACT INFORMATION IS SHOWN IN ITS APPROXIMATE LOCATION FROM MAPS FILED IN THE ERIE COUNTY CLERKS OFFICE.
4. REFER TO NEW YORK STATE DEPARTMENT OF TRANSPORTATION APPROPRIATION MAPS FOR MAP DISTANCES & BEARINGS.
5. THIS PROPERTY IS LOCATED WITHIN THE AREA HAVING A ZONE DESIGNATION "C" BY FEDERAL EMERGENCY AGENCY (FEMA) OF FLOOD INSURANCE RATE MAP NO. 36029C0001B, WITH AN EFFECTIVE DATE JULY 2, 1980 FOR COMMUNITY NO. 360247, IN THE CITY OF LACKAWANNA, ERIE COUNTY AND THE STATE OF NEW YORK.
6. PROPERTY CORNERS TO BE STAKED AT A LATER DATE.
7. BCP SITE NO. #### = PARCEL DESIGNATION
8. REFERENCE MAPS: MAP PREPARED BY BERGMANN ASSOCIATES 10/16/00, MAP NO. 303, PARCEL 303 OF THE HAMBURG TURNPIKE ARTERIAL HIGHWAY, DATED APRIL 15, 1960, PREPARED BY THE NEW YORK STATE DEPARTMENT OF PUBLIC WORKS AND BUSINESS PARK PHASE I, PREPARED BY WENDEL, JUNE 2012, PROJECT NO. 411107.
9. THIS SURVEY HAS BEEN REVISED WITH THE BENEFIT OF TITLE REPORT NO. 1313-25071 AS PREPARED BY CHICAGO TITLE INSURANCE COMPANY, DATED MARCH 20, 2013.

THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL EASEMENT HELD BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PURSUANT TO TITLE 36 OF ARTICLE 71 OF THE NEW YORK ENVIRONMENTAL CONSERVATION LAW.

ENVIRONMENTAL EASEMENT AREA ACCESS

THE DEC OR THEIR AGENT MAY ACCESS THE ENVIRONMENTAL EASEMENT AREA AS SHOWN HEREON THROUGH ANY EXISTING STREET ACCESS OR BUILDING INGRESS/EGRESS ACCESS POINT

STATE OF NEW YORK
CHRISTOPHER JOHN SCOTT
No. 050708
LICENSED LAND SURVEYOR

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

PREPARED BY THE CONSULTANT

wendel
140 John James Audubon Pkwy, Suite 201
Buffalo, NY 14228
www.wendelcompanies.com
p:716.688.0766 f:716.625.8825
Wendel WD Architecture, Engineering, Surveying and Landscape Architecture P.C.

MAP OF
2303 HAMBURG TURNPIKE
HAMBURG, NEW YORK
SITE NAME: TECUMSEH PHASE 1A
BCA BOUNDARIES & PLANNED SUB-PARCELS
BROWNFIELD CLEAN-UP PROGRAM
TO
THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SITUATE IN PARTS OF
LOTS 20, 21, 22, 23, AND 25 OF THE OGDEN GORE TRACT
CITY OF LACKAWANNA, COUNTY OF ERIE
STATE OF NEW YORK
T.M.# PART OF 141.11-1-50

200' 100' 50' 0' 200' 400' 600'
60.96 30.48 0 60.96 121.92 182.88
METERS
1 INCH = 200 FEET
1:2400

I HEREBY CERTIFY TO (1) THE PEOPLE OF THE STATE OF NEW YORK ACTING THROUGH THEIR COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, (2) TECUMSEH REDEVELOPMENT INC., (3) CHICAGO TITLE INSURANCE COMPANY, THAT THIS IS AN ACCURATE SURVEY MAP UNDER MY DIRECTION OF AN ACTUAL SURVEY, AND THAT THE SURVEY WAS PERFORMED IN ACCORDANCE TO THE STANDARDS AND PROCEDURES ADOPTED BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, SEPTEMBER 14, 2012. FIELD SURVEY COMPLETED JUNE 12, 2012

CHRISTOPHER J. SCOTT, LAND SURVEYOR #050708 — 5/28/14 DATE

BRIAN S. SMITH, CST 3, SURVEY DRAFTER — 5/27/14 DATE

SHEET 1 of 1	CHECKED BY: CJS	BCP SITE NUMBER C915218

Legend:

WENDEL JOB NUMBER 411107

AC. = ACRES; APPROX. = APPROXIMATE; AVE. = AVENUE; BIT. = BITUMINOUS; CB = CATCH BASIN; CH. = CHAIN; CONC. = CONCRETE; COR. = CORNER; C.T.V. = CABLE TV BOX; ℄ = CENTERLINE; D. = DEED; DIA. = DIAMETER; DIST. = DISTANCE; E. = EAST; ELEV. = ELEVATION; EJB = ELECTRICAL JUNCTION BOX; ESMT. = EASEMENT; EX. = EXISTING; FNC. = FENCE; GUM = GAS LINE MARKER; ⌀ = HYDRANT; L = LIBER; LS = LIFT STATION; MH = MANHOLE; MP. = MAP; MS. = MEASURED; MW = MONITORING WELL; N = NORTH; NTS = NOT TO SCALE; O/H = OVERHEAD; O/L = ON LINE; P = PAGE; ℄ = PROPERTY LINE; PP = POWER POLE; R = RADIUS; RD. = ROAD; S = SOUTH; ST. = STREET; STA. = STATION; SMH = SANITARY MANHOLE; T.M.# = TAX MAP NUMBER; TJB = TELEPHONE JUNCTION BOX; W = WEST; W/ = WITH; WD. = WOOD; W.F. = WOODFRAME

OVERHEAD WIRES; EDGE OF VEGETATION/WOODS; EDGE OF ROADWAY; PROPERTY LINES; SUB-PARCELS; FENCE (TYPE NOTED); APPROXIMATE LOCATION LOT LINE; SANITARY SEWER LINE

NOTES:
-ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY MAP MARKED WITH THE SIGNATURE AND AN ORIGINAL OF THE LAND SURVEYOR'S SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.
-UNAUTHORIZED ALTERATION OR ADDITION TO ANY SURVEY DRAWING, DESIGN, SPECIFICATION, PLAN OR REPORT IS A VIOLATION OF SECTION 7209, PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

HSE

Harter Secrest & Emery LLP

ATTORNEYS AND COUNSELORS

WWW.HSELAW.COM

August 15, 2014

Mr. Benjamin Conlon
New York State Department of Environmental Conservation
Office of the General Counsel, 14th floor
625 Broadway
Albany, New York 12233-1010

Re: Tecumseh Redevelopment Inc. Business Park IA
2303 Hamburg Turnpike, Hamburg, New York
Recorded Environmental Easement Package for
Index No.: B9-0752-07-08; NYSDEC Site No. C915218

Dear Mr. Conlon:

With regard to the above-captioned matter, enclosed herewith please find the following:

1. Copy of the Environmental Easement recorded with the Erie County Clerk's Office on July 15, 2014 in Liber 11266 of Deeds at page 5446.

2. Affidavit of Service by Mail of the Municipal Notice, together with copies of the cover letter and enclosures sent to the City of Lackawanna and County of Erie and certified mail return receipts as exhibits attached thereto.

3. Affidavit of Service by Mail to parties identified as having an interest in the property, as set forth in Schedule "B" of the Title Commitment, together with copies of the notice delivered to such parties and certified mail return receipts as exhibits attached thereto.

Please do not hesitate to contact me should you have any questions or require anything further.

Very truly yours,

Harter Secrest & Emery LLP

Michael L. Nisengard

DIRECT DIAL: 716.844.3715
E-MAIL: MNISENGARD@HSELAW.COM

MLN:lks
Enclosures

cc: Tom Forbes (via email)
Patrick Foster, Esq. (via email)
Marc A. Romanowski, Esq. (via email)

CHRISTOPHER L. JACOBS, ERIE COUNTY CLERK
REF:

DATE:7/15/2014
TIME:9:11:34 AM
RECEIPT: 14107868

BOX 29
ACCOUNT #: 0

ITEM - 01 785
RECD: 7/15/2014 9:21:59 AM
FILE: 2014137589 BK/PG D 11266/5436
Deed Sequence: TT2013021925
TECUMSEH REDEVELOPMENT INC
NEW YORK STATE DEPT OF ENVIRONMENTAL CONSERV
ATION
  Recording Fees 90.00
  TP584 10.00

Subtotal 100.00

ITEM - 02 785
RECD: 7/15/2014 9:21:59 AM
FILE: 2014137590 BK/PG D 11266/5446
Deed Sequence: TT2013021926
TECUMSEH REDEVELOPMENT INC
NEW YORK STATE DEPT OF ENVIRONMENTAL CONSERV
ATION
  Recording Fees 85.00
  TP584 10.00

Subtotal 95.00

ITEM - 03 785
RECD: 7/15/2014 9:21:59 AM
FILE: 2014137591 BK/PG D 11266/5455
Deed Sequence: TT2013021927
TECUMSEH REDEVELOPMENT INC
NEW YORK STATE DEPT OF ENVIRONMENTAL CONSERV
ATION
  Recording Fees 100.00
  TP584 10.00

Subtotal 110.00

ITEM - 04 785
RECD: 7/15/2014 9:21:59 AM
FILE: 2014137592 BK/PG D 11266/5467
Deed Sequence: TT2013021928
TECUMSEH REDEVELOPMENT INC
NEW YORK STATE DEPT OF ENVIRONMENTAL CONSERV
ATION
  Recording Fees 105.00
  TP584 10.00

Subtotal 115.00

  TOTAL DUE $420.00
  PAID TOTAL $420.00
  PAID CHECK $420.00
  Check #6438: 420.00

REC BY: Donna
COUNTY RECORDER

ERIE COUNTY CLERK'S OFFICE

County Clerk's Recording Page

Return to:
BOX 29

Party 1:
TECUMSEH REDEVELOPMENT INC

Party 2:
NEW YORK STATE DEPT OF
ENVIRONMENTAL CONSERVATION

Book Type: D Book: 11266 Page: 5446
Page Count: 9
Doc Type: EASEMENT/RTWY
Rec Date: 07/15/2014
Rec Time: 09:21:59 AM
Control #: 2014137590
UserID: Donna
Trans #: 14107868
Document Sequence Number
TT2013021926

Consideration Amount: 1.00

Recording Fees:

RECORDING	$65.00
COE CO $1 RET	$1.00
COE STATE $14.25 GEN	$14.25
COE STATE $4.75 RM	$4.75
TP584	$10.00

BASIC MT	$0.00
SONYMA MT	$0.00
ADDL MT/NFTA	$0.00
SP MT/M-RAIL	$0.00
NY STATE TT	$0.00
ROAD FUND TT	$0.00

Total: $95.00

STATE OF NEW YORK
ERIE COUNTY CLERK'S OFFICE

WARNING – THIS SHEET CONSTITUTES THE CLERK'S ENDORSEMENT REQUIRED BY SECTION 319&316-a (5) OF THE REAL PROPERTY LAW OF THE STATE OF NEW YORK. DO NOT DETACH. THIS IS NOT A BILL.

Christopher L. Jacobs
County Clerk

Box 29

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

THIS INDENTURE made this 26th day of June, 2014 between Owner(s) Tecumseh Redevelopment Inc., having an office at 4020 Kinross Lakes Parkway, County of Summit, State of Ohio (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 2303 Hamburg Turnpike in the City of Lackawanna, 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 141.11 Block 1 Lot 50, being a portion of that certain plot, piece or parcel of land conveyed to Grantor by deed dated May 6, 2003 and recorded in the Erie County Clerk's Office in Liber 11040 and Page 8953. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 12.31 +/- acres, and is hereinafter more fully described in the Land Title Survey, which includes parcels recognized under Brownfield Cleanup Agreement Amendments dated August 22, 2012 ("Sites"), dated September 14, 2012, field survey completed June 12, 2012 and prepared by Wendel, 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: B9-0752-07-08, Grantor

137591

LKW 8 185

conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

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

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

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

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

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

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

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

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

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

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

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

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

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

G. Grantor covenants and agrees that it shall, 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 Site within the Controlled Property on or about which the violation pertains.

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 Numbers: C915218
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

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

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

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

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

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or

counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

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

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

Grantor: Tecumseh Redevelopment Inc.

By: Keith A. Nagel

Print Name: Keith A. Nagel

Title: VP - ENVIR AFFAIRS ; REAL ESTATE Date: May 29, 2014

Grantor's Acknowledgment

STATE OF ~~NEW YORK~~ Ohio)
) ss:
COUNTY OF Summit)

On the 29th day of May, in the year 20 14, before me, the undersigned, personally appeared Keith Nagel, 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.

Susan E. Dick
Notary Public - State of ~~New York~~ Ohio
Commission expires: Nov. 6, 2017
Susan E. Dick

NOTARIAL SEAL
STATE OF OHIO

[10/12]

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 26th day of June, in the year 2014, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2016

[10/12]

SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Lackawanna, County of Erie and State of New York, being part of lots 20, 21, 22, 23 and 25 of the Ogden Gore Tract and being designated as BCP Site No. C915218, described as follows:
Beginning at the southeast corner of lands conveyed to Gateway Trade Center Inc. by deed recorded in the Erie County Clerk's office in Liber 10886 of Deeds at page 1064;
Thence along said lands so conveyed to Gateway Trade Center Inc., by deed aforesaid, the following 7 courses and distances:

1. N 18°-42'-31" W a distance of 1001.28 feet to a point;
2. S 71°-17'-29" W a distance of 168.48 feet to a point;
3. N 18°-42'-31" W a distance of 642.00 feet to a point;
4. N 71°-17'-37" E a distance of 17.30 feet to a point;
5. N 18°-42'-31" W a distance of 574.67 feet to a point;
6. N 71°-17'-29" E a distance of 151.18 feet to a point;
7. N 18°-42'-30" W a distance of 956.68 feet to a point;

Thence N 71°-00'-00" E, a distance of 143.37 feet to a point;
Thence S 18°-23'-42" E, a distance of 1051.55 feet to a point;
Thence S 09°-40'-30" W, a distance of 106.50 feet to a point;
Thence S 18°-22'-06" E, a distance of 2030.00 feet to a point;
Thence S 71°-11'-53" W, a distance of 86.73 feet to the point of beginning, containing 12.31 acres of land, more or less.
Excepting and reserving therefrom, those portions thereof lying within the north and south return water trenches.
Being part of the piece or parcel of land in a bargain and sale deed dated 5/06/2003 and recorded 5/22/2003 in Liber 11040 of Deeds at page 8953 in the Erie County Clerk's Office. This parcel of land is part of the overall deed.

AFFIDAVIT OF SERVICE BY MAIL

STATE OF NEW YORK)
COUNTY OF ERIE) ss:

Michael L. Nisengard, being duly sworn, deposes and says: I am an attorney at the law firm of Harter Secrest & Emery LLP, Twelve Fountain Plaza, Suite 400, Buffalo, NY 14202. On the 18th day of July, 2014, I mailed by certified mail with return receipt requested, a copy of the attached Notice to the City of Lackawanna and County of Erie, such Notice enclosing a copy of the Environmental Easement, all as attached hereto as Exhibit "A" by depositing same enclosed in a postpaid properly addressed wrapper via Certified Mail, Return-Receipt Requested in a post office under the exclusive care and custody of the United States Postal Service within the State of New York. Attached hereto as Exhibit "B" are copies of the certified mail receipts.

Michael L. Nisengard

Sworn to before me on this
14th day of August 2014.

Notary Public

LISA K. SCHWEICKERT
Notary Public, State of New York
Qualified in Wyoming County
Commission Expires June 7, 2018

EXHIBIT A

Harter Secrest & Emery LLP
ATTORNEYS AND COUNSELORS
WWW.HSELAW.COM

July 17, 2014

City of Lackawanna
714 Ridge Road
Lackawanna New York, 14218

County Executive, County of Erie
Edward A. Rath County Office Building
95 Franklin Street, 16th Floor
Buffalo, New York 14202

Re: Environmental Easement

Dear Sir or Madam:

Attached please find a copy of an environmental easement granted to the New York State Department of Environmental Conservation ("DEC") by Tecumseh Redevelopment Inc. for a portion of the property located at 2303 Hamburg Turnpike, Hamburg, NY, and including DEC Site No: C915218 (the "Site"). This environmental easement has been filed in the Erie County Clerk's Office on July 15, 2014 in Liber 11266 of Deeds at page 5446.

The Site is being remediated under the oversight of the New York State Department of Environmental Conservation (the "DEC") under the Brownfield Cleanup Program. The Site was historically used for industrial operations. Remaining environmental contamination remediation at the Site will be managed under a DEC-approved Site Management Plan, which requires, among other items described below, the recording of an Environmental Easement restricting future use of the Site.

This Environmental Easement restricts future use of the above-referenced property to restricted commercial or industrial uses. It also requires compliance with a Site Management Plan, a copy of which is on file with the DEC. The Site Management Plan, which is incorporated into the Environmental Easement, requires maintenance of engineered controls to isolate remaining contaminated soils, monitoring and maintenance of on-site wells, and notices to DEC in advance of certain listed activities. Any approved activity must be done in accordance with the Site Management Plan. DEC 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.

TWELVE FOUNTAIN PLAZA, SUITE 400 BUFFALO, NY 14202-2293 PHONE: 716.853.1616 FAX: 716.853.1617
ROCHESTER, NY • BUFFALO, NY • ALBANY, NY • CORNING, NY

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

An electronic version of every environmental easement that has been accepted by this DEC 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,
Harter Secrest & Emery LLP

Michael L. Nisengard
Associate
DIRECT DIAL: (716) 844-3715
E-MAIL: MNISENGARD@HSELAW.COM

MLN:dmm

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

THIS INDENTURE made this 26th day of June, 2014, between Owner(s) Tecumseh Redevelopment Inc., having an office at 4020 Kinross Lakes Parkway, County of Summit, State of Ohio (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 2303 Hamburg Turnpike in the City of Lackawanna, 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 141.11 Block 1 Lot 50, being a portion of that certain plot, piece or parcel of land conveyed to Grantor by deed dated May 6, 2003 and recorded in the Erie County Clerk's Office in Liber 11040 and Page 8953. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 12.31 +/- acres, and is hereinafter more fully described in the Land Title Survey, which includes parcels recognized under Brownfield Cleanup Agreement Amendments dated August 22, 2012 ("Sites"), dated September 14, 2012, field survey completed June 12, 2012 and prepared by Wendel, 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: B9-0752-07-08, Grantor

conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

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

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

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

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

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

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

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

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

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

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

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

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

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

G. Grantor covenants and agrees that it shall, 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 Site within the Controlled Property on or about which the violation pertains.

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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.

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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 Numbers: C915218
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

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

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

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

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

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or

counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

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

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

Grantor: Tecumseh Redevelopment Inc.

By: Keith A. Nagel

Print Name: Keith A. Nagel

Title: VP - ENVIR AFFAIRS & REAL ESTATE Date: May 29, 2014

Grantor's Acknowledgment

STATE OF ~~NEW YORK~~ Ohio)
) ss:
COUNTY OF Summit)

On the 29th day of May, in the year 20 14, before me, the undersigned, personally appeared Keith Nagel, 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.

Joan E. Dick

Notary Public - State of ~~New York~~ Ohio

Commission expires: Nov. 6, 2017

NOTARIAL SEAL
STATE OF OHIO

[10/12]

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 26th day of June, in the year 2014, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2016

SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Lackawanna, County of Erie and State of New York, being part of lots 20, 21, 22, 23 and 25 of the Ogden Gore Tract and being designated as BCP Site No. C915218, described as follows:

Beginning at the southeast corner of lands conveyed to Gateway Trade Center Inc. by deed recorded in the Erie County Clerk's office in Liber 10886 of Deeds at page 1064;

Thence along said lands so conveyed to Gateway Trade Center Inc., by deed aforesaid, the following 7 courses and distances:

1. N 18°-42'-31" W a distance of 1001.28 feet to a point;
2. S 71°-17'-29" W a distance of 168.48 feet to a point;
3. N 18°-42'-31" W a distance of 642.00 feet to a point;
4. N 71°-17'-37" E a distance of 17.30 feet to a point;
5. N 18°-42'-31" W a distance of 574.67 feet to a point;
6. N 71°-17'-29" E a distance of 151.18 feet to a point;
7. N 18°-42'-30" W a distance of 956.68 feet to a point;

Thence N 71°-00'-00" E, a distance of 143.37 feet to a point;

Thence S 18°-23'-42" E, a distance of 1051.55 feet to a point;

Thence S 09°-40'-30" W, a distance of 106.50 feet to a point;

Thence S 18°-22'-06" E, a distance of 2030.00 feet to a point;

Thence S 71°-11'-53" W, a distance of 86.73 feet to the point of beginning, containing 12.31 acres of land, more or less.

Excepting and reserving therefrom, those portions thereof lying within the north and south return water trenches.

Being part of the piece or parcel of land in a bargain and sale deed dated 5/06/2003 and recorded 5/22/2003 in Liber 11040 of Deeds at page 8953 in the Erie County Clerk's Office. This parcel of land is part of the overall deed.

TP-584 (4/13)

New York State Department of Taxation and Finance

Combined Real Estate Transfer Tax Return, Credit Line Mortgage Certificate, and Certification of Exemption from the Payment of Estimated Personal Income Tax

Recording office time stamp

See Form TP-584-I, Instructions for Form TP-584, before completing this form. Print or type.

Schedule A – Information relating to conveyance

Grantor/Transferor

☐ Individual
☒ Corporation
☐ Partnership
☐ Estate/Trust
☐ Single member LLC
☐ Other

Name *(if individual, last, first, middle initial)* (☐ *check if more than one grantor*): Tecumseh Redevelopment, Inc.

Social security number:

Mailing address: 4020 Kinross Lakes Parkway

Social security number:

City: Richfield | State: OH | ZIP code: 44286

Federal EIN: 01-0649791

Single member's name if grantor is a single member LLC *(see instructions)*:

Single member EIN or SSN:

Grantee/Transferee

☐ Individual
☐ Corporation
☐ Partnership
☐ Estate/Trust
☐ Single member LLC
☒ Other

Name *(if individual, last, first, middle initial)* (☐ *check if more than one grantee*): The People of the State of New York, acting through their Commissioner of the Department of Environmental Conservation

Social security number:

Mailing address: 625 Broadway

Social security number:

City: Albany | State: NY | ZIP code: 12233

Federal EIN: 14-6013200

Single member's name if grantee is a single member LLC *(see instructions)*:

Single member EIN or SSN:

Location and description of property conveyed

Tax map designation – Section, block & lot *(include dots and dashes)*	SWIS code (six digits)	Street address	City, town, or village	County
141.11-1-50	140900	2303 Hamburg Tumpike	Lackawanna	Erie

Type of property conveyed *(check applicable box)*

1 ☐ One- to three-family house
2 ☐ Residential cooperative
3 ☐ Residential condominium
4 ☐ Vacant land
5 ☒ Commercial/Industrial
6 ☐ Apartment building
7 ☐ Office building
8 ☐ Other _____

Date of conveyance: 06 | 26 | 2014 (month / day / year)

Percentage of real property conveyed which is residential real property 0 % *(see instructions)*

Condition of conveyance *(check all that apply)*

a. ☐ Conveyance of fee interest
b. ☐ Acquisition of a controlling interest (state percentage acquired _____ %)
c. ☐ Transfer of a controlling interest (state percentage transferred _____ %)
d. ☐ Conveyance to cooperative housing corporation
e. ☐ Conveyance pursuant to or in lieu of foreclosure or enforcement of security interest *(attach Form TP-584.1, Schedule E)*
f. ☐ Conveyance which consists of a mere change of identity or form of ownership or organization *(attach Form TP-584.1, Schedule F)*
g. ☐ Conveyance for which credit for tax previously paid will be claimed *(attach Form TP-584.1, Schedule G)*
h. ☐ Conveyance of cooperative apartment(s)
i. ☐ Syndication
j. ☐ Conveyance of air rights or development rights
k. ☐ Contract assignment
l. ☐ Option assignment or surrender
m. ☐ Leasehold assignment or surrender
n. ☐ Leasehold grant
o. ☐ Conveyance of an easement
p. ☒ Conveyance for which exemption from transfer tax claimed *(complete Schedule B, Part III)*
q. ☐ Conveyance of property partly within and partly outside the state
r. ☐ Conveyance pursuant to divorce or separation
s. ☒ Other *(describe)* Environmental Easement Pursuant to ECL Art. 71 Title 36

For recording officer's use	Amount received	Date received	Transaction number
	Schedule B., Part I $		
	Schedule B., Part II $		

Schedule B – Real estate transfer tax return (Tax Law, Article 31)

Part I – Computation of tax due

1	Enter amount of consideration for the conveyance *(if you are claiming a total exemption from tax, check the exemption claimed box, enter consideration and proceed to Part III)* ☒ **Exemption claimed**	1.	0 00
2	Continuing lien deduction *(see instructions if property is taken subject to mortgage or lien)*	2.	0 00
3	Taxable consideration *(subtract line 2 from line 1)*	3.	0 00
4	Tax: $2 for each $500, or fractional part thereof, of consideration on line 3	4.	
5	Amount of credit claimed for tax previously paid *(see instructions and attach Form TP-584.1, Schedule G)*	5.	
6	Total tax due* *(subtract line 5 from line 4)*	6.	0 00

Part II – Computation of additional tax due on the conveyance of residential real property for $1 million or more

1	Enter amount of consideration for conveyance *(from Part I, line 1)*	1.	0 00
2	Taxable consideration *(multiply line 1 by the percentage of the premises which is residential real property, as shown in Schedule A)*	2.	
3	Total additional transfer tax due* *(multiply line 2 by 1% (.01))*	3.	0 00

Part III – Explanation of exemption claimed on Part I, line 1 *(check any boxes that apply)*

The conveyance of real property is exempt from the real estate transfer tax for the following reason:

a. Conveyance is to the United Nations, the United States of America, the state of New York, or any of their instrumentalities, agencies, or political subdivisions (or any public corporation, including a public corporation created pursuant to agreement or compact with another state or Canada) ..... a ☒

b. Conveyance is to secure a debt or other obligation ..... b ☐

c. Conveyance is without additional consideration to confirm, correct, modify, or supplement a prior conveyance ..... c ☐

d. Conveyance of real property is without consideration and not in connection with a sale, including conveyances conveying realty as bona fide gifts ..... d ☒

e. Conveyance is given in connection with a tax sale ..... e ☐

f. Conveyance is a mere change of identity or form of ownership or organization where there is no change in beneficial ownership. (This exemption cannot be claimed for a conveyance to a cooperative housing corporation of real property comprising the cooperative dwelling or dwellings.) Attach Form TP-584.1, Schedule F ..... f ☐

g. Conveyance consists of deed of partition ..... g ☐

h. Conveyance is given pursuant to the federal Bankruptcy Act ..... h ☐

i. Conveyance consists of the execution of a contract to sell real property, without the use or occupancy of such property, or the granting of an option to purchase real property, without the use or occupancy of such property ..... i ☐

j. Conveyance of an option or contract to purchase real property with the use or occupancy of such property where the consideration is less than $200,000 and such property was used solely by the grantor as the grantor's personal residence and consists of a one-, two-, or three-family house, an individual residential condominium unit, or the sale of stock in a cooperative housing corporation in connection with the grant or transfer of a proprietary leasehold covering an individual residential cooperative apartment ..... j ☐

k. Conveyance is not a conveyance within the meaning of Tax Law, Article 31, section 1401(e) *(attach documents supporting such claim)* ..... k ☐

*The total tax (from Part I, line 6 and Part II, line 3 above) is due within 15 days from the date conveyance. Please make check(s) payable to the county clerk where the recording is to take place. If the recording is to take place in the New York City boroughs of Manhattan, Bronx, Brooklyn, or Queens, make check(s) payable to the ***NYC Department of Finance.*** If a recording is not required, send this return and your check(s) made payable to the ***NYS Department of Taxation and Finance,*** directly to the NYS Tax Department, RETT Return Processing, PO Box 5045, Albany NY 12205-5045.

Schedule C – Credit Line Mortgage Certificate (Tax Law, Article 11)

Complete the following only if the interest being transferred is a fee simple interest.
I (we) certify that: *(check the appropriate box)*

1. ☒ The real property being sold or transferred is not subject to an outstanding credit line mortgage.

2. ☐ The real property being sold or transferred is subject to an outstanding credit line mortgage. However, an exemption from the tax is claimed for the following reason:
   - ☐ The transfer of real property is a transfer of a fee simple interest to a person or persons who held a fee simple interest in the real property (whether as a joint tenant, a tenant in common or otherwise) immediately before the transfer.
   - ☐ The transfer of real property is (A) to a person or persons related by blood, marriage or adoption to the original obligor or to one or more of the original obligors or (B) to a person or entity where 50% or more of the beneficial interest in such real property after the transfer is held by the transferor or such related person or persons (as in the case of a transfer to a trustee for the benefit of a minor or the transfer to a trust for the benefit of the transferor).
   - ☐ The transfer of real property is a transfer to a trustee in bankruptcy, a receiver, assignee, or other officer of a court.
   - ☐ The maximum principal amount secured by the credit line mortgage is $3,000,000 or more, and the real property being sold or transferred is **not** principally improved nor will it be improved by a one- to six-family owner-occupied residence or dwelling.

     Please note: for purposes of determining whether the maximum principal amount secured is $3,000,000 or more as described above, the amounts secured by two or more credit line mortgages may be aggregated under certain circumstances. See TSB-M-96(6)-R for more information regarding these aggregation requirements.
   - ☐ Other *(attach detailed explanation)*.

3. ☐ The real property being transferred is presently subject to an outstanding credit line mortgage. However, no tax is due for the following reason:
   - ☐ A certificate of discharge of the credit line mortgage is being offered at the time of recording the deed.
   - ☐ A check has been drawn payable for transmission to the credit line mortgagee or his agent for the balance due, and a satisfaction of such mortgage will be recorded as soon as it is available.

4. ☐ The real property being transferred is subject to an outstanding credit line mortgage recorded in _____ (insert liber and page or reel or other identification of the mortgage). The maximum principal amount of debt or obligation secured by the mortgage is _____. No exemption from tax is claimed and the tax of _____ is being paid herewith. *(Make check payable to county clerk where deed will be recorded or, if the recording is to take place in New York City but not in Richmond County, make check payable to the **NYC Department of Finance.**)*

Signature (both the grantor(s) and grantee(s) must sign)

The undersigned certify that the above information contained in schedules A, B, and C, including any return, certification, schedule, or attachment, is to the best of his/her knowledge, true and complete, and authorize the person(s) submitting such form on their behalf to receive a copy for purposes of recording the deed or other instrument effecting the conveyance.

Grantor		Grantee	
Tecumseh Redevelopment, Inc.		New York State Department of Environmental Conservation	
By: _____ Grantor signature	Vice President of Environmental Affairs and Real Estate — Title	By: _____ Grantee signature	Title
_____ Grantor signature	Title	_____ Grantee signature	Title

Reminder: Did you complete all of the required information in Schedules A, B, and C? Are you required to complete Schedule D? If you checked *e*, *f*, or *g* in Schedule A, did you complete Form TP-584.1? Have you attached your check(s) made payable to the county clerk where recording will take place or, if the recording is in the New York City boroughs of Manhattan, Bronx, Brooklyn, or Queens, to the ***NYC Department of Finance***? If no recording is required, send your check(s), made payable to the ***Department of Taxation and Finance,*** directly to the NYS Tax Department, RETT Return Processing, PO Box 5045, Albany NY 12205-5045.

Schedule D - Certification of exemption from the payment of estimated personal income tax (Tax Law, Article 22, section 663)

Complete the following only if a fee simple interest or a cooperative unit is being transferred by an individual or estate or trust.

If the property is being conveyed by a referee pursuant to a foreclosure proceeding, proceed to Part II, and check the second box under *Exemptions for nonresident transferor(s)/seller(s)* and sign at bottom.

Part I - New York State residents

If you are a New York State resident transferor(s)/seller(s) listed in Schedule A of Form TP-584 (or an attachment to Form TP-584), you must sign the certification below. If one or more transferors/sellers of the real property or cooperative unit is a resident of New York State, **each** resident transferor/seller must sign in the space provided. If more space is needed, please photocopy this Schedule D and submit as many schedules as necessary to accommodate all resident transferors/sellers.

Certification of resident transferor(s)/seller(s)

This is to certify that at the time of the sale or transfer of the real property or cooperative unit, the transferor(s)/seller(s) as signed below was a resident of New York State, and therefore is not required to pay estimated personal income tax under Tax Law, section 663(a) upon the sale or transfer of this real property or cooperative unit.

Signature	Print full name	Date
Signature	Print full name	Date
Signature	Print full name	Date
Signature	Print full name	Date

Note: A resident of New York State may still be required to pay estimated tax under Tax Law, section 685(c), but not as a condition of recording a deed.

Part II - Nonresidents of New York State

If you are a nonresident of New York State listed as a transferor/seller in Schedule A of Form TP-584 (or an attachment to Form TP-584) but are not required to pay estimated personal income tax because one of the exemptions below applies under Tax Law, section 663(c), check the box of the appropriate exemption below. If any one of the exemptions below applies to the transferor(s)/seller(s), that transferor(s)/seller(s) is not required to pay estimated personal income tax to New York State under Tax Law, section 663. **Each** nonresident transferor/seller who qualifies under one of the exemptions below must sign in the space provided. If more space is needed, please photocopy this Schedule D and submit as many schedules as necessary to accommodate all nonresident transferors/sellers.

If none of these exemption statements apply, you must complete Form IT-2663, *Nonresident Real Property Estimated Income Tax Payment Form*, or Form IT-2664, *Nonresident Cooperative Unit Estimated Income Tax Payment Form.* For more information, see *Payment of estimated personal income tax,* on page 1 of Form TP-584-I.

Exemption for nonresident transferor(s)/seller(s)

This is to certify that at the time of the sale or transfer of the real property or cooperative unit, the transferor(s)/seller(s) (grantor) of this real property or cooperative unit was a nonresident of New York State, but is not required to pay estimated personal income tax under Tax Law, section 663 due to one of the following exemptions:

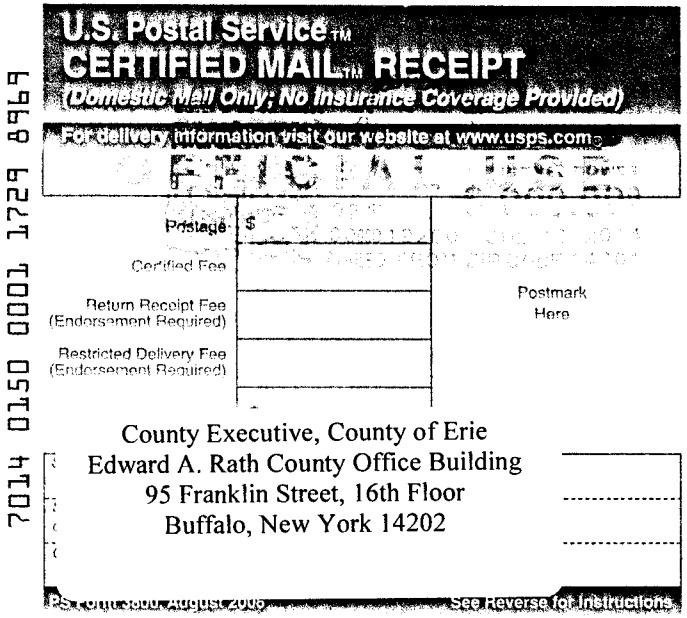
☐ The real property or cooperative unit being sold or transferred qualifies in total as the transferor's/seller's principal residence (within the meaning of Internal Revenue Code, section 121) from _____ (Date) to _____ (Date) *(see instructions).*

☐ The transferor/seller is a mortgagor conveying the mortgaged property to a mortgagee in foreclosure, or in lieu of foreclosure with no additional consideration.

☐ The transferor or transferee is an agency or authority of the United States of America, an agency or authority of the state of New York, the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation, the Government National Mortgage Association, or a private mortgage insurance company.

Signature	Print full name	Date
Signature	Print full name	Date
Signature	Print full name	Date
Signature	Print full name	Date

EXHIBIT B



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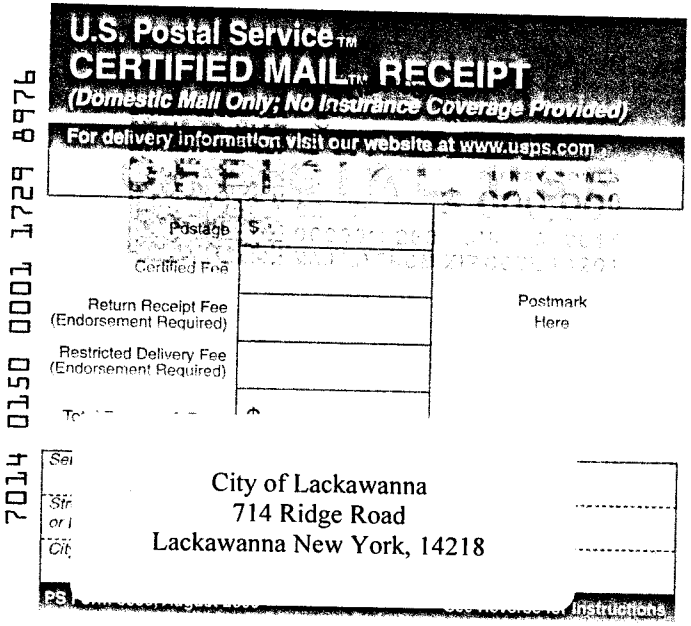
Postmark Here
7014 0150 0001 1729 8969
County Executive, County of Erie
Edward A. Rath County Office Building
95 Franklin Street, 16th Floor
Buffalo, New York 14202
See Reverse for Instructions



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Restricted Delivery Fee (Endorsement Required)
Postmark Here
7014 0150 0001 1729 8976
City of Lackawanna
714 Ridge Road
Lackawanna New York, 14218
Instructions

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

County Executive, County of Erie
Edward A. Rath County Office Building
95 Franklin Street, 16th Floor
Buffalo, New York 14202

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X P. Paladino ☐ Agent ☐ Addressee

B. Received by (Printed Name) P. PALADINO C. Date of Delivery 7-24

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

3. Service Type
☐ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7014 0150 0001 1729 8969

PS Form 3811, July 2013 Domestic Return Receipt

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1. Article Addressed to:

City of Lackawanna
714 Ridge Road
Lackawanna New York, 14218

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Rosanne Con ☐ Agent ☐ Addre

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

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

3. Service Type
☐ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchar
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7014 0150 0001 1729 8976

PS Form 3811, July 2013 Domestic Return Receipt

AFFIDAVIT OF SERVICE BY MAIL

Michael L. Nisengard, being duly sworn, deposes and says: I am an attorney at the law firm of Harter Secrest & Emery LLP, Twelve Fountain Plaza, Suite 400, Buffalo, NY 14202. I mailed a copy of the attached Notice of Environmental Easement, which is attached hereto as "Exhibit A", to the parties listed on "Exhibit B" attached hereto, by certified mail with return receipt requested, copies of said slips are attached hereto as "Exhibit C". All parties listed on Exhibit "B" were notified by depositing a copy of the Notice of Environmental Easement in a postpaid addressed wrapper, in an official post office depository under the exclusive care and custody of the United States Post Office Department within the State of New York. Those mailings occurred on the 18th day of July, 2014.

Michael L. Nisengard

Sworn to before me on this
14th day of August 2014.

Notary Public

LISA K. SCHWEICKERT
Notary Public, State of New York
Qualified in Wyoming County
Commission Expires June 7, 2015

EXHIBIT A

NOTICE OF ENVIRONMENTAL EASEMENT

The New York State Department of Environmental Conservation (the "Grantee"), has been granted an Environmental Easement pursuant to Article 71, Section 36 affecting real property located at the following address:

2303 Hamburg Turnpike
Lackawanna, New York

Property Owner/Grantor: Tecumseh Redevelopment Inc.

The Tax Map Identification No.: 141.11-1-50

NYS Department of Environmental Conservation Site No.: C915218

The Environmental Easement for the above referenced property has been filed in the Erie County Clerk's Office on July 15, 2014 in Liber 11266 of Deeds at page 5446.

The Environmental Easement contains institutional and/or engineering controls that run with the land. The Environmental Easement may restrict the use of the above referenced property to restricted Commercial and Industrial uses (residential, commercial or industrial).

NOTICE IS HEREBY GIVEN that any activity on the land which might or will prevent or interfere with the ongoing or completed remedial program, including the controls as set forth in the Environmental Easement and the Site Management Plan, must be done in accordance with the Site Management Plan which is incorporated by reference into the Environmental Easement. A copy of the Site Management Plan can be obtained by contacting the Department at derweb@gw.dec.state.ny.us. Be further advised of the notice provisions of NYCRR 375-1.11(d) relative to contemplated significant changes in use.

Failure to Comply with the terms and conditions of the Environmental Easement may subject violators to penalties of up to $37,500 per day for violation of 6 NYCRR 375-1.11(b).

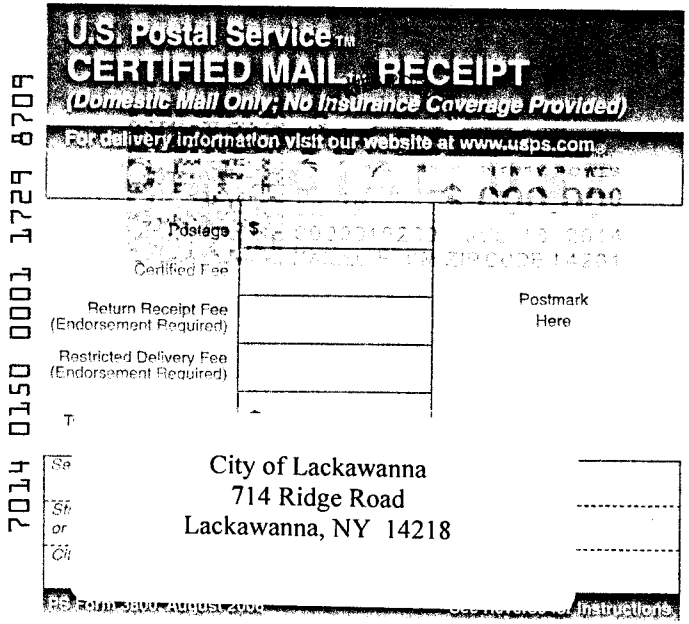
An electronic version of this environmental easement has been accepted by the New York State Department of Environmental Conservation and is available to the public at: http://www.dec.ny.gov/chemical/36045.html.

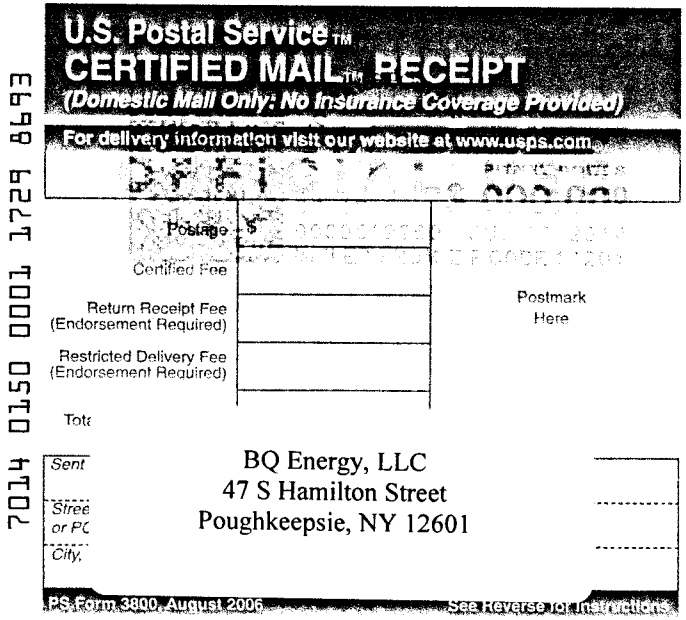
EXHIBIT B

EASEMENT NOTICE ADDRESS LIST
Tecumseh Redevelopment Inc.
2303 Lackawanna Turnpike, Lackawanna, New York
Site No.: C915218

BQ Energy, LLC 47 S Hamilton Street Poughkeepsie, NY 12601	http://www.bqenergy.com/
City of Lackawanna 714 Ridge Road Lackawanna, NY 14218	http://www.lackawannany.gov/departments/city-clerk/
County Executive, County of Erie Edward A. Rath County Office Building 95 Franklin Street, 16th Floor Buffalo, New York 14202	http://www2.erie.gov/exec/index.php?q=office-information-0
Erie County Clerk's Office 92 Franklin Street Buffalo, NY 14202	http://www2.erie.gov/clerk/
Erie Wind, LLC 179 Lincoln St. #500 Boston, MA 02111-2425	http://www.dos.ny.gov/corps/bus_entity_search.html
KB Business Park Redevelopment LLC 4 Centre Drive Orchard Park, NY 14127	http://www.dos.ny.gov/corps/bus_entity_search.html
National Fuel Gas Distribution Corporation c/o National Fuel Gas Co. 6363 Main Street Williamsville, NY 14221	http://www.natfuel.com/
Niagara Mohawk Power Corporation 300 Erie Boulevard West Syracuse, NY 13202	http://www.dos.ny.gov/corps/bus_entity_search.html
Verizon New York, Inc. 140 West Street 20th Floor New York, NY 10007	http://www.dos.ny.gov/corps/bus_entity_search.html

EXHIBIT C





L5K 1A

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

City of Lackawanna
714 Ridge Road
Lackawanna, NY 14218

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Rosa Cope ☐ Agent ☐ Addressee

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

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

3. Service Type
☐ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7014 0150 0001 1729 8709

PS Form 3811, July 2013 Domestic Return Receipt

L5K 1A

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1. Article Addressed to:

BQ Energy, LLC
47 S Hamilton Street
Poughkeepsie, NY 12601

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Kim Downey ☒ Agent ☐ Addre

B. Received by *(Printed Name)* KIM DOWNEY C. Date of Deli 7/2/17

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

3. Service Type
☐ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchan
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7014 0150 0001 1729 8693

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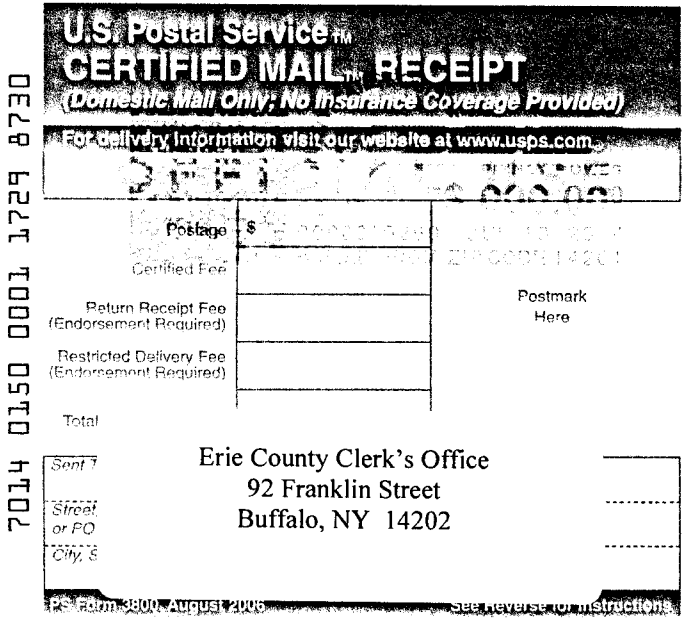

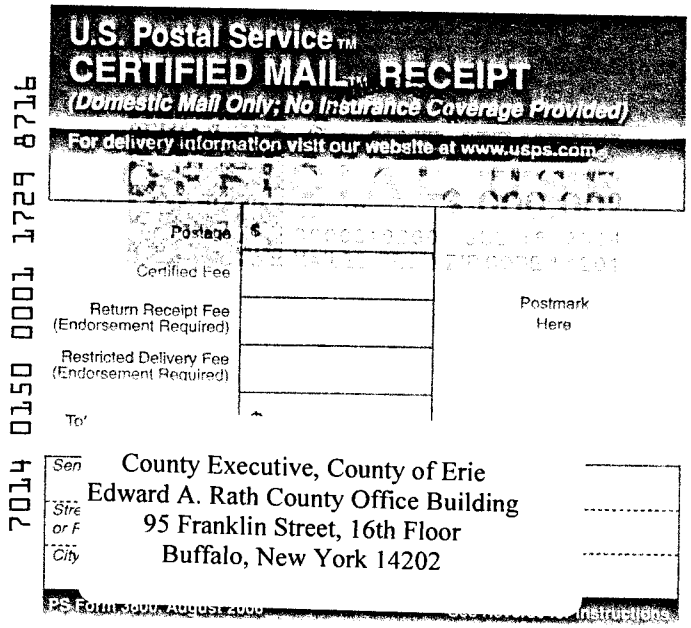

LSK IA

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1. Article Addressed to:

Erie County Clerk's Office
92 Franklin Street
Buffalo, NY 14202

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X F. Lindstedt ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* F. Lindstedt C. Date of Delivery 7.21

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

3. Service Type
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4. Restricted Delivery? *(Extra Fee)* ☐ Yes

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LSK IA

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1. Article Addressed to:

County Executive, County of Erie
Edward A. Rath County Office Building
95 Franklin Street, 16th Floor
Buffalo, New York 14202

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X P. Palcdmi ☐ Agent ☐ Addre

B. Received by *(Printed Name)* P. PALADINO C. Date of Del

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

3. Service Type
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☐ Registered ☐ Return Receipt for Merchar
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4. Restricted Delivery? *(Extra Fee)* ☐ Yes

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Return Receipt Fee (Endorsement Required)
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Total
Postmark Here

Sent To
Street or PO
City, S

National Fuel Gas Distribution Corporation
c/o National Fuel Gas Co.
6363 Main Street
Williamsville, NY 14221

PS Form 3800, August 2006 See Instructions

LSKIA

SENDER: COMPLETE THIS SECTION

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1. Article Addressed to:

National Fuel Gas Distribution Corporation
c/o National Fuel Gas Co.
6363 Main Street
Williamsville, NY 14221

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) Joanne Harris
C. Date of Delivery 7/24/14

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

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4. Restricted Delivery? *(Extra Fee)* ☐ Yes

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Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Total
Postmark Here

Sent To
Street or PO
City, S

KB Business Park Redevelopment LLC
4 Centre Drive
Orchard Park, NY 14127

PS Form 3800, August 2006 See Reverse for Instructions

LSKIA

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

KB Business Park Redevelopment LLC
4 Centre Drive
Orchard Park, NY 14127

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X B. Rupple ☐ Agent ☐ Addres

B. Received by (Printed Name) B. Rupple
C. Date of Deli 7-21-14

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

3. Service Type
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☐ Registered ☐ Return Receipt for Merchan
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

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Postage $ 0000019260 JUL 18 2014
MAILED FROM ZIPCODE 14201

Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Total

Postmark Here

Sent To
Street or PO
City, S

Verizon New York, Inc.
140 West Street
20th Floor
New York, NY 10007

PS Form 3800, August 2006 See Reverse for Instructions

7014 0150 0001 1729 8754

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CERTIFIED MAIL™ RECEIPT
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CERTIFIED $ 000.00

Postage $ 0000019260 JUL 18 2014
MAILED FROM ZIPCODE 14201

Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Total

Postmark Here

Sent
Stree
or P
City,

Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, NY 13202

PS F... ...nstructions

LSK 1A

SENDER: COMPLETE THIS SECTION

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Verizon New York, Inc.
140 West Street
20th Floor
New York, NY 10007

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X R Tenito ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery 7/23/14

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

3. Service Type
☐ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)*

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LSK 1A

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, NY 13202

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addres

B. Received by *(Printed Name)* C. Date of Deli

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

3. Service Type
☐ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchan
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7014 0150 0001 1729 8754

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APPENDIX B

LIST OF SITE CONTACTS

APPENDIX B – LIST OF SITE CONTACTS

Organization	Name	Role	Phone/Email Address
Sucro Real Estate NY, LLC (Site Owner)	Jonathan Taylor, President	Facility Contact	305-901-5222 jtaylor@sucro.us
Sucro Real Estate NY, LLC (Site Owner)	Stephano D'Aniello, Vice President	Facility Contact	305-901-1322 sdaniello@sucro.us
Benchmark Civil/ Environmental	Thomas H. Forbes, P.E.	Qualified Environmental Professional	716-856-0599 tforbes@bm-tk.com
Benchmark Civil/ Environmental	Lori E. Riker, P.E.	Qualified Environmental Professional	716-856-0599 lriker@bm-tk.com
NYSDEC	Andrew Zwack	Project Manager	716-851-7220 andrew.zwack@dec.ny.gov
NYSDEC	Stanley Radon, P.G.	Regional Remediation Geologist	716-851-7220 stanley.radon@dec.ny.gov
NYSDEC	Kelly Lewandowski, P.E.	Site Control	518-402-9543 kelly.lewandowski@dec.ny.gov
NYSDOH	Sarah Bogardus	Project Manager	518-402-7860 beei@health.ny.gov

APPENDIX C

MONITORING WELL BORING
&
CONSTRUCTION LOGS

Project No: 0071-010-350

Borehole Number: MWN-69A

Project: Phase IA Business Area

A.K.A.:

Client: Tecumseh Redevelopment Inc.

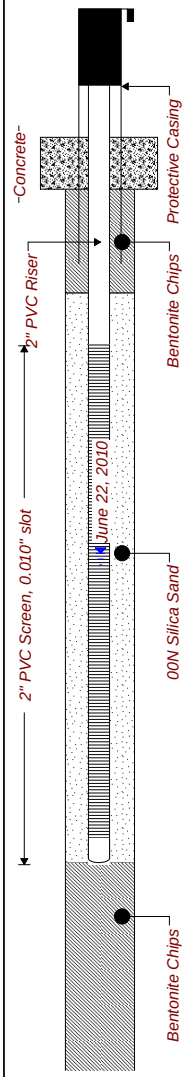
Logged By: PWW

Site Location: Lackawanna, NY

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
-2.0									
	0.0	Ground Surface							
	0.0	***Soil/Fill*** Brown, moist, mostly organic fines, little fine to course sand non plastic, dense, loose when disturbed	S-1	12	1.4		0.0		
	-1.0 1.0	***Fill*** Olive Grey, moist, mostly fines with trace angular gravel, slag and cinders, non plastic, medium dense	S-2	9	1.4		0.0		
3.0									
	-4.0 4.0	***Lean Clay*** Olive grey, moist to wet(8'), mostly fines with trace fine sand,medium plasticity fines, little angular fine gravel, stiff, massive	S-3	8	1.6		0.0		
			S-4	7	1.7		0.0		
8.0			S-5	19	1.4		0.0		
	-10.0 10.0	***Fill*** Same as above, thin shale lenses	S-6	10	1.7		0.0		
13.0			S-7	15	2.0		0.0		
	-13.5 13.5	***Organic Soil (Peat)*** Brown, moist, mostly organic fines with wood fibers, low plasticity, medium soft, crumbles with pressure	S-8	6	2.0		0.0		
			S-9	8	2.4		0.0		
18.0	-18.0 18.0	End of Borehole							



Drilled By: Earth Dimensions
Drill Rig Type: CME 550
Drill Method: Continuous SS with HSA
Comments:
Drill Date(s): 6/22/10

Hole Size: 6"
Stick-up: 3'
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0071-010-350

Borehole Number: MWN-70A

Project: Phase IA Business Park Area

A.K.A.:

Client: Tecumseh Redevelopment Inc.

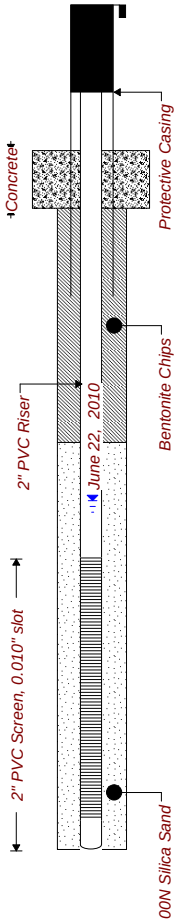
Logged By: PWW

Site Location: Lackawanna, NY

Checked By: BCH

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

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	Ground Surface							
	0.0 / -1.0 / 1.0	***Slag/Fill*** Brown, moist, mostly organic fines, little fine to course sand, little slag non plastic, dense, loose when disturbed	S-1	19	1.8		0.0		
3.0	-4.0 / 4.0	***Fill*** Brown, moist, mostly fines, little fine sand, slag, cinders, brick pieces, non plastic, dense, loose when disturbed	S-2	41	1.3		0.0		
		Fill Brown, moist to wet (6'), mostly fine sand, some non plastic fines, little angular fine gravel, cinders, medium dense, loose when disturbed	S-3	6	1.6		0.0		
			S-4	7	1.1		0.0		
8.0	-8.0 / 8.0	***Fill*** Same as above, no cinders, wood debris	S-5	51	1.1		0.0		
	-10.0 / 10.0	***Organic Soil (Peat)*** Brown, moist, mostly organic fines, some woody materials, low plasticity, hard	S-6	3	1.6		0.0		
13.0	-12.0 / 12.0	End of Borehole							



Drilled By: Earth Dimensions
Drill Rig Type: CME 550
Drill Method: Continuous SS with HSA
Comments:
Drill Date(s): 6/22/10

Hole Size: 6"
Stick-up: 3'
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: B0555-021-006-004

Borehole Number: MWN-95A

Project: Remedial Action Work Plan

A.K.A.:

Client: Sucro Real Estate, LLC

Logged By: TAB

Site Location: Lackawanna 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 (%)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
-2.0									
	583.0 / 0.0	Ground Surface							
		Import Stone Crushed limestone.	S1	16	0.8		1.6		
	581.0 / 2.0								
	580.5 / 2.5	As above.							
3.0		***Fill*** Black, moist, mostly coal and coke fines, with cinders, brick and slag.	S2	14	1.1		0.1		
	579.0 / 4.0	As above.	S3	5	0.9		0.6		
	577.0 / 6.0	yellow brick and slag, wet at 6 feet.	S4	13	0.6		0.0		
8.0	575.0 / 8.0	As above, with concrete.	S5	16	0.3		0.0		
	573.0 / 10.0	As above.	S6	20	0.8		0.0		
	571.0 / 12.0	***Silty Sand with Fill*** Black, wet, mostly fine sand some silt, trace slag, rapid dilatancy, slight odor.	S7	22	1.1		7.8		
13.0	569.0 / 14.0	As, above, no odor, spoon refusal at 14.7 feet. Auger refusal at 15.5 feet. Set well at 15.5 fbgs.	S8	9 50 / 2	0.7		0.2		
	567.5 / 15.5	End of Borehole							

Well Completion Details: 2" PVC Riser; Crushed Stone; Bentonite chips; First water.; 2" (15.5 ft to 5.5 ft) PVC Screen, 0.010" slot; 00N Silica Sand

Drilled By: SJB Services
Drill Rig Type: CME 550
Drill Method: Continuous 2-ft split spoon
Comments:
Drill Date(s): 10/8/21

Hole Size: 8 1/4-inch
Stick-up: PVC stickup.
Datum:

Sheet: 1 of 1

APPENDIX D

EXCAVATION WORK PLAN

BROWNFIELD CLEANUP PROGRAM
SITE MANAGEMENT PLAN

APPENDIX D
EXCAVATION WORK PLAN

TECUMSEH PHASE IA BUSINESS PARK
NYSDEC SITE NUMBER: C915218
LACKAWANNA, NEW YORK

November 2021 B0555-021-008

Prepared for:

Sucro Real Estate NY, LLC

2303 Hamburg Turnpike
Lackawanna, New York 14218

Prepared By:

Benchmark Civil/Environmental Engineering & Geology, PLLC

2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

SITE MANAGEMENT PLAN
APPENDIX D: EXCAVATION PLAN
TECUMSEH PHASE IA BUSINESS PARK

Table of Contents

D-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 D-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 B.

Table D-1: Notifications*

NYSDEC Project Manager Mr. Andrew Zwack	716-851-7220 andrew.zwack@dec.ny.gov
NYSDEC Regional Remediation Geologist Mr. Stanley Radon, P.G.	716-851-7220 stanley.radon@dec.ny.gov
NYSDEC Site Control Ms. Kelly Lewandowski, P.E.	518-402-9543 kelly.lewandowski@dec.ny.gov
NYSDOH Project Manager Ms. Sara Bogardus	518-402-7860 beei@health.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 E 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.

D-2: SOIL SCREENING METHODS

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

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided in Sections D-6 and D-7 of this Appendix.

D-3: SOIL STAGING METHODS

Impacted soils will be staged on poly sheeting or other applicable barrier to prevent impacts to uncontaminated material. Soil stockpiles will be continuously encircled with a berm and/or silt fence for erosion and sedimentation control. 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 or poly sheeting. Stockpiles will be routinely inspected, and damaged tarp covers will be promptly replaced.

Stockpiles will be routinely 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.

D-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.

D-5: MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

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

Truck transport routes will be selected to minimize the commute through residential neighborhoods. All trucks loaded with site materials will exit the site using only approved truck routes. This will be the most appropriate route that 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 prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development. Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

D-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).

D-7: MATERIALS REUSE ON-SITE

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

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

Proposed materials for reuse on-site must be sampled for full suite analytical parameters including per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. The sampling frequency will be in accordance with DER-10 Table 5.4(e)10 unless prior approval is obtained from the NYSDEC project manager for modification of the sampling frequency. The analytical results of soil/fill material testing must meet the site use criteria presented in NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for all constituents listed, and the guidance values in the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) (June 2021). Approvals for modifications to the analytical parameters must be obtained from the NYSDEC project manager prior to the sampling event.

On-site reuse of soil/fill material is acceptable provided that the material does not exhibit visual or olfactory evidence of contamination and PID measurements of the atmosphere at the soil/fill interface do not exceed 5 ppm above background. The QEP will ensure that procedures defined for materials reuse are followed and that unacceptable material does not remain on-site. On-site material, including historic fill, that is acceptable for re-use on-site will be placed below the engineered cover demarcation layer or impervious surface (if in place at the time of excavation), and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Slag

Slag proposed for reuse on-site will be field screened with a 2x2 meter or equivalent for gamma radiation via test pad. If field-screening measurements are 1.5 times background for the Controlled Property, the slag will be stockpiled and evaluated for TENORM. Background levels for the Controlled Property are approximately 5,000 counts per minute (cpm). Therefore, slag measurements below 7,500 cpm will not require further evaluation for reuse. Screening levels above 7,500 cpm will require submission of an action-specific work plan to address additional screening, sampling, analysis, and handling of elevated radiological material. NYSDEC and NYSDOH will be notified of any screening level exceedances.

Test pads will be constructed on an approximately 5-foot by 5-foot by 1-inch thick steel plate. Slag proposed for reuse will be used to create test pads to evaluate the slag. One test pad will be constructed for every 250 cubic yards of slag proposed for reuse unless a different frequency is approved by NYSDEC.

Slag will be placed on the steel plate in an approximate 6- to 8-inch thick lift. The 5-foot by 5-foot slag placement area will be screened with the 2x2 meter to identify location with the "highest" count rate based on the screening. A 1-minute count measurement will be collected from the highest screening location. If the results are less than 7,500 cpm, no further evaluation is required. If the measurement is greater than 7,500 cpm, a slag sample will be collected from the highest screening location and analyzed for Radium-226 via EPA Method 901.1M (21-day ingrowth). The results of the analysis will be provided to the Department and the decision to reuse the slag and/or its final disposition will be made in consultation with and pursuant to approval by the Department. Slag containing Radium-226 concentrations greater than 5 picocurie per gram will not be allowable for use as backfill or cover on any portion of the Site.

D-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.

D-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 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 an updated SMP.

D-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) and DER-10 Appendix 5 for commercial use. Any material proposed for backfill below the water table will meet the Protection of Groundwater requirements. Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

D-11: STORMWATER POLLUTION PREVENTION

If construction activities disturb more than 1 acre of land, the Federal Water Pollution Control Act (as amended, 33 U.S.C. 1251 et. seq.) and the New York State Environmental Conservation Law (Article 17, Titles 7 and 8, and Article 70) would apply.

With some exceptions, operators of construction activities and property development that will result in the disturbance of 1 or more acres of land must obtain coverage under SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001, expires 01/28/25) prior to the commencement of soil disturbance. (In the case of a remediation site, soil disturbances associated with remedial activities are exempt from State-issued permits; however, functional equivalent approvals, mitigation and compliance measures are required). Also requiring a permit are construction activities disturbing less than 1 acre if they are part of a larger common plan of development or sale with a planned disturbance of equal to or greater than 1 acre, or activities that are designated by the NYSDEC. The NYSDEC can require a permit for construction activities disturbing less than 1 acre based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the United States.

To obtain coverage under the General Permit, the operator of a construction activity must file a completed electronic Notice of Intent (eNOI) with the NYSDEC. Submitting an eNOI is an affirmation that a Stormwater Pollution Prevention Plan (SWPPP) has been prepared for the site and will be implemented prior to the commencement of construction activities. Coverage under the General Permit will begin either 5 or 60 business days after receipt of a completed NOI by the NYSDEC.

For smaller disturbances not subject to SPDES General Permit requirements, erosion controls must be installed as necessary to mitigate impacted storm water and sediment runoff. These controls (which may include silt fencing around stockpiles, berms, and hay bale checks) will be required in areas of disturbance proximate to surface water bodies and drainage structures and will also be required if disturbances occur in areas where the surrounding slag/fill is not sufficiently permeable to allow re-infiltration. Erosion and sediment controls shall be installed in accordance with the New York State Standards and Specifications for Erosion and Sediment Control dated November 2016.

The controls will be installed and inspected once a week and after every storm event. All necessary repairs shall be made immediately.

If required by NYSDEC as part of 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.

D-12: EXCAVATION CONTINGENCY PLAN

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

Sampling will be performed on product, sediment, and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline at (800) 457-7362. These findings will be also included in the Periodic Review Report.

D-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 E of this SMP. Continuous CAMP will be implemented for all ground intrusive and soil handling activities performed at the Site. A figure showing the location of air sampling stations based on generally prevailing wind conditions will be prepared prior to the start of ground intrusive activities. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations. VOC monitoring will be performed using a PID or other equipment 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 monitoring perimeter particulate requirement (i.e., <150 ug/m3) and the organic vapor requirement (i.e., <5 ppm). Alternatively, the upwind monitoring location may be removed if the background contribution is 0.0 ppm.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

Special Requirements

Ground intrusive activities within 20 feet of occupied structures or potential receptors (e.g., public roadways, sidewalks, etc.) should consider the following:

- Continuous monitoring locations should reflect the nearest potentially exposed individuals and vapor pathways (openings, conduits, vents, etc.).
- Take background readings in the occupied spaces prior to commencement of planned work.
- Consider use of engineering controls such as vapor/dust barriers, exhaust fans, or other controls to create negative air pressure within the work area.
- The planned work should be implemented during hours when building occupancy is at a minimum.

D-14: ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis are described below. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted, and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the remedial party's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

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

D-15: DUST CONTROL PLAN

Particulate monitoring will be performed along the downwind perimeter of the Site during subgrade excavation, grading, and handling activities in accordance with the requirements for community air monitoring at remediation sites as established by the NYSDOH and NYSDEC. Accordingly, it follows procedures and practices outlined under DER-10 Appendix 1A (NYSDOH's Generic Community Air Monitoring Plan) and Appendix 1B (Fugitive Dust and Particulate Monitoring) both included as Appendix B-3. Dust suppression techniques will be employed as necessary to mitigate fugitive dust from non-vegetated or disturbed soil/fill during post-remediation construction and development.

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

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

All reasonable attempts will be made to keep visible and/or fugitive dust to a minimum.

D-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. At a minimum, this shall include limiting construction to typical daylight work hours.

APPENDIX E

HEALTH & SAFETY PLAN (HASP)

HEALTH AND SAFETY PLAN
for
BROWNFIELD CLEANUP PROGRAM

TECUMSEH PHASE IA BUSINESS PARK SITE
LACKAWANNA, NEW YORK

November 2021 0555-021-008

Prepared for:

Sucro Real Estate NY, LLC

2303 Hamburg Turnpike
Lackawanna, New York 14218

Prepared by:

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TECUMSEH PHASE IA BUSINESS PARK
HEALTH AND SAFETY PLAN

ACKNOWLEDGEMENT

Plan Reviewed by (initial):

Corporate Health and Safety Director:	Thomas H. Forbes, P.E.
Project Manager:	Thomas H. Forbes, P.E.
Designated Site Safety and Health Officer:	Paul W. Werthman
Alternate Site Safety and Health Officer:	Eric Warren

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

TECUMSEH PHASE IA BUSINESS PARK
HEALTH AND SAFETY PLAN

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1.0 INTRODUCTION

1.1 General

In accordance with OSHA requirements contained in 29CFR 1910.120, this Health and Safety Plan (HASP) describes the specific health and safety practices and procedures to be employed by Benchmark Civil/Environmental Engineering & Geology, PLLC (Benchmark) employees during Brownfield Cleanup Program (BCP) post-remedial activities on the Tecumseh Phase IA Business Park Site in the City of Lackawanna, Erie County, New York. This HASP presents procedures for Benchmark employees who will be involved with field 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 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 field activities to provide real-time data for on-going assessment of potential hazards.

1.2 Background and Site Description

The Site is one tax parcel identified as SBL No. 141.11-1-48.12 on the Erie County Tax Map (see Figure 1). The Site is an approximately 12.31-acre area and is bounded by lands currently owned by the Buffalo and Erie County Industrial Land Development Corporation (ILDC) to the north, south, and east, and lands currently owned by Gateway trade Center to the west (see Figure 2).

The Site consists of existing structures previously known as Blowing Engine House No. 3, Boiler House No.3/Steam Station No. 1, Power House No. 1, Pumping Station No. 1, North Return Water Trench (NRWT), and South Return Water Trench (SRWT). The Site is zoned commercial and is currently undergoing redevelopment for raw sugar warehousing, refining, packaging, and intermodal distribution.

1.3 Known and Suspected Environmental Conditions

The Tecumseh Phase IA Business Park was formerly used to house portions of Bethlehem Steel Corporation's steelmaking operations. The slag and other industrial fill materials contain highly variable and sometimes elevated concentrations of metals, as well as semi-volatile and volatile organic compounds (SVOCs and VOCs). The Site was remediated in 2021 to achieve Track 4 commercial soil cleanup standards (CSCOs) with site-specific action levels (SSALs), which is consistent with the intended use of the Site. The remedial details are presented in the Final Engineering Report. Metals- and petroleum-impacted soil/fill hotspots were excavated and biotreated or disposed off-site; asbestos containing material (ACM) within the buildings and on the ground beneath the overhead piping were abated and disposed off-site; polychlorinated biphenyls (PCB)-impacted concrete within the former Power House No. 1 building was disposed off-site and basement water was pumped out, treated on-site, and discharge to the sanitary sewer under a temporary discharge permit.

1.4 Parameters of Interest

Residual contamination remaining at the Site includes contaminated soil/fill, although potential exposure is mitigated due to the depth of the contamination, completion of the remedial activities, and presence of a cover system. Residual contamination remaining on-site consists of semi-volatile organic compounds (SVOCs), specifically polycyclic aromatic hydrocarbons (PAHs); select metals including arsenic, barium, cadmium, chromium, copper, lead, manganese, mercury, and zinc; and PCBs.

Historic groundwater sampling revealed slight exceedances of NYSDEC Class GA groundwater quality standards (GWQS) for pH, manganese, cyanide, lead, and sodium.

1.5 Overview of Post-Remedial Activities

Benchmark personnel will be on-site to observe post-remedial activities described below.

1. **Soil/Fill Excavation:** Benchmark will monitor all soil/fill excavations (e.g., trenching for utility installation or repair, new building foundation) and related activities to visually inspect soil/fill for evidence of contamination.
2. **Soil/Fill Documentation Sampling:** Benchmark will collect surface and subsurface soil/fill documentation samples following excavation.

3. **Groundwater and Surface Water Management:** During excavation, surface water and/or perched groundwater infiltration may occur. Benchmark will direct the contractor to collect and characterize the water and coordinate disposal/ treatment of the collected water. If necessary, Benchmark will mobilize a temporary groundwater pretreatment system comprised of a storage (frac) tank, bag filters, activated carbon, and a treated water storage tank prior to excavation to handle groundwater encountered during the excavation work.
4. **Cover Soil Replacement:** Benchmark will oversee replacement of components of the cover system.
5. **Groundwater Monitoring Well Sampling:** Benchmark will collect groundwater samples per the SMP monitoring plan.

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 BCP Sites. 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 establishes the lines of communications among them for health and safety matters. The organizational structure described in this chapter is consistent with the requirements of 29CFR 1910.120(b)(2). This section will be reviewed by the Project Manager and updated as necessary to reflect the current organizational structure at the BCP Sites.

2.1 Roles and Responsibilities

All Benchmark 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 the BCP Sites are detailed in the following paragraphs.

2.1.1 Corporate Health and Safety Director

The Benchmark Corporate Health and Safety Director is ***Mr. Thomas H. Forbes, P.E.*** The Corporate Health and Safety Director responsible for developing and implementing the Health and Safety program and policies for Benchmark and consulting with corporate management to ensure adequate resources are available to properly implement these programs and policies. The Corporate Health and Safety Director coordinates Benchmark's Health and Safety training and medical monitoring programs and assists project management and field staff in developing site-specific health and safety plans.

2.1.2 Project Manager

The Project Manager for these Sites is ***Thomas H. Forbes, P.E.*** The Project Manager has the responsibility and authority to direct all Benchmark work operations at the Site. The Project Manager coordinates safety and health functions with the Site Safety and Health Officer (SSHO) 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 workers with work assignments and overseeing their performance.
- Coordinating health and safety efforts with the SSHO.
- Reviewing the emergency response coordination plan to assure its effectiveness.
- Serving as the primary liaison with Site contractors and the property owner.

2.1.3 Site Safety and Health Officer

The SSHO for this Site is ***Mr. Paul W. Werthman***. The qualified alternate SSHO is ***Mr. Eric Warren.*** 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 personnel on the Site.
- Serving as the point of contact for safety and health matters.
- Ensuring that Benchmark field personnel working on the Site have received proper training (per 29CFR Part 1910.120(e)), that they have obtained medical clearance to wear respiratory protection (per 29CFR 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/ subcontractor's SSHO as necessary for safety and health efforts.

2.1.4 Site Workers

Site workers are responsible for complying with this HASP or a more stringent HASP, if appropriate (i.e., contractor/subcontractor's HASP); using proper personal protective equipment (PPE); reporting unsafe acts and conditions to the SSHO; and following the safety and health instructions of the Project Manager and SSHO.

2.1.5 Other Site Personnel

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

In addition to Benchmark and contractor/subcontractor personnel, other individuals who may have responsibilities in the work zone include subcontractors and governmental agencies performing Site inspection work (i.e., the NYSDEC). The contractor/subcontractor shall be responsible for ensuring that these individuals have received OSHA-required training (29CFR 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 BCP Sites, 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/fill, and through the inhalation of contaminated particles or vapors, during test pit completion, monitoring well installation, and soil/fill excavation. In addition, the use of drilling and/or medium to large-sized construction equipment (e.g., excavators) 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 related to the former steel-manufacturing operations and facilities have resulted in elevated concentrations of SVOCs, PCBs, and select metals in soil/fill and, to a lesser extent, groundwater. Table 1 lists exposure limits for airborne concentrations of the contaminants identified in Section 1.4 of this HASP. Brief descriptions of the toxicology of the prevalent contaminants and related health and safety guidance and criteria are provided below.

- **Arsenic (CAS #7440-38-2)** is a naturally occurring element and is usually found combined with one or more elements, such as oxygen or sulfur. Inhalation is a more important exposure route than ingestion. First phase exposure symptoms include nausea, vomiting, diarrhea, and pain in the stomach. Prolonged contact is corrosive to the skin and mucus membranes. Arsenic is considered a Group A human carcinogen by the USEPA. Exposure via inhalation is associated with an increased risk of lung cancer. Exposure via the oral route is associated with an increased risk of skin cancer.
- **Barium (CAS #7440-39-3)** is a naturally occurring component of minerals found in small but widely distributed amounts in the earth's crust especially in igneous rocks, sandstone, shale, and coal. Barium enters the environment naturally through weathering of rocks and minerals. High level inhalation or oral exposure to barium

or soluble barium compounds may result in gastrointestinal effects (gastric pain, nausea, vomiting, and diarrhea), followed by hypokalemia (a reduction in blood potassium levels) that can result in ventricular tachycardia, hypertension and/or hypotension, muscle weakness, and paralysis.

- **Cadmium** is a natural element and is usually combined with one or more elements, such as oxygen, chloride, or sulfur. Breathing high levels of cadmium severely damages the lungs and can cause death. Ingestion of high levels of cadmium severely irritates the stomach, leading to vomiting and diarrhea. Long term exposure to lower levels of cadmium leads to a buildup of this substance in the kidneys and possible kidney disease. Other potential long term effects are lung damage and fragile bones. Cadmium is suspected to be a human carcinogen.
- **Chromium (CAS #7440-47-3)** is used in the production of stainless steel, chrome plated metals, and batteries. Two forms of chromium, hexavalent (CR+6) and trivalent (CR+3) are toxic. Hexavalent chromium is an irritant and corrosive to the skin and mucus membranes. Chromium is a potential occupational carcinogen. Acute exposures to dust may cause coughing, wheezing, headaches, pain, and fever.
- **Copper (CAS #7440-50-8)** is a metal that occurs naturally throughout the environment, in rocks, soil, water, and air. Everyone must absorb small amounts of copper every day because copper is essential for good health. High levels of copper can be harmful. Breathing high levels of copper can cause irritation of your nose and throat. Ingesting high levels of copper can cause nausea, vomiting, and diarrhea. Very-high doses of copper can cause damage to your liver and kidneys, and can even cause death.
- **Lead (CAS #7439-92-1)** can affect almost every organ and system in our bodies. The most sensitive is the central nervous system, particularly in children. Lead also damages kidneys and the immune system. The effects are the same whether it is breathed or swallowed. Lead may decrease reaction time, cause weakness in fingers, wrists, or ankles, and possibly affect memory. Lead may cause anemia.
- **Mercury (CAS #7439-97-6)** is used in industrial applications to produce 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** are formed because of 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; dibenz(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.

- **Polychlorinated Biphenyls (CAS #1336-36-3)** are associated with former substations, rail yards, and hydraulic pump houses on the Site. PCBs can be absorbed into the body by inhalation of its aerosol, through the skin, and by ingestion. Repeated or prolonged contact with skin may cause dermatitis. PCBs may have effects on the liver. Animal tests show that PCBs possibly cause toxic effects in human reproduction. In the food chain, bioaccumulation takes place, specifically in aquatic organisms. A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C.
- **Zinc (CAS #7440-66-6)** is one of the most common elements in the earth's crust and is found in air, soil, water, and all foods. Harmful effects generally begin at levels 10-15 times higher than the amount needed for good health. Large doses taken by mouth even for a short time can cause stomach cramps, nausea, and vomiting. Taken longer, it can cause anemia and decrease the levels of your good cholesterol. Inhaling large amounts of zinc (as dusts or fumes) can cause a specific short-term disease called metal fume fever.

With respect to the anticipated post-remedial activities discussed in Section 1.5, 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 by using protective clothing (Section 7.0), safe work practices (Section 6.0), and proper decontamination procedures (Section 12.0).

3.2 Physical Hazards

Post-remedial activities at the Site may present the following physical hazards:

- Physical injury during heavy construction equipment use, such as backhoes, excavators, drilling equipment, and tandem trucks.
- Heat/cold stress to employees during the summer/winter months (see Section

10.0).

- 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 post-remedial activities at the Sites. Since it is impossible to list all potential sources of injury, it shall be the responsibility of the individual to exercise proper care and caution during all phases of the work.

3.3 Construction Related Hazards

Construction activities may include the following physical hazards:

- Fall hazards (slip/trip)
- Excavations and trenches
- Excavator use/overhead work
- Other heavy equipment and vehicle use
- Electrical shock (overhead wires proximate to work area)
- Dewatering

3.3.1 Fall Hazards

Fall hazards will be mitigated for the duration of excavation activities by minimizing the area of soil/ground disturbance and keeping the work area reasonably clear of tripping hazards. Any ladders used during post-remedial activities will be inspected before use and checked to ensure the ladder is the correct type, correct length, and has a loading rating to support the required weight. Metal ladders or ladders with metallic components shall not be used around electrical equipment. Damaged or defective ladders will be discarded and replaced. Any stairways used during post-remedial activities will be inspected for dangerous objects and debris. Treads must cover the entire area of the staircase including steps and landings, and the stairways will be inspected to ensure they are not slippery. Stairways greater than 30 inches tall, or with at least four risers must have a handrail.

3.3.2 Excavation and Trenches

Prior to excavation, underground utility locations will be identified, and temporary construction fencing will be installed around the entire outside perimeter of the work area. At the end of each day, plywood or steel plate will be placed to cover any unfilled excavation, and

the excavations will be securely closed off by the construction fencing. Trenching will be controlled to limit open excavation areas to only the length that can be backfilled in the same day to the extent feasible. For the duration of excavation activities, all personnel will keep their distance from the excavator, and only approach the excavator when it is still, from the front, and when eye contact is made with the operator. Trench boxes will be used to stabilize trenches and prevent cave-ins. No one shall enter an excavation at any time for any reason. Once each section of trench has been excavated, it will be inspected each day and after any event that may increase the hazard including rain events, vibrations, or excessive surcharge loads, to ensure continued stability until the trench has been filled. All excavation spoils and equipment will be placed at least two feet away from the edge of the trench.

3.3.3 Heavy Equipment and Vehicles

- Heavy equipment/vehicles to be used during construction activities include but are not limited to excavators, loaders, dozers, and dump trucks. All heavy equipment and vehicles will be inspected prior to use, during use, and at the end of the day to ensure they are working properly and do not need to be serviced. Heavy equipment safety procedures include those listed below. The service, parking, and emergency brake systems will be checked daily. All heavy equipment and vehicles must have a working horn, seats, seat belts, a windshield with safety glass (vehicles with cabs only), and rollover protective structures.
- All personnel will keep their distance from heavy equipment and vehicles when in use, and only approach the heavy equipment/vehicles when then are still, from the front, and when eye contact is made with the operator.
- Hearing protection should be worn by workers while heavy equipment and vehicles are in use to prevent hearing damage. Safety boots, high visibility vests or shirts, and safety glasses should always be worn in the vicinity of heavy equipment.
- All heavy equipment must always use an alarm when backing up.
- The work Site should be kept neat to prevent personnel from tripping and allow for fast emergency exit from the Site.
- Proper lighting must be provided when working at night. Some projects may only allow work to occur during daylight hours.
- 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.
- At night, all heavy equipment/vehicles left on Site will have lights and reflectors installed for visibility, and the parking brake must be used whenever stopped.

3.3.4 Excavator and Overhead Work

In addition to the requirements for heavy equipment use, the following safety precautions will be followed during use of excavators or other equipment that will involve overhead work:

- Prior to use, overhead utilities will be identified. Equipment must operate at least 10 feet away from any overhead electrical power line.
- Only qualified operators may operate the equipment. All preventative maintenance and repairs shall be up to date and performed only by qualified technicians. Loads will never be swung overhead of any worker or bystander or above the cab of a truck, and high visibility safety vests and hard hats will be worn by all workers. All personnel must stay outside the area of the excavator arm and bucket swing radius.
- Excavation beneath the equipment shall not be allowed.
- Only one person shall be in the cab at any time; no personnel shall ride in the bucket or use the bucket or arm as a personal support.
- When proceeding up an incline, extend the arm and carry the bucket close to the ground and rolled out. When proceeding down an incline carry the bucket low with its bottom parallel to the ground.
- Hand signals must be posted at the Site to ensure all workers understand the signals to be used by the operator and signal person.
- Movement of the equipment will be slow and gradual.

3.3.5 Electrical Shock

Electrical safety procedures must be followed to protect workers from surrounding utility lines. All overhead and underground utility lines must be located and identified. All personnel and equipment, including swing radii, must remain at least 10 feet away from any aboveground electrical lines. If the exact location of any underground utilities is in question, hand excavation may be completed followed by careful excavation using the backhoe once the utility is identified and located.

3.3.6 Dewatering

If the groundwater table is reached during excavation activities, the excavation must be dewatered to prevent it from filling with water and to prevent cave-ins. All water will be pumped directly into frac tanks, where the water will be treated and released to grade. No untreated water will be reused or discharged. Dewatering should be stopped if signs of erosion or instability are observed and should never be done during heavy rainfall.

4.0 TRAINING

4.1 Site Workers

All personnel performing post-remedial activities at the Site (such as, but not limited to, equipment operators, general laborers, drillers, and supervisors) 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 29CFR 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 after 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 29CFR 1910.120(e)(5) and is specifically designed to meet the requirements of OSHA 29CFR 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 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's Buffalo, NY office. Contractors/ 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 29CFR 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 work. Supplemental briefings are provided as necessary to notify employees of any changes to this HASP because 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 (i.e., 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, 8 additional hours of specialized supervisory training, in compliance with 29CFR 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/subcontractor's SSHO will provide a site-specific briefing to all Site visitors and other non-Benchmark 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 employees as stipulated under 29CFR Part 1910.120(f). These exams include initial employment, annual and employment termination physicals for all Benchmark 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; 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 PPE. Such exams are performed as soon as possible following development of symptoms or the known exposure event.

Medical evaluations are performed by Health Works WNY, an occupational health care provider under contract with Benchmark. Health Works WNY's local facility is located at 1900 Ridge Road, West Seneca, New York 14224. The facility can be reached at (716) 712-0670 to schedule routine appointments or post-exposure examinations.

Medical evaluations are conducted according to the Benchmark Medical Monitoring Program and include an evaluation of the workers' ability to use respiratory protective 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. 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.

In conformance with OSHA regulations, Benchmark 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 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 SSHO. 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 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 employees, as requested, and required.

The recommended specific safety practices for working around the contractor's equipment (e.g., backhoes, bulldozers, excavators, etc.) are discussed in Section 3.3.

7.0 COVID-19 SAFE WORK PRACTICES

All Benchmark employees shall conform to the following daily protocols during all on-site work activities for the duration of the COVID-19 outbreak:

- All work will be completed outside; a construction trailer and portable sanitary facilities will be provided. Nevertheless, if any Benchmark employee must enter a facility for any reason, the visit will be coordinated in advance and the employee will submit a visitor form for review and approval at least 48 hours in advance of the visit.
- Benchmark personnel shall complete and electronically submit to the corporate Health and Safety Director and/or his designee the daily health assessment form included as Appendix B. Any positive responses shall require evaluation prior to reporting for work. In addition, no employees or visitors shall be allowed on-site if they have traveled to a destination requiring mandatory quarantine (as established and updated by the NYS Governor's Office) and have not fulfilled the minimum quarantine duration requirements.
- Visitors shall complete a paper copy of the health assessment form included in Appendix B prior to accessing the work area or field trailer. The form shall be completed in advance when possible, otherwise it shall be completed in the visitor's personal vehicle or outside the work area with instruction that any positive responses require evaluation by Benchmark's corporate Health and Safety Director prior to allowing access to the Site. A visitor sign-in sheet will be filled out and maintained, with visitor health assessment forms, in the field trailer.
- Benchmark will ensure that there is an adequate supply of PPE, hand washing, and disinfecting chemicals at the Site. Supplies will be checked on a regular basis to avoid running out.
- All Benchmark employees must comply with the minimum 6-foot physical distancing whenever possible. When this cannot be accomplished, PPE (masks, gloves, and eye protection as needed) will be worn. Pre-shift or tailgate meetings will be held in a space large enough that employees can be 6 feet apart.
- For use in reducing exposure to COVID-19, the following face masks shall be used inside of equipment cabs and in the trailer:
    - Disposable surgical masks
    - KN-95
    - N-95
    - Self-made face mask provided it covers the nose and mouth
- All shared spaces, tools, and equipment will be disinfected at a minimum of once per shift or at the beginning and end of each shift or before equipment or space is

shared by another employee. Heavy equipment and vehicles should also be disinfected at the same frequency. This includes steering wheels, door handles, and all controls. Disinfection can be accomplished with a variety of different chemicals. Disinfectant wipes (e.g. Clorox wipes) or spray (e.g., Lysol) are acceptable as is 70% alcohol or bleach solution (1/4 cup bleach to 1 gallon water). Nitrile gloves and safety glasses are required during the handing of disinfection chemicals. At no time is it permitted to mix cleaning chemicals. Only one cleaner is to be used at a time. The Center for Disease Control (CDC) guidance on cleaning hard, non-porous surfaces is to:

  - Follow labeled instructions on all containers.
  - Clean surface with soap and water to remove all visible debris and stains.
  - Rinse surface with clean water and wipe with clean towel.
  - Apply the disinfectant. To effectively kill the virus, make sure the surface stays wet with the disinfectant for at least 10 minutes before wiping with a clean towel.
  - Rinse with water and allow surface to air dry.
  - Remove gloves and discard.
  - Wash hands after removing gloves and handling any contaminated material, trash, or waste.

- Physical distancing practices will be followed, and masks will always be worn if more than one person is inside the field trailer. A portable restroom will be set up on-site for Benchmark employee use. All surfaces in the field trailer and portable restroom will be disinfected at a minimum of once per shift or at the beginning and end of each shift or before equipment or space is shared by another employee.

8.0 PERSONAL PROTECTIVE EQUIPMENT

8.1 Equipment Selection

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 are designated A through D consistent with USEPA Level of Protection designation:

- **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 29CFR 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 29CFR 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.

8.2 Protection Ensembles

8.2.1 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.

8.2.2 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.

8.2.3 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.

8.2.4 Recommended Level of Protection for Site Tasks

Based on current information regarding both the contaminants suspected to be present at the Site and the various tasks that are included in Section 1.5, the minimum required levels of protection for these tasks are identified in Table 3.

9.0 EXPOSURE MONITORING

9.1 General

Based on the results of historic sample analysis and the nature of the proposed work activities at the Site, the possibility exists that organic vapors and/or particulates may be released to the air during intrusive construction activities. Ambient breathing zone concentrations may at times, exceed the permissible exposure limits (PELs) established by OSHA for the individual compounds (see Table 2), in which case respiratory protection will be required. Respiratory and dermal protection may be modified (upgraded or downgraded) by the SSHO based upon real-time field monitoring data.

9.1.1 On-Site Work Zone Monitoring

Benchmark 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 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.

9.1.2 Off-Site Community Air Monitoring

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

Ground intrusive activities are defined by NYSDOH Appendix 1A Generic Community Air Monitoring Plan (Ref. 1) and attached as Appendix C. Ground intrusive activities include soil/waste excavation and handling; test pitting or trenching; and the installation of soil borings or monitoring wells. Non-intrusive activities include the collection

of soil, sediment, or groundwater samples. Continuous monitoring is required for ground intrusive activities and periodic monitoring is required for non-intrusive activities. Periodic monitoring consists of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring while bailing a monitoring well, and taking a reading prior to leaving a sampling location. This may be upgraded to continuous if the sampling location is near individuals not involved in the Site activity (e.g., on a curb of a busy street). The action levels below will be used during periodic monitoring. This will provide a real-time method for determination of substantial vapor and/or particulate releases to the surrounding community because of the Site work.

9.2 Monitoring Action Levels

9.2.1 On-Site Work Zone Action Levels

The PID, explosimeter, or other appropriate instrument(s), will be used by Benchmark personnel to monitor organic vapor concentrations as specified in this HASP. In addition, fugitive dust/particulate concentrations will be monitored during major soil intrusion using a real-time particulate monitor as specified in this HASP. In the absence of such monitoring, appropriate respiratory protection for particulates shall be donned. Sustained readings obtained in the breathing zone may be interpreted (as compared to other Site conditions) as follows for Benchmark 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 explosimeter will be used to monitor levels of both combustible gases and oxygen during RD activities involving deep excavation, if required. Action levels based on the instrument readings shall be as follows:

- Less than 10% LEL - Continue engineering operations with caution.
- 10-25% LEL - Continuous monitoring with extreme caution, determine source/cause of elevated reading.
- Greater than 25% LEL - Explosion hazard, evaluate source and leave the Work Zone.
- 19.5-21% oxygen - Proceed with extreme caution; attempt to determine potential source of oxygen displacement.
- Less than 19.5% oxygen - Leave work zone immediately.
- 21-25% oxygen - Continue engineering operations with caution.
- Greater than 25% oxygen - Fire hazard potential, leave 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 $\mu g/m^3$ - Continue field operations.
- 50-150 $\mu g/m^3$ - Don dust/particulate mask or equivalent
- Greater than 150 $\mu g/m^3$ - Don dust/particulate mask or equivalent. Initiate engineering controls to reduce respirable dust concentration (i.e., wetting of excavated soils or tools at discretion of SSHO).

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

9.2.2 Community Air Monitoring Action Levels

In addition to the action levels prescribed in Section 9.2.1 for Benchmark 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 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 halted and monitoring continued. If the total organic vapor level readily decreases below 5 ppm over background, work activities can resume but more frequent intervals of monitoring, as directed by the SSHO, must be conducted.
  - If total organic vapors levels at the downwind perimeter of the work area persist at levels greater than 5 ppm over background but less than 25 ppm, work activities must be halted, corrective actions taken, and monitoring continued. After these steps, work activities can resume provided that the organic vapor level 200 feet downwind of the working area or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less (but in no case <20 feet), is below 5 ppm over background for the 15-minute average.
  - If the total organic vapor level is above 25 ppm at the perimeter of the work area, the SSHO must be notified and work activities shut down. The SSHO will determine when re-entry of the work area 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 15-miniute readings will be recorded and available for NYSDEC and NYSDOH personnel to review.

- **ORGANIC VAPOR CONTINGENCY MONITORING PLAN:**
  - If total organic vapor levels are greater than 5 ppm over background 200 feet downwind from the work area or half the distance to the nearest off-site residential/commercial structure (whichever is less), work activities must be halted.
  - If, following the cessation of the work activities or as the result of an emergency, total organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest off-site residential/ commercial structure 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 total 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 SSHO 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 SSHO.

  The following personnel are to be notified in the listed sequence if 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 ($\mu g/m^3$) 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 $\mu g/m^3$ 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 $\mu g/m^3$ 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 $\mu g/m^3$ 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).

10.0 SPILL RELEASE/RESPONSE

This section 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 is to plan appropriate response, control, countermeasures, and reporting, consistent with OSHA requirements in 29CFR 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.

10.1 Potential Spills and Available Controls

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

- CERCLA Hazardous Substances as identified in 40CFR Part 302, where such materials pose the potential for release above their corresponding Reportable Quantity (RQ).
- Extremely Hazardous Substances as identified in 40CFR Part 355, Appendix A, where such materials pose the potential for release above their corresponding 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 above 10,000 lbs.
- Toxic Chemicals as defined in 40CFR Part 372, where such chemicals are present or will be stored above 10,000 lbs.
- Chemicals regulated under 6NYCRR Part 597, where such materials pose the potential for release above their corresponding 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 (40CFR 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 613, 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 613. 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 post-remedial activities.

10.2 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 as Appendix A of this HASP, will be implemented immediately if an emergency release occurs.

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.

10.3 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/subcontractor will maintain a spill 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 remain and 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 (i.e., 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: (800) 348-0316 or (716) 695-0161
- Environmental Products & Services of Vermont: (800) 577-4557 or (716) 597-0001

10.4 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 10.2. 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.

11.0 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 employees. The SSHO and/or his or her designee will be responsible for monitoring Benchmark field personnel for symptoms of heat/cold stress.

11.1 Heat Stress Monitoring

PPE 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 several factors, including environmental conditions, clothing, workload, physical conditioning, and age. PPE 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 and pain in the hands, feet, and abdomen.
- Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include pale, cool, moist skin; heavy sweating; dizziness; nausea; and 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; and coma.

The monitoring of personnel wearing protective clothing should commence when the ambient temperature is 70°F 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 (bpm). If the rate is higher, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest periods remains the same. If the pulse rate is 100 bpm minute at the beginning of the next 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°F. 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°F 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°F. No Benchmark employee will be permitted to continue wearing semi-permeable or impermeable garments when his/her oral temperature exceeds 100.6°F.

11.2 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°F); 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 SSHO 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 area, 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°F with precipitation).
    - As a screening measure whenever anyone worker on-site develops hypothermia.

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

12.0 WORK ZONES AND SITE CONTROL

Work zones around the areas designated for construction activities will be established daily and communicated to all employees and other Site users by the SSHO. It shall be each contractor/subcontractor's SSHO's responsibility to ensure that all 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. The zone will be delineated by flagging tape. All personnel entering the Exclusion Zone must wear the prescribed level of PPE identified in Section 9.
- 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 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 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 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 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.

13.0 DECONTAMINATION

13.1 Decontamination for Benchmark 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 personnel on-site shall follow the procedure below, or the contractor/subcontractor'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.

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/subcontractor. 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 six consecutive months or longer, shower facilities will be provided for worker use in accordance with OSHA 29CFR 1910.120(n).

13.2 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."

13.3 Decontamination of Field Equipment

Decontamination of heavy equipment will be conducted by the contractor/ subcontractor in accordance with his approved HASP in the Contamination Reduction Zone. As a minimum, this will include manually removing heavy soil contamination, followed by steam cleaning on an impermeable pad.

Decontamination of all tools used for sample collection purposes will be conducted by Benchmark personnel. 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.
- Wash with water 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.

14.0 CONFINED SPACE ENTRY

OSHA 29CFR 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 Benchmark employees is not anticipated to be necessary to complete the post-remedial activities identified in Section 1.5. If 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 Benchmark 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's corporate Health and Safety Director. Benchmark employees shall not enter a confined space without these procedures and permits in place.

15.0 FIRE PREVENTION AND PROTECTION

15.1 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.

15.2 Equipment and Requirements

Fire extinguishers will be provided by each contractor/subcontractor 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. At a minimum, all extinguishers shall be checked monthly, weighed semi-annually, and recharged if necessary. Recharge or replacement shall be mandatory immediately after each use.

15.3 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 NFPA.

15.4 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.

16.0 EMERGENCY INFORMATION

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

17.0 REFERENCE

1. New York State Department of Health. 2002. *Generic Community Air Monitoring Plan, Appendix 1A, DER-10 Technical Guidance for Site Investigation and Remediation.* May 2010.

TABLES

BENCHMARK

TABLE 1

TOXICITY DATA FOR CONSTITUENTS OF POTENTIAL CONCERN

Health and Safety Plan
Tecumseh Phase IA Business Park
Lackawanna, New York

Parameter	Synonyms	CAS No.	Code	Concentration Limits [1]		
				PEL	TLV	IDLH
Polycyclic Aromatic Hydrocarbons (PAHs) [2] : ppm						
Acenaphthene	*none*	83-32-9	*none*	--	--	--
Acenaphthylene	*none*	208-96-8	*none*	--	--	--
Anthracene	*none*	120-12-7	*none*	--	--	--
Benz(a)anthracene	*none*	56-55-3	*none*	--	--	--
Benzo(a)pyrene	*none*	50-32-8	*none*	--	--	--
Benzo(b)fluoranthene	*none*	205-99-2	*none*	--	--	--
Benzo(ghi)perylene	*none*	191-24-2	*none*	--	--	--
Benzo(k)fluoranthene	*none*	207-08-9	*none*	--	--	--
Chrysene	*none*	218-01-9	*none*	--	--	--
Dibenz(ah)anthracene	*none*	53-70-3	*none*	--	--	--
Fluoranthene	*none*	206-44-0	*none*	--	--	--
Fluorene	*none*	86-73-7	*none*	--	--	--
Indeno(1,2,3-cd)pyrene	*none*	193-39-5	*none*	--	--	--
Phenanthrene	*none*	85-01-8	*none*	--	--	--
Pyrene	*none*	129-00-0	*none*	--	--	--
Polychlorinated Biphenyls (PCBs): mg/m [3]						
Aroclor 1248	Chlorodiphenyl, 48% chlorine	12672-29-6	*none*	--	--	--
Aroclor 1254	Chlorodiphenyl, 54% chlorine	11097-69-1	Ca	0.5	0.5	5
Aroclor 1260	Chlorodiphenyl, 60% chlorine	11096-82-5	*none*	--	--	--
Inorganic Compounds: mg/m [3]						
Arsenic	*none*	7440-38-2	Ca	0.01	0.01	5
Barium	*none*	7440-39-3	*none*	0.5	0.5	50
Cadmium	*none*	7440-43-9	Ca	0.005	0.01	9
Chromium	*none*	7440-47-3	*none*	1	0.5	250
Copper (dusts)	*none*	7440-47-3	*none*	1	1	100
Lead	*none*	7439-92-1	*none*	0.05	0.15	100
Mercury	*none*	7439-97-6	C-0.1	0.1	0.05	10
Zinc	*none*	7440-66-6	*none*	--	--	--

Notes:

1. Concentration limits as reported by NIOSH Pocket Guide to Chemical Hazards, February 2004 (NIOSH Publication No. 97-140, fourth printing with changes/updates.
2. Individual parameters listed are most commonly detected at steel/coke manufacturing sites.
3. " -- " = concentration limit not available; exposure should be minimized to the extent feasible through appropriate engineering controls & PPE.

Explanation:

Ca = NIOSH considers constituent to be a potential occupational carcinogen.
C-## = Ceiling Level equals the maximum exposure concentration allowable during the work day.
IDLH = Immediately Dangerous to Life or Health.
ND indicates that an IDLH has not as yet been determined.
TLV = Threshold Limit Value, established by American Conference of Industrial Hygienists (ACGIH), equals the max. exposure conc.allowable for 8 hr/d @40 hr/wk.
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 8-hour day/40-hour work week. (Most TLVs.)
TLV-STEL or Short Term Exposure Limits are 15 minute exposures that should not be exceeded for even an instant; not a stand alone value but accompanied by TLV-TWA. It indicates a higher exposure that can be tolerated for a short time without adverse effect as long as the total time weighted average is not exceeded.
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 hr/wk.

BENCHMARK

TABLE 2

POTENTIAL ROUTES OF EXPOSURE TO CONSTITUENTS OF POTENTIAL CONCERN

Health and Safety Plan
Tecumseh Phase IA Business Park
Lackawanna, New York

Activity [1]	Direct Contact with Soil/Fill	Inhalation of Vapors or Dust	Direct Contact with Groundwater
1. Soil/Fill Excavation	x	x	x
2. Soil/Fill Documentation Sampling	x	x	
3. Groundwater and Surface Water Management	x		x
4. Cover Soil Placement	x	x	
5. Groundwater Monitoring Well Sampling	x	x	x

Notes:

1. Activity as described in Section 1.5 of the Health and Safety Plan.

BENCHMARK

TABLE 3

REQUIRED LEVELS OF PROTECTION FOR POST-REMEDIAL ACTIVITIES

Health and Safety Plan
Tecumseh Phase IA Business Park Site
Lackawanna, New York

Activity	Respiratory Protection [1]	Clothing	Gloves [2]	Boots [2, 3]	Other Required PPE/Modifications [2, 4]
1. Soil/Fill Excavation	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L	outer: L inner: STSS	HH SGSS
2. Soil/Fill Documentation Sampling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L	outer: L inner: STSS	HH SGSS
3. Groundwater and Surface Water Management	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
4. Cover Soil Placement	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L	outer: L inner: STSS	HH SGSS
5. Groundwater Monitoring Well Sampling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS

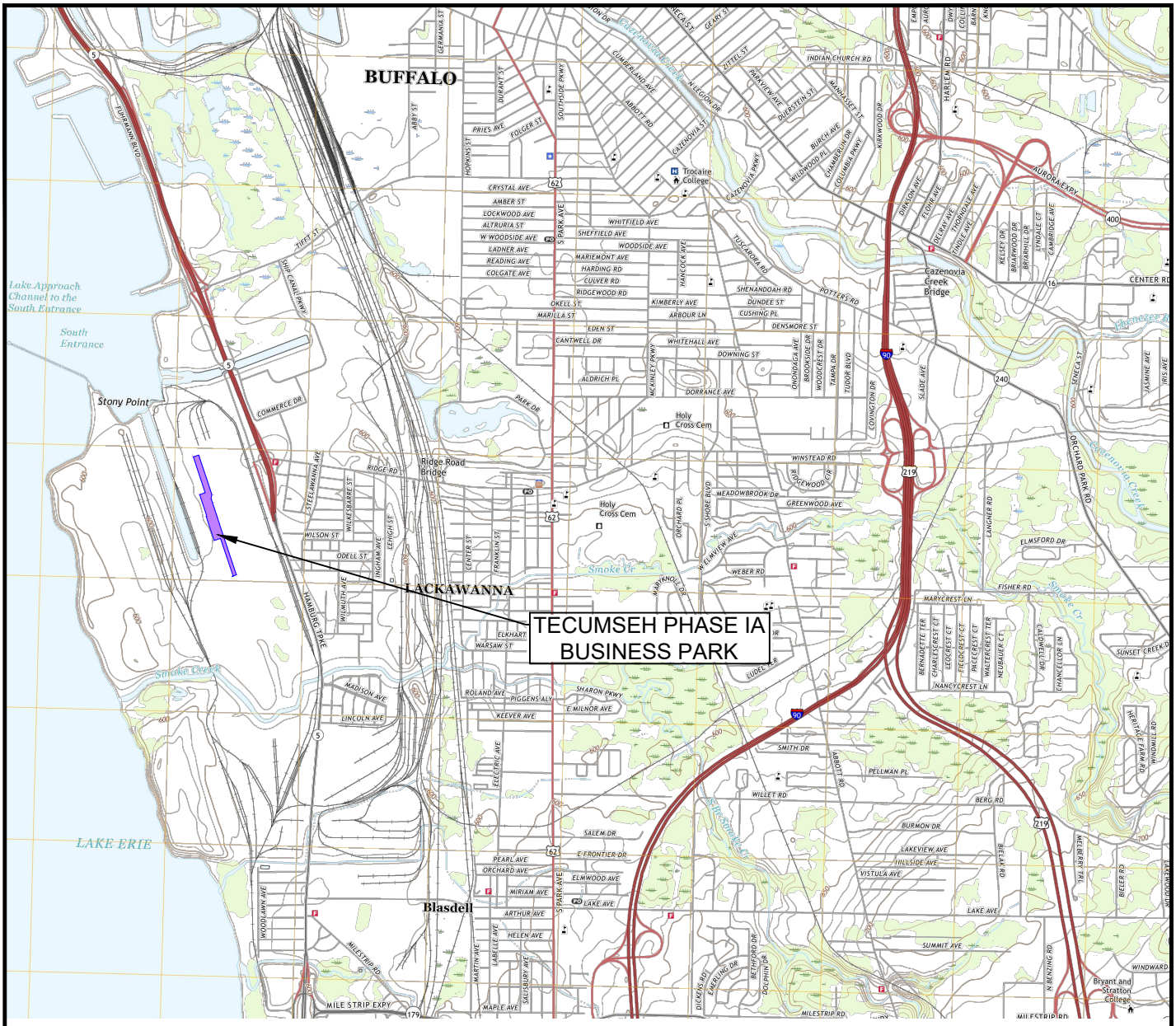
Notes:

1. Respiratory equipment shall conform to guidelines in Section 8 of HASP. Level C requirement is 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 w/ 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 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\Sucro Real Estate NY, LLC\2021 SMP\Figure 1; Site Location and Vicinity Map_SMP.dwg, 11/23/2021 1:29:57 PM

FIGURE 1

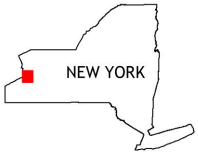


BASEMAP PER USGS QUADRANGLE BUFFALO SOUTHEAST 2019

4,000' 0' 4,000' 8,000'

SCALE: 1 INCH = 4,000 FEET
SCALE IN FEET
(approximate)

N



QUADRANGLE LOCATION

BENCHMARK IN ASSOCIATION WITH TURNKEY ENVIRONMENTAL RESTORATION, LLC

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

PROJECT NO.: 0555-021-008

DATE: NOVEMBER 2021

DRAFTED BY: RFL

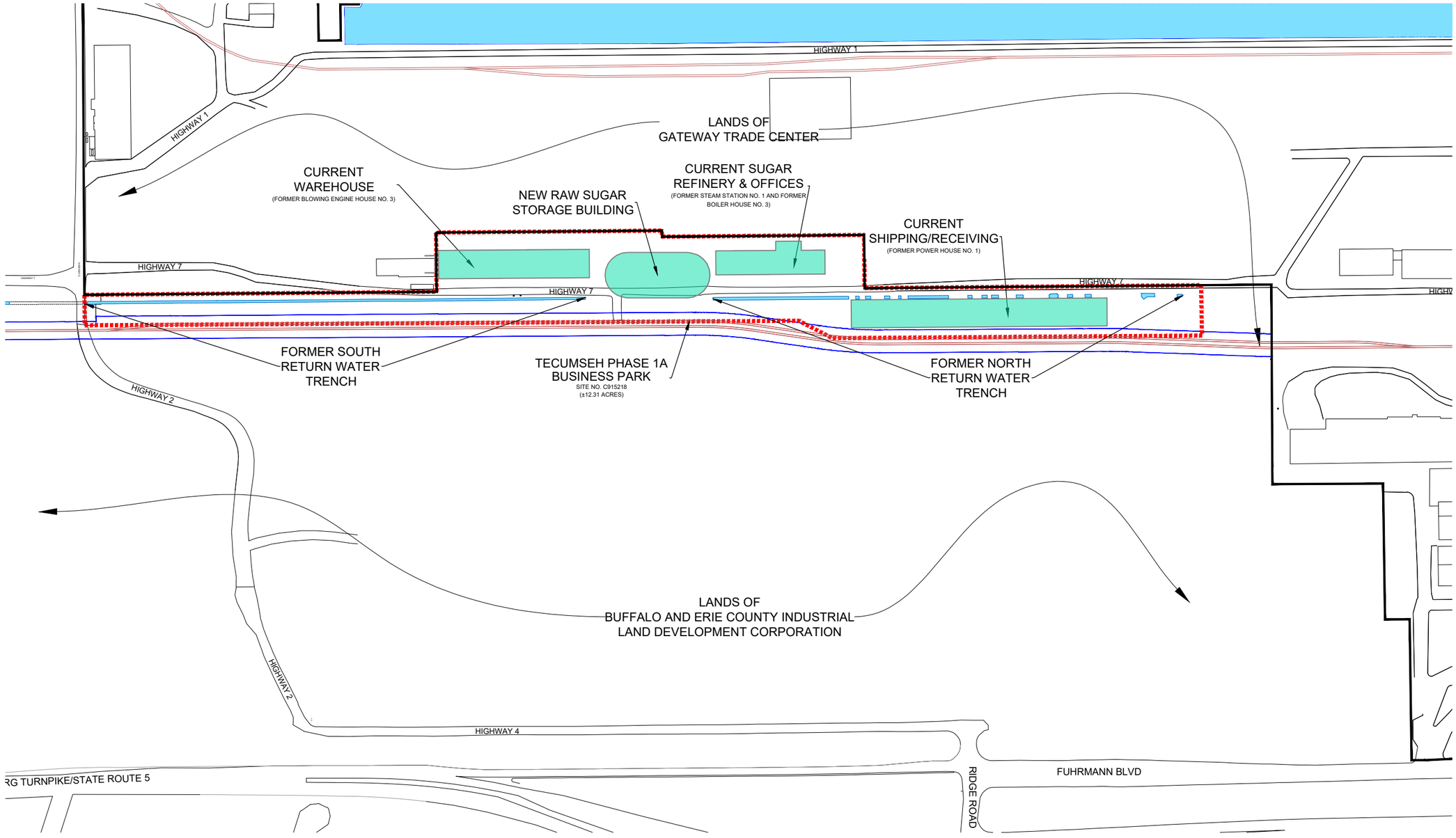
SITE LOCATION & VICINITY MAP

SITE MANAGEMENT PLAN

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NEW YORK

PREPARED FOR

SUCRO REAL ESTATE NY, LLC



300' 0' 300' 600'

SCALE: 1 INCH = 300 FEET
SCALE IN FEET
(approximate)

LEGEND:

- SUCRO PROPERTY AND BROWNFIELD CLEANUP SITE BOUNDARY
- RAILROAD TRACK
- EXISTING SUCRO BUILDING / STRUCTURE

DATE: NOVEMBER 2021
DRAFTED BY: RFL

TURNKEY ENVIRONMENTAL RESTORATION, LLC
IN ASSOCIATION WITH
BENCHMARK

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

JOB NO.: 0555-021-008

SITE LAYOUT MAP

SITE MANAGEMENT PLAN

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NEW YORK

PREPARED FOR
SUCRO REAL ESTATE NY, LLC

FIGURE 2

APPENDIX A

EMERGENCY RESPONSE PLAN

EMERGENCY RESPONSE PLAN
for
BROWNFIELD CLEANUP PROGRAM

TECUMSEH PHASE IA BUSINESS PARK SITE
LACKAWANNA, NEW YORK

November 2021 0555-021-008

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LIST OF FIGURES

1.0 GENERAL

This report presents the site-specific Emergency Response Plan (ERP) referenced in the Health and Safety Plan (HASP) prepared for post-remedial activities conducted at the Tecumseh Phase IA Business Park Site in Lackawanna, New York. This ERP describes 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 to follow emergency procedures. This ERP also describes the provisions this Site has made to coordinate its emergency response planning with other contractors/subcontractors on-site and with off-site emergency response organizations.

This ERP is consistent with the requirements of 29CFR 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
2. Fire

Source of Emergency:

1. Slip/trip/fall
2. Fire

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 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 8.0 of the 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
Spill Response Kit	1	Site building
First Aid Kit	2	Site buildings
Chemical Fire Extinguisher	3 (minimum)	Site buildings

4.0 EMERGENCY PLANNING MAPS

An area-specific map of the Site will be developed daily 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.

Emergency Telephone Numbers:

Project Manager: *Thomas H. Forbes, P.E.*
Work: (716) 856-0599
Mobile: (716) 864-1730

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

Site Safety and Health Officer (SSHO): *Paul W. Werthman*
Work: (716) 856-0635
Mobile: (716) 997-9584

Alternate SSHO: *Eric Warren*
Work: (716) 856-0635
Mobile: (716) 462-0490

MERCY HOSPITAL (ER):	(716) 826-7000
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:

2303 Hamburg Turnpike
Lackawanna, New York 14218
Site Phone Number: Employee Cell Phones

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. Cell phones are 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 SSHO to ensure an adequate method of internal communication is understood by all personnel entering the site. 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 evacuation.
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 13.0 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 SSHO to review evacuation routes and procedures as necessary and to inform all Benchmark 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 (or Alternate SSHO) so that appropriate action can be initiated. Contractors/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 SSHO in conjunction with the contractor/subcontractor'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 (i.e., 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 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 the Hospital via ambulance. The SSHO 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 Mercy Hospital (see Figure A-1):

The following directions describe the best route to Mercy Hospital:

- From the Dona Street Extension, turn left (north) onto Hamburg Turnpike (SR 5).
- Proceed north on Hamburg Turnpike (SR 5) to the Tifft Street Exit and turn right onto Tifft Street.
- Take Tifft Street east crossing South Park Avenue and McKinley Parkway. Bear left on Edgewood Avenue.
- Turn right on Abbott Road and Mercy Hospital will be on right hand side. Follow signs to emergency room (ER).

9.0 EMERGENCY RESPONSE CRITIQUE & RECORD KEEPING

Following an emergency, the SSHO and Project Manager shall review the effectiveness of this 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/subcontractor to establish and assure adequate records of the following:

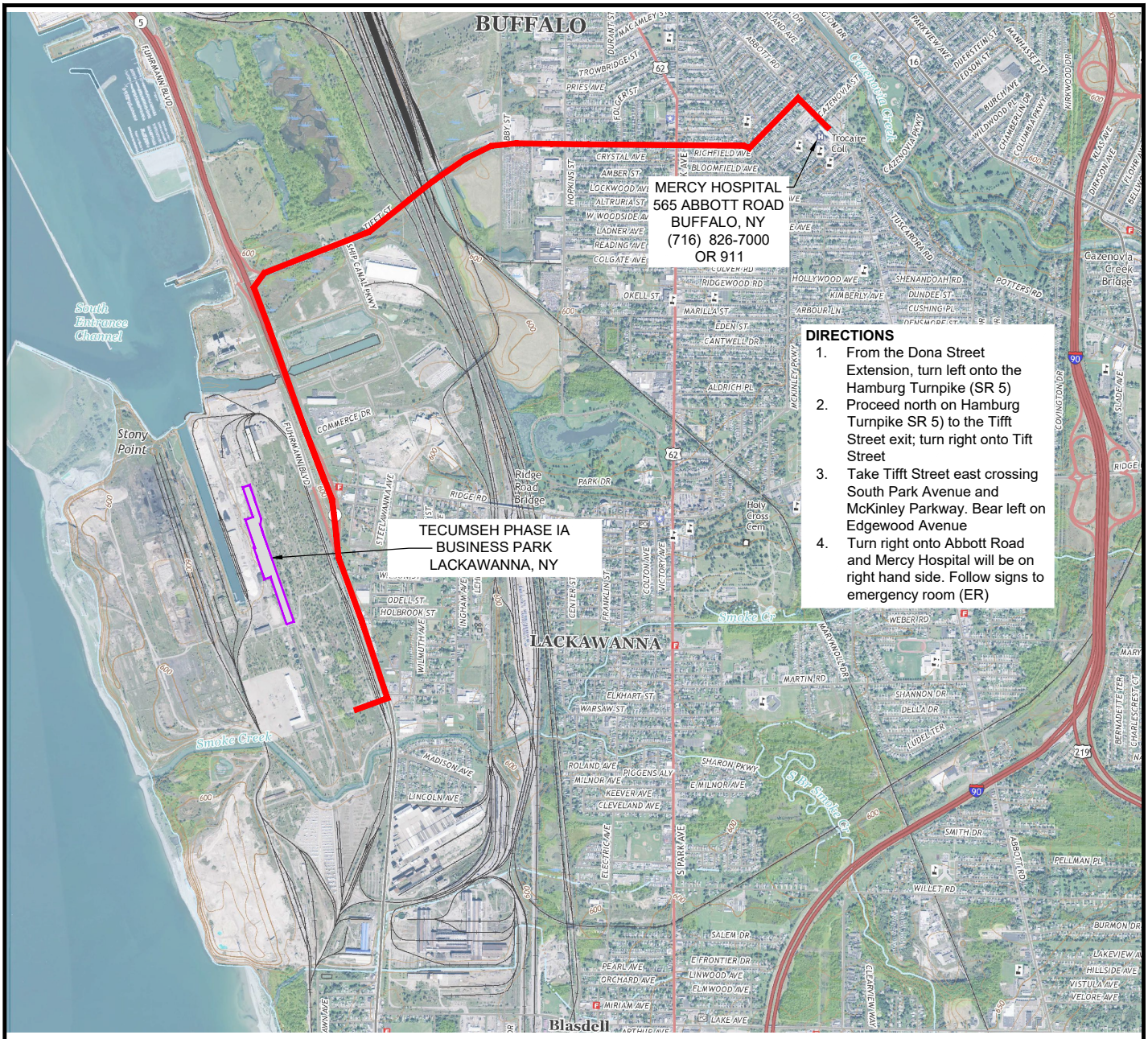
- Occupational injuries and illnesses
- Accident investigations
- Reports to insurance carrier or State compensation agencies
- Reports required by the client
- Records and reports required by local, state, federal, and/or international agencies
- Property or equipment damage
- Third party injury or 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.

FIGURE

FIGURE A1



3,000' 0' 3,000' 6,000'

SCALE: 1 INCH = 3,000 FEET
SCALE IN FEET
(approximate)

LEGEND:

SUCRO PROPERTY AND BROWNFIELD CLEANUP SITE BOUNDARY

HOSPITAL ROUTE

BENCHMARK IN ASSOCIATION WITH TURNKEY ENVIRONMENTAL RESTORATION, LLC

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

PROJECT NO.: 0555-021-008

DATE: NOVEMBER 2021

DRAFTED BY: RFL

HOSPITAL ROUTE MAP

SITE MANAGEMENT PLAN

TECUMSEH PHASE IA BUSINESS PARK
BCP SITE NO. C915218
LACKAWANNA, NEW YORK

PREPARED FOR

SUCRO REAL ESTATE NY, LLC

APPENDIX B

PROJECT FORMS

BENCHMARK

Health Assessment Questionnaire

This form is to submitted daily prior to starting work. It is a mandatory DOH requirement. Electronic signatures or employee initials are sufficient for electronic submittal. In the event this form cannot be filled out a statement must be submitted indicating that the answers of each question.

Part 1: Employee Information	
Name:	
Part 2: Self-Declaration	
1	Have you travelled domestically (outside of NY State) or internationally in the last 14 days? ☐ Yes ☐ No
2	Have you been had close contact with anyone diagnosed with COVID-19 in the last 14 days? ☐ Yes ☐ No
3	Have you been in contact with anyone who has travelled domestically or internationally in the last 14 days? ☐ Yes ☐ No
4	Have you experienced any NEW cold or flu-like symptoms in the last 48 hours (to include fever greater than 100.4°F, cough, sore throat, respiratory illness, difficulty breathing, loss of taste or smell, muscle aches, nausea)? ☐ Yes ☐ No
If the answer to any of these questions is "yes", you should return or remain at home and contact your supervisor immediately.	

Part 3: Acknowledgement		
Name (Print)	**Signature**	**Date**

Part 4: Internal Assessment		
This form has been reviewed by:	Name:	Date:

Infectious Disease Visitor Questionnaire

The safety of our employees, customers, families, and visitors remains Benchmark's first priority. As the Coronavirus disease 2019 (COVID-19) outbreak continues to evolve, we will periodically update company guidance based on current recommendations from the CDC. Only business critical visitors are permitted at this time at our office location as well as any field offices. To prevent the spread of COVID-19 and reduce the potential risk of exposure to our workforce and visitors, we are conducting a simple screening questionnaire. Your participation is important to help us take precautionary measures to protect you and our staff.

Part 1: Visitor Information	
Name:	
Organization Name:	Your Business Contact Information: Phone: Email:
Name of BMTK employee you are here to see:	
Purpose of Visit:	

Part 2: Self-Declaration by Visitor	
1	Have you travelled domestically (outside of NY State) or internationally in the last 14 days? ☐ Yes ☐ No
2	Have you been had close contact with anyone diagnosed with COVID-19 in the last 14 days? ☐ Yes ☐ No
3	Have you been in contact with anyone who has travelled domestically or internationally in the last 14 days? ☐ Yes ☐ No
4	Have you experienced any cold or flu-like symptoms in the last 14 days (to include fever greater than 100.4°F, cough, sore throat, respiratory illness, difficulty breathing, loss of taste or smell, muscle aches, nausea)? ☐ Yes ☐ No
If the answer to any of these questions is "yes", access to the building or field office will be denied.	

Part 3: Visitor Acknowledgement		
Name (Print)	**Signature**	**Date**

Part 4: Internal Assessment
Access to building or field office: ☐ Approved ☐ Denied

BENCHMARK

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:

APPENDIX 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 F

QUALITY ASSURANCE PROJECT PLAN (QAPP)

BROWNFIELD CLEANUP PROGRAM

APPENDIX F
QUALITY ASSURANCE PROJECT PLAN

TECUMSEH PHASE IA BUSINESS PARK
NYSDEC SITE NUMBER: C915218
LACKAWANNA, NEW YORK

November 2021 0555-021-008

Prepared for:

Sucro Real Estate NY, LLC

2303 Hamburg Turnpike
Lackawanna, New York 14218

Prepared by:

Benchmark Civil/Environmental Engineering & Geology, PLLC

2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0599

QUALITY ASSURANCE PROJECT PLAN (QAPP)
TECUMSEH PHASE IA BUSINESS PARK

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QUALITY ASSURANCE PROJECT PLAN (QAPP)
TECUMSEH PHASE IA BUSINESS PARK

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LIST OF TABLES

1.0 INTRODUCTION

This Quality Assurance Project Plan (QAPP) is an appendix to the Site Management Plan (SMP), a required element of the remedial program at the Tecumseh Phase IA Business Park Site (Site) under the New York State (NYS) Brownfield Cleanup Program (BCP), administered by New York State Department of Environmental Conservation (NYSDEC).

1.1 Site Location and Description

The Site is in the City of Lackawanna, County of Erie, New York and is identified as tax parcel SBL#141.11-1-48.12 on the Erie County Tax Map. The Site is a 12.31-acre property located west of the Tecumseh Phase I Business Park; and east and south of lands currently owned by Gateway Trade Center. The Site consists of existing structures previously known as Blowing Engine House No. 3, Boiler House No.3/Steam Station No. 1, Power House No. 1, Pumping Station No. 1, North Return Water Trench (NRWT), and South Return Water Trench (SRWT). The Site is zoned commercial and is currently undergoing redevelopment for raw sugar warehousing, refining, packaging, and intermodal distribution.

1.2 Scope of the QAPP

This QAPP was prepared to provide quality assurance (QA) guidelines to be implemented during post-remedial activities. The QAPP will assure the accuracy and precision of data collection during post-remedial Site redevelopment and data interpretation. The QAPP identifies procedures for sample collection to mitigate the potential for cross-contamination, as well as analytical requirements necessary to allow for independent data validation. The QAPP has been prepared in accordance with USEPA's Requirements for Quality Assurance Project Plans for Environmental Data Operations; the EPA Region II CERCLA Quality Assurance Manual, and NYSDEC's DER-10 Technical Guidance for Site Investigation and Remediation (May 2010). This document may be modified for subsequent phases of investigative work, as necessary.

The QAPP provides:

- A means to communicate to the persons executing the various activities exactly what is to be done, by whom, and when

- A culmination to the planning process that ensures that the program includes provisions for obtaining quality data (e.g., suitable methods of field operations)
- A document that can be used by the Project Manager's and QA Officer to assess if the activities planned are being implemented and their importance for accomplishing the goal of quality data
- A plan to document and track project data and results
- Detailed descriptions of the data documentation materials and procedures, project files, and tabular and graphical reports.

The QAPP is primarily concerned with the quality assurance and quality control (QC) aspects of the procedures involved in the collection, preservation, packaging, and transportation of samples; field testing; record keeping; data management; chain-of-custody procedures; laboratory analyses; and other necessary matters to assure that the investigation activities, once completed, will yield data whose integrity can be defended.

QA refers to the conduct of all planned and systematic actions necessary to perform satisfactorily all task-specific activities and to provide information and data confidence with such activities. The QA for task-specific activities includes the development of procedures, auditing, monitoring and surveillance of the performance.

QC refers to the activity performed to determine if the work activities conform to the requirements. This includes activities such as inspections of the work activities in the field (e.g., verification that the items and materials installed conform to applicable codes and design specifications). QA is an overview monitoring of the performance of QC activities through audits rather than first time inspections.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITY

The following section provides a generic organization for sampling activities, including roles, responsibilities, and required qualifications of these organizations.

2.1 Site Owner

The Site Owner, or holder of the certificate of completion (COC), will be responsible for complying with the QA requirements as specified herein and for monitoring and controlling the quality of the Brownfield cleanup activities either directly or through their designated environmental consultant and/or legal counsel. The Site Owner will also have the authority to select Contractor(s) to assist them in fulfilling these responsibilities. The Site Owner is responsible for implementing the project, and has the authority to commit the resources necessary to meet project objectives and requirements.

2.2 Project Manager

The Project Manager has the responsibility for ensuring that the project meets the overall project objectives, reports directly to the Site Owner, coordinates with the NYSDEC/NYSDOH Project Coordinators, and is responsible for technical and project oversight. The PM will:

- Define project objectives and develop a detailed work plan schedule.
- Establish project policy and procedures to address the specific needs of the project as well as the objectives of each task.
- Acquire and apply technical and corporate resources as needed to assure performance within budget and schedule constraints.
- Develop and meet ongoing project and/or task staffing requirements, including mechanisms to review and evaluate each task product.
- Review the work performed on each task to assure its quality, responsiveness, and timeliness.
- Review and analyze overall task performance with respect to planned requirements and authorizations.
- Review and approve all deliverables before their submission to NYSDEC.
- Develop and meet ongoing project and/or task staffing requirements, including mechanisms to review and evaluate each task product.

- Ultimately be responsible for the preparation and quality of interim and final reports.
- Represent the project team at meetings.

2.3 Field Team Leader:

The Field Team Leader (FTL) has the responsibility for implementation of specific project tasks identified at the Site, and is responsible for the supervision of project field personnel, subconsultants, and subcontractors. The FTL reports directly to the Project Manager. The FTL will:

- Define daily develop work activities.
- Orient field staff concerning the project's special considerations.
- Monitor and direct subcontractor personnel.
- Review the work performed on each task to ensure its quality, responsiveness, and timeliness.
- Assure that field activities, including sample collection and handling, are carried out in accordance with this QAPP.

2.4 Quality Assurance (QA) Officer

The QA Officer will have direct access to corporate executive staff as necessary, to resolve any QA dispute, and is responsible for auditing the implementation of the QA program in conformance with the demands of specific investigations and policies, and NYSDEC requirements. Specific functions and duties include:

- Performing QA audits on various phases of the field operations.
- Reviewing and approving QA plans and procedures.
- Providing QA technical assistance to project staff.
- Reporting on the adequacy, status, and effectiveness of the QA program on a regular basis to the Project Manager for technical operations.
- Responsible for assuring third party data review of all sample results from the analytical laboratory.

2.5 Laboratory Responsibilities

Any environmental laboratory used for sample analysis for this Site must be an independent, NYSDOH Environmental Laboratory Approval Program (ELAP)-certified facility approved to perform the analyses prescribed herein.

- *Laboratory Director:*

  The Laboratory Director is a technical advisor and is responsible for summarizing and reporting overall unit performance. Responsibilities of the Laboratory Director include:

  - Provide technical, operational, and administrative leadership.
  - Allocation and management of personnel and equipment resources.
  - Quality performance of the facility.
  - Certification and accreditation activities.
  - Blind and reference sample analysis.

- *Quality Assurance Manager (QA Manager):*

  The QA Manager has the overall responsibility for data after it leaves the laboratory. The QA Manager will be independent of the laboratory but will communicate data issues through the Laboratory Director. In addition, the QA Manager will:

  - Oversee laboratory QA.
  - Oversee QA/QC documentation.
  - Conduct detailed data review.
  - Determine whether to implement laboratory corrective actions, if required.
  - Define appropriate laboratory QA procedures.
  - Prepare laboratory SOPs.

3.0 QUALITY ASSURANCE OBJECTIVES FOR MEASUREMENT DATA

The overall objectives and criteria for assuring quality for this effort are discussed below. This QAPP addresses how the acquisition and handling of samples and the review and reporting of data will be documented. The objectives of this QAPP are to address the following:

- The procedures to be used to collect, preserve, package, and transport groundwater samples.
- Field data collection.
- Record keeping.
- Data management.
- Chain-of-custody procedures.
- Precision, accuracy, completeness, representativeness, for sample analysis and data management under EPA analytical methods.

3.1 Level of QC Effort for Sample Parameters

Field blank, method blank, trip blank, field duplicate, laboratory duplicate, laboratory control, SRM and matrix spike samples will be analyzed to assess the quality of the data resulting from the field sampling and analytical programs. QC samples are discussed below.

- Field and trip blanks consisting of distilled water will be submitted to the analytical laboratories to provide the means to assess the quality of the data resulting from the field-sampling program. Field (equipment) blank samples are analyzed to check for procedural chemical constituents at the facility that may cause sample contamination. Trip blanks are used to assess the potential for contamination of samples due to contaminant migration during sample shipment and storage.
- Method blank samples are generated within the laboratory and used to assess contamination resulting from laboratory procedures.
- Duplicate samples are analyzed to check for sampling and analytical reproducibility.
- MS/MSD and MS/Duplicate samples provide information about the effect of the sample matrix on the digestion and measurement methodology. Depending on site-specific circumstances, one MS/MSD or MS/Duplicate should be collected for every 20 or fewer investigative samples to be analyzed for organic and inorganic chemicals of a given matrix.

The general level of QC effort will be one field (blind) duplicate and one field blank (when non-dedicated equipment is used) for every 20 or fewer investigative samples of a given matrix. Additional sample volume will also be provided to the laboratory to allow one site-specific MS/MSD or MS/Duplicate for every 20 or fewer investigative samples of a given matrix. One trip blank consisting of distilled, deionized water will be included along with each sample delivery group of aqueous VOC samples.

4.0 SAMPLE CUSTODY PROCEDURES

Sample custody is controlled and maintained through the chain-of-custody procedures. Chain of custody is how the possession and handling of samples will be tracked from the source (field) to their final disposition, the laboratory. A sample is in a person's custody if it is in the person's possession, or it is in the person's view after being in his or her possession, or it was in that person's possession and that person has locked it in a vehicle or room. Sample containers will be cleaned and preserved at the laboratory before shipment to the Site.

4.1 Field Custody Procedures

Sample custody is controlled and maintained through the chain-of-custody procedures. Chain of custody is how the possession and handling of samples will be tracked from the source (field) to their final disposition, the laboratory. A sample is in a person's custody if it is in the person's possession, or it is in the person's view after being in his or her possession or it was in that person's possession and that person has locked it in a vehicle or room. Sample containers will be cleaned and preserved at the laboratory before shipment to the Site.

4.1.1 Sample Storage

Samples are stored in secure limited-access areas. Walk-in coolers or refrigerators are maintained at 4°C ±2°C, or as required by the applicable regulatory program. The temperatures of all refrigerated storage areas are monitored and recorded a minimum of once per day. Deviations of temperature from the applicable range require corrective action, including moving samples to another storage location if necessary. Table 1 summarizes sample parameter lists, holding times, and sample container requirements.

4.1.2 Sample Custody

Sample custody, as defined by this document, is when any of the following occur:

- It is in someone's actual possession.
- It is in someone's view after being in his or her physical possession.

- It was in someone's possession and then locked, sealed, or secured in a manner that prevents unsuspected tampering.
- It is placed in a designated and secured area.

Samples are removed from storage areas by the sample custodian or analysts and transported to secure laboratory areas for analysis. Access to the laboratory and sample storage areas is restricted to laboratory personnel and escorted visitors only; all areas of the laboratory are therefore considered secure. If required by the applicable regulatory program, internal chain-of-custody is documented in a log by the person moving the samples between laboratory and storage areas.

Laboratory documentation used to establish chain-of-custody and sample identification may include the following:

- Field chain-of-custody forms or other paperwork that arrives with the sample.
- The laboratory chain-of-custody.
- Sample labels or tags are attached to each sample container.
- Sample custody seals.
- Sample preparation logs (i.e., extraction and digestion information) recorded in hardbound laboratory books that are filled out in legible handwriting, and signed and dated by the chemist.
- Sample analysis logs (e.g., metals, GC/MS, etc.) information recorded in hardbound laboratory books that are filled out in legible handwriting, and signed and dated by the chemist.
- Sample storage log (same as the laboratory chain-of-custody).
- Sample disposition log, which documents sample disposal by a contracted waste disposal company.

4.1.3 Sample Tracking

All samples are maintained in the appropriate coolers prior to and after analysis. The analysts remove and return their samples as needed. Samples that require internal chain-of-custody are relinquished to the analysts by the sample custodians. The analyst and sample custodian must sign the original chain-of-custody relinquishing custody of the samples from the sample custodian to the analyst. When the samples are returned, the analyst will sign the original chain-of-custody returning sample custody to the sample custodian. Sample extracts

are relinquished to the instrumentation analysts by the preparatory analysts. Each preparation department tracks internal chain-of-custody through their logbooks/ spreadsheets. Any change in the sample during the time of custody will be noted on the chain-of-custody (e.g., sample breakage or depletion).

5.0 CALIBRATION PROCEDURES AND FREQUENCY

This section describes the calibration procedures and the frequency at which these procedures will be performed for both field and laboratory instruments.

5.1 Field Instrument Calibration

Quantitative field data to be obtained during groundwater sampling include pH, turbidity, specific conductance, temperature, and depth to groundwater. Quantitative water level measurements will be obtained with an electronic sounder or steel tape, which require no calibration. Quantitative field data to be obtained during soil sampling include screening for the presence of volatile organic constituents using a photoionization detector (PID). Field instruments used to monitor for these parameters will be calibrated in accordance with their manufacturer's recommendations.

5.2 Preventative Maintenance

Each piece of field equipment is checked according to its routine maintenance schedule and before field activities begin. Field equipment that may be used at the Site includes:

- Photoionization detector (PID)
- Water quality meters (includes pH, turbidity, temperature, Eh, and specific conductance)
- Electric water level indicator

Field personnel will report all equipment maintenance and/or replacement needs to the Project QA Officer and will record the information on the daily field record.

6.0 DATA REDUCTION, VALIDATION, AND REPORTING

All data generated through field activities, or by the laboratory operation shall be reduced and validated (as required in the SMP) before reported.

6.1 Data Usability Evaluation

If requested by the NYSDEC, data evaluation will be performed by a third party data validator using the most current methods and quality control criteria from the USEPA's Contract Laboratory Program (CLP) *National Functional Guidelines for Organic Data Review* and *National Functional Guidelines for Inorganic Data Review.*

6.1.1 Procedures Used to Evaluate Field Data Usability

The performance of all field activities, calibration checks on all field instruments at the beginning of each day of use, manual checks of field calculations, checking for transcription errors and review of field logbooks is the responsibility of the Field Team Leader.

6.1.2 Procedures Used to Evaluate Laboratory Data Usability

Data evaluation will be performed by the third-party data validator using the most current methods and quality control criteria from the USEPA's Contract Laboratory Program (CLP) *National Functional Guidelines for Organic Data Review*, and Contract Laboratory Program*, National Functional Guidelines for Inorganic Data Review*. The data review guidance will be used only to the extent that it is applicable to the SW-846 methods; SW-846 methodologies will be followed primarily and given preference over CLP when differences occur. Also, results of blanks, surrogate spikes, MS/MSDs, and laboratory control samples will be reviewed/evaluated by the data validator. All sample analytical data for each sample matrix shall be evaluated. The third-party data validation expert will also evaluate the overall completeness of the data package. Completeness checks will be administered on all data to determine whether deliverables specified in this QAPP are present. The reviewer will determine whether all required items are present and request copies of missing deliverables.

6.2 Data Reporting

6.2.1 Field Data Reporting

All field documents will be accounted for when they are completed. Accountable documents include items such as field notebooks, sample logs, field data records, photographs, data packages, computer disks, and reports.

6.2.2 Laboratory Data Reporting

Analytical data will be summarized in tabular format with such information as sample identification, sample matrix description, parameters analyzed and their corresponding detected concentrations, and the detection limit. Analytical results will be incorporated into reports as data tables, maps showing sampling locations and analytical results, and supporting text.

7.0 CORRECTIVE ACTION

Corrective action is the process of identifying, recommending, approving, and implementing measures to counter unacceptable procedures or out of quality control performance that can affect data quality. Corrective action can occur during field activities, laboratory analyses, data validation, and data assessment. All corrective action proposed and implemented should be documented in the regular quality assurance reports to management. Corrective action should be implemented only after approval by the Project Manager, or his/her designee. If immediate corrective action is required, approvals secured by telephone from the Project Manager should be documented in an additional memorandum.

7.1 Field Corrective Action

If errors in field procedures are discovered during the observation or review of field activities by the Project QA Officer or his/her designee, corrective action will be initiated. Nonconformance to the QA/QC requirements of the field operating procedures will be identified by field audits or immediately by project staff who know or suspect that a procedure is not being performed in accordance with the requirements. The Project QA Officer or his designee will be informed immediately upon discovery of all deficiencies. Timely action will be taken if corrective action is necessary.

Corrective action in the field may be needed when the sample network is changed (i.e., more/less samples, sampling locations other than those specified in the Work Plan, etc.) or when sampling procedures and/or field analytical procedures require modification due to unexpected conditions. In general, the Project Manager and QA Officer may identify the need for corrective action. The Project Manager will approve the corrective measure that will be implemented by the field team. It will be the responsibility of the Project Manager to ensure that corrective action has been implemented.

If the corrective action will supplement the existing sampling using existing and approved procedures in the QAPP, corrective action approved by the Project Manager will be documented. If the corrective actions result in less samples (or analytical fractions), alternate locations, etc., which may result in non-achievement of project QA objectives, it will be necessary that all levels of project management, including the NYSDEC Project Coordinator, concur with the proposed action.

Corrective actions will be implemented and documented in the project field record book. No staff member will initiate corrective action without prior communication of findings through the proper channels. If corrective actions are insufficient, work may be stopped by the NYSDEC Project Coordinator.

If at any time a corrective action issue that directly impacts project data quality objectives is identified, the NYSDEC Project Coordinator will be notified immediately.

7.2 Laboratory Corrective Action

Corrective actions may be initiated if the quality assurance goals are not achieved. The initial step in a corrective action is to instruct the analytical laboratory to examine its procedures to assess whether analytical or computational errors caused the anomalous result. If no error in laboratory procedures or sample collection and handling procedures can be identified, then the Project Manager will assess whether reanalysis or resampling is required or whether any protocol should be modified for future sampling events.

7.3 Data Validation & Assessment Corrective Action

The need for corrective action may be identified during the data validation or assessment processes. Potential types of corrective action may include resampling by the field team, or reinjection/reanalysis of samples by the laboratory.

These actions are dependent upon the ability to mobilize the field team, whether the data to be collected is necessary to meet the QA objectives (e.g., the holding time for samples is not exceeded, etc.). If the data validator identifies a corrective action situation, the Project Manager will be responsible for approving the corrective action implementation. All required corrective actions will be documented by the laboratory QA Coordinator.

TABLE

BENCHMARK

TABLE 1

SAMPLE CONTAINER, VOLUME, PRESERVATION & HOLDING TIME REQUIREMENTS

Tecumseh Phase IA Business Park Site
Lackawanna, New York

Matrix	Parameter	Method [1]	Container Type	Minimum Volume	Preservation (Cool to 2-4°C for all samples)	Holding Time from Sample Date
Groundwater	TCL VOCs	8260B	Glass vial	3-4 oz.	HCl to pH<2, zero headspace, cool to 2-4°C	14 days
	TCL SVOCs	8270C	Amber glass	1,000 mL	Cool to 2-4°C	7 days extract / 40 days hold
	Total PCBs	8082	Amber glass	1,000 mL	Cool to 2-4°C	7 days extract / 40 days hold
	TAL Metals[2]	6010 / 7470	Plastic	600 mL	HNO_3 to pH<2, Cool to 2-4°C	6 months / Hg 28 days

Acronyms:
TCL = target compound list
TAL = target analyte list
PCBs = polychlorinated biphenyls

References:
1. Test Methods for Evaluating Solid Wastes, USEPA SW-846, Update III, 1991.
2. Mercury analysis by EPA Method 7470.

APPENDIX G

SITE MANAGEMENT FORMS

Summary of Green Remediation Metrics for Site Management

Site Name: _____ Site Code: _____
Address: _____ City: _____
State: _____ Zip Code: _____ County: _____

Initial Report Period (Start Date of period covered by the Initial Report submittal)
Start Date: _____

Current Reporting Period
Reporting Period From: _____ To: _____

Contact Information
Preparer's Name: _____ Phone No.: _____
Preparer's Affiliation: _____

I. Energy Usage: Quantify the amount of energy used directly on-site and the portion of that derived from renewable energy sources.

	Current Reporting Period	**Total to Date**
Fuel Type 1 (e.g., natural gas (cf))		
Fuel Type 2 (e.g., fuel oil, propane (gals))		
Electricity (kWh)		
Of that Electric usage, provide quantity:		
Derived from renewable sources (e.g., solar, wind)		
Other energy sources (e.g., geothermal, solar thermal (Btu))		

Provide a description of all energy usage reduction programs for the site in the space provided on Page 3.

II. Solid Waste Generation: Quantify the management of solid waste generated on-site.

	Current Reporting Period (tons)	**Total to Date (tons)**
Total waste generated on-site		
OM&M generated waste		
Of that total amount, provide quantity:		
Transported off-site to landfills		
Transported off-site to other disposal facilities		
Transported off-site for recycling/reuse		
Reused on-site		

Provide a description of any implemented waste reduction programs for the site in the space provided on Page 3.

III. Transportation/Shipping: Quantify the distances travelled for delivery of supplies, shipping of laboratory samples, and the removal of waste.

	Current Reporting Period (miles)	**Total to Date (miles)**
Standby Engineer/Contractor		
Laboratory Courier/Delivery Service		
Waste Removal/Hauling		

Provide a description of all mileage reduction programs for the site in the space provided on Page 3. Include specifically any local vendor/services utilized that are within 50 miles of the site.

IV. Water Usage: Quantify the volume of water used on-site from various sources.

	Current Reporting Period (gallons)	**Total to Date (gallons)**
Total quantity of water used on-site		
Of that total amount, provide quantity:		
Public potable water supply usage		
Surface water usage		
On-site groundwater usage		
Collected or diverted storm water usage		

Provide a description of any implemented water consumption reduction programs for the site in the space provided on Page 3.

V. Land Use and Ecosystems: Quantify the amount of land and/or ecosystems disturbed and the area of land and/or ecosystems restored to a pre-development condition (i.e., Green Infrastructure).

	Current Reporting Period (acres)	**Total to Date (acres)**
Land disturbed		
Land restored		

Provide a description of any implemented land restoration/green infrastructure programs for the site in the space provided on Page 3.

Description of green remediation programs reported above (Attach additional sheets if needed)
Energy Usage:
Waste Generation:
Transportation/Shipping:
Water usage:
Land Use and Ecosystems:
Other:

CERTIFICATION BY CONTRACTOR

I, _____ (**Name**) do hereby certify that I am _____ (**Title**) of the Company/Corporation herein referenced and contractor for the work described in the foregoing application for payment. According to my knowledge and belief, all items and amounts shown on the face of this application for payment are correct, all work has been performed and/or materials supplied, the foregoing is a true and correct statement of the contract account up to and including that last day of the period covered by this application.

_____

Date **Contractor**

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.: **C915218**

Site Name: **Tecumseh Phase IA Business Park Site**

Site Address: **2303 Hamburg Turnpike** Zip Code: **14218**

City/Town: **Lackawanna**

County: **Erie**

Current Use: **Industrial**

Intended Use: **Industrial**

Verification of Site Details	**Box 2** YES	NO
1. Are the Site Details above, 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 since the initial/last certification?	☐	☐
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 since the initial/last certification?	☐	☐
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	☐
4. Has a change-of-use occurred since the initial/last certification?	☐	☐
If YES, is documentation or evidence that documentation has been previously submitted 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 for 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) ?	☐	☐

SITE NO. C915218 **Box 3**

Description of Institutional Control Certification

	YES	NO
1. Compliance with the Site Management Plan (SMP) for the implemented remedy:	☐	☐
2. The groundwater beneath the Site is not used as a potable water source or for any other use without prior written permission of the Department:	☐	☐
3. Groundwater monitoring as specified in the SMP:	☐	☐
4. Operation and maintenance of the ASD system as specified in the SMP:	☐	☐

Description of Engineering Control Certification **Box 4**

	YES	NO
1. Maintenance of the cover systems over the Site:	☐	☐

Control Certification Statement

For each Institutional or Engineering control listed above, I certify by checking "Yes" that all of the following statements are true:

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

(d) 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.

(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.

IC/EC CERTIFICATIONS
SITE NO. C915218

Box 5

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 2 & 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

Box 6

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE

I certify that all information and statements in Box 4 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 of Institutional Controls/ Engineering Controls (ICs/ECs)
Step-by-Step Instructions, Certification Requirements and Definitions

The Owner, or Remedial Party, and when necessary, a Professional Engineer (P.E.), or the Qualified Environmental Professional (QEP), must review and complete the IC/EC Certification Form, sign the IC/EC Certifications Signature Page, and return it, along with the Periodic Review Report (PRR), within 45 days of the date of this notice.

Please use the following instructions to complete the IC/EC Certification.

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 refer to only sites in the Brownfield Cleanup Program. ECL Section 27-1415-7(c) is included in **IV. IC/EC Certification Requirements**. The Owner and/or your P.E. or QEP may include handwritten changes and/or other supporting documentation, as necessary.

II. Verification of Institutional / Engineering Controls (Box 3 and Box 4)

Review the listed Institutional / Engineering Controls, 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. Select "YES" or "NO" for **Control Certification** for each IC/EC, based on Sections (a)-(e) of the **Control Certification Statement**.

   If the Department concurs with the explanation, the corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Project Manager. If the Department has any questions or concerns regarding the completion of the certification, the Project Manager will contact you.

3. If you cannot certify "Yes" for each Control, please continue to complete the remainder of this **Control Certification** form. Attach supporting documentation that explains why the **Control 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 **Control 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 conducted.

   If the Department concurs with the explanation, the corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the 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 5 and Box 6):

1. If you certified "Yes" for each Control, please complete and sign the IC/EC Certifications page. To determine WHO signs the **IC/EC Certification,** please use Table 1. Signature Requirements for the IC/EC Certification, which follows.

Table 1. Signature Requirements for Control Certification Page

Type of Control	Example of IC/EC	Required Signatures
IC only	Environmental Easement Deed Restriction.	A site or property owner or remedial party.
IC with an 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)
IC with an 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.

IV. IC/EC Certification Requirements:

Division of Environmental Remediation Program Policy requires periodic certification of IC(s) and EC(s) as follows:

For Environmental Restoration Projects: N.Y. Envtl Conserv.Law Section 56-0503 (Environmental restoration projects; state assistance)

For State Superfund Projects: Envtl Conserv.Law Section 27-1318. (Institutional and engineering controls)

For Brownfields Cleanup Program Projects: Envtl Conserv.Law Section 27-1415. (Remedial program requirements)

Envtl Conserv.Law Section 27-1415-7(c) states:

(c) At non-significant threat sites where contaminants in groundwater at the site boundary contravene drinking water standards, such certification shall also certify that no new information has come to the owner's attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of offsite contamination are no longer valid. Every five years the owner at such sites shall certify that the assumptions made in the qualitative exposure assessment remain valid. The requirement to provide such certifications may be terminated by a written determination by the Commissioner in consultation with the Commissioner of Health, after notice to the parties on the brownfield site contact list and a public comment period of thirty days.

Voluntary Cleanup Program: Applicable program guidance.

Petroleum Remediation Program: Applicable program guidance.

Federal Brownfields: Applicable program guidance.

Manufactured Gas Plant Projects: Applicable program guidance (including non-registry listed MGPs).

WHERE to mail the signed Certification Form by March 1st of each year (or within 45 days of the date of the Department notice letter):

New York State Department of Environmental Conservation
Division of Environmental Remediation

Attn: Division of Environmental Remediation – North Section
NYSDEC
270 Michigan Avenue
Buffalo, NY 14203-2999

Please note that extra postage may be required.

V. Definitions

"Engineering Control" (EC), means any physical barrier or method employed to actively or passively contain, stabilize, or monitor contamination, restrict the movement of contamination to ensure the long-term effectiveness of a remedial program, or eliminate potential exposure pathways to contamination. Engineering controls include, but are not limited to, pavement, caps, covers, subsurface barriers, vapor barriers, slurry walls, building ventilation systems, fences, access controls, provision of alternative water supplies via connection to an existing public water supply, adding treatment technologies to such water supplies, and installing filtration devices on private water supplies.

"Institutional Control" (IC), means any non-physical means of enforcing a restriction on the use of real property that limits human and environmental exposure, restricts the use of groundwater, provides notice to potential owners, operators, or members of the public, or prevents actions that would interfere with the effectiveness of a remedial program or with the effectiveness and/or integrity of operation, maintenance, or monitoring activities at or pertaining to a remedial site.

"Professional Engineer" (P.E.) means an individual or firm licensed or otherwise authorized under article 145 of the Education Law of the State of New York to practice engineering.

"Property Owner" means, for purposes of an IC/EC certification, the actual owner of a property. If the site has multiple properties with different owners, the Department requires that the owners be represented by a single representative to sign the certification.

"Oversight Document" means any document the Department issues pursuant to each Remedial Program (see below) to define the role of a person participating in the investigation and/or remediation of a site or area(s) of concern. Examples for the various programs are as follows:

BCP (after approval of the BCP application by DEC) - Brownfield Site Cleanup Agreement.
ERP (after approval of the ERP application by DEC) - State Assistance Contract.
Federal Superfund Sites - Federal Consent Decrees, Administrative Orders on Consent or Unilateral Orders issued pursuant to CERCLA.
Oil Spill Program - Order on Consent, or Stipulation pursuant to Article 12 of the Navigation Law (and the New York Environmental Conservation Law).
State Superfund Program - Administrative Consent Order, Record of Decision.
VCP (after approval of the VCP application by DEC) - Voluntary Cleanup Agreement.
RCRA Corrective Action Sites- Federal Consent Decrees, Administrative Orders on Consent or permit conditions issued pursuant to RCRA.

"Qualified Environmental Professional" (QEP), means a person who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding the presence of releases or threatened releases to the surface or subsurface of a property or off-site areas, sufficient to meet the objectives and performance factors for the areas of practice identified by this Part. Such a person must:

(1) hold a current professional engineer's or a professional geologist's license or registration issued by the State or another state, and have the equivalent of three years of full-time relevant experience in site investigation and remediation of the type detailed in this Part; or

(2) be a site remediation professional licensed or certified by the federal government, a state or a recognized accrediting agency, to perform investigation or remediation tasks consistent with Department guidance, and have the equivalent of three years of full-time relevant experience.

"Qualitative Exposure Assessment" means a qualitative assessment to determine the route, intensity, frequency, and duration of actual or potential exposures of humans and/or fish and wildlife to contaminants.

"Remedial Party" means a person implementing a remedial program at a remedial site pursuant to an order, agreement or State assistance contract with the Department.

"Site Management" (SM) means the activities undertaken as the last phase of the remedial program at a site, which continue after a Certificate of Completion is issued. Site management is conducted in accordance with a site management plan, which identifies and implements the institutional and engineering controls required for a site, as well as any necessary monitoring and/or operation and maintenance of the remedy.

"Site Management Plan" (SMP) means a document which details the steps necessary to assure that the institutional and engineering controls required for a site are in-place, and any physical components of the remedy are operated, maintained and monitored to assure their continued effectiveness, developed pursuant to Section 6 (DER10 Technical Guide).

"Site Owner" means the actual owner of a site. If the site has multiple owners of multiple properties with ICs and/or ECs, the Department requires that the owners designate a single representative for IC/EC Certification activities.

BENCHMARK

Field Inspection Report
Post-Remedial Operation & Maintenance Plan

Property Name:		Project No.:	
Client:			
Property Address:			
Property ID: (Tax Assessment Map)	Section:	Block:	Lot(s):
Preparer's		Date/Time:	

CERTIFICATION

The results of this inspection were discussed with the Site Manager. Any corrective actions required have been identified and noted in this report, and a supplemental Corrective Action Form has been completed. Proper implementation of these corrective actions have been discussed with the Site Manager, agreed upon, and scheduled.

Preparer / Inspector:	**Date:**
Signature:	
Next Scheduled Inspection Date:	

Property Access

1. Is the access road in need of repair?	☐ yes	☐ no	☐ N/A
2. Sufficient signage posted (No Trespassing)?	☐ yes	☐ no	☐ N/A
3. Has there been any noted or reported trespassing?	☐ yes	☐ no	☐ N/A

Please note any irregularities/ changes in site access and security:

Cover System

The integrity of the vegetative soil cover or other surface coverage (e.g., asphalt, concrete) over the Track 4 area of the Site must be maintained. The following documents the condition of the above.

1. Cover is in Place and in good condition?	☐ yes	☐ no	☐ N/A
Cover consists of (mainly):			
2. Evidence of erosion?	☐ yes	☐ no	☐ N/A
3. Cracks visible in pavement?	☐ yes	☐ no	☐ N/A
4. Evidence of distressed vegetation/turf?	☐ yes	☐ no	☐ N/A
5. Evidence of unintended traffic and/or rutting?	☐ yes	☐ no	☐ N/A
6. Evidence of uneven settlement and/or ponding?	☐ yes	☐ no	☐ N/A
7. Damage to any surface coverage?	☐ yes	☐ no	☐ N/A

If yes to any question above, please provide more information below.

Field Inspection Report
Post-Remedial Operation & Maintenance Plan

Groundwater Monitoring

Is there a plan in place and currently being followed? ☐ yes ☐ no ☐ N/A

Are the wells currently intact and operational? ☐ yes ☐ no ☐ N/A

When was the most recent sampling event report and submittal? Date: _____

When is the next projected sampling event? Date:

Change in Occupancy / Use of Space:

Please indicate general use of floor space? _____

Has this general use changed in the past year? ☐ yes ☐ no

If yes, please explain:

Building Renovations:

Have any building renovations taken place in the last month? ☐ yes ☐ no

If yes, please provide more information below, and sketch any basement floor plan modifications on the floor plan sketch below.

Property Use Changes / Site Development

Has the property usage changed, or site been redeveloped since the last inspection?

☐ yes ☐ no ☐ N/A

If yes, please list with date: _____

Field Inspection Report
Post-Remedial Operation & Maintenance Plan

New Information

Has any new information been brought to the owner/engineer's attention regarding any and/or all engineering and institutional controls and their operation and effectiveness?

☐ yes ☐ no ☐ N/A

Comments: _____

This space for Notes and Comments

Please include the following Attachments:

1. Site Sketch of any modified areas
2. Photographs

BENCHMARK

DAILY LOG	DATE			
	NO.			
	SHEET		OF	

FIELD ACTIVITY DAILY LOG

PROJECT NAME:	PROJECT NO.
PROJECT LOCATION:	CLIENT:
FIELD ACTIVITY:	

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	DESCRIPTION

VISITORS ON SITE:	CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:

WEATHER CONDITIONS:	IMPORTANT TELEPHONE CALLS:
A.M.:	
P.M.:	

PERSONNEL ON SITE:

SIGNATURE DATE:

(CONTINUED)

BENCHMARK

DAILY LOG	DATE			
	NO.			
	SHEET		OF	

FIELD ACTIVITY DAILY LOG

PROJECT NAME:	PROJECT NO.

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	DESCRIPTION

SIGNATURE DATE:

(CONTINUED)

BENCHMARK

DAILY LOG	DATE			
	NO.			
	SHEET		OF	

FIELD ACTIVITY DAILY LOG

PROJECT NAME:	PROJECT NO.

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	DESCRIPTION

REFERENCED PROJECT FIELD FORMS:

☐ Aquifer Test Data Sheet	☐ Impacted Soil Excavation Log	☐ Soil Gas Survey Log
☐ Chain-of-Custody Form	☐ Impacted Soil Transportation Log	☐ Step-Drawdown Test Data Sheet
☐ Construction Sample Summary Log	☐ Monitoring Well Inspection Form	☐ Survey Elevation Log
☐ Corrective Measures Report	☐ Nuclear Densitometer Field Log	☐ Tailgate Safety Meeting Form
☐ Daily Drilling Report	☐ Photographic Log	☐ Test Pit Excavation Log
☐ Drilling Safety Checklist	☐ Pipe Leakage Testing Log	☐ Underground/Overhead Utility Checklist
☐ Equipment Calibration Log	☐ Post-Closure Field Inspection Report	☐ Variance Log
☐ Field Borehole Log	☐ Pressure Packer Testing Log	☐ Water Level Monitoring Record
☐ Field Borehole/Monitoring Well Installation Log	☐ Problem Identification Report	☐ Water Quality Field Collection Log
☐ Field Investigation Report	☐ Real-Time Air Monitoring Log	☐ Water Sample Collection Log
☐ Field Slug Test Log	☐ Record of Telecom Meeting	☐ Well Abandonment/Decomm. Log
☐ Groundwater Elevation Log	☐ Sample Summary Collection Log	☐ Well Completion Detail
☐ GW Well Development and Purge Log	☐ Sediment Sample Collection Log	☐
☐ Hot Work Permit	☐ Seep Sample Collection Log	☐
☐ IDW Container Log	☐ Seepage Meter Sample Collection Log	☐

SIGNATURE DATE:

BENCHMARK

GROUNDWATER FIELD FORM

Project Name: Date:

Location: Project No.: Field Team:

Well No.			Diameter (inches):			Sample Date / Time:			
Product Depth (fbTOR):			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR):			One Well Volume (gal):			Purpose: ☐ Development ☐ Sample ☐ Purge & Sample			
Total Depth (fbTOR):			Total Volume Purged (gal):			Purge Method:			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:									
	S1								
	S2								

Well No.			Diameter (inches):			Sample Date / Time:			
Product Depth (fbTOR):			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR):			One Well Volume (gal):			Purpose: ☐ Development ☐ Sample ☐ Purge & Sample			
Total Depth (fbTOR):			Total Volume Purged (gal):			Purge Method:			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:									
	S1								
	S2								

REMARKS:

Note: All water level measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY:

APPENDIX H

FIELD OPERATING PROCEDURES

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FIELD OPERATING PROCEDURES

Groundwater Level Measurement

FOP 022.0

GROUNDWATER LEVEL MEASUREMENT

PURPOSE

This procedure describes the methods used to obtain accurate and consistent water level measurements in monitoring wells, piezometers and well points. Water levels will be measured at monitoring wells and, if practicable, in supply wells to estimate purge volumes associated with sampling, and to develop a potentiometric surface of the groundwater in order to estimate the direction and velocity of flow in the aquifer. Water levels in monitoring wells will be measured using an electronic water level indicator (e-line) that has been checked for operation prior to mobilization.

PROCEDURE

1. Decontaminate the e-line probe and a lower portion of cable following the procedures referenced in the Benchmark Field Operating Procedure for Non-Disposable and Non-Dedicated Sampling Equipment Decontamination. Store the e-line in a protected area until use. This may include wrapping the e-line in clean plastic until the time of use.

2. Unlock and remove the well protective cap or cover and place on clean plastic.

3. Lower the probe slowly into the monitoring well until the audible alarm sounds. This indicates the depth to water has been reached.

4. Move the cable up and down slowly to identify the depth at which the alarm just begins to sound. Measure this depth against the mark on the lip of the well riser used as a surveyed reference point (typically the north side of the riser).

5. Read depth from the graduated cable to the nearest 0.01 foot. Do not use inches. If the e-line is not graduated, use a rule or tape measure graduated in 0.01-foot increments to measure from the nearest reference mark on the e-line cable.

6. Record the water level on a Water Level Monitoring Record (sample attached).

7. Remove the probe from the well slowly, drying the cable and probe with a clean paper wipe. Be sure to repeat decontamination before use in another well.

8. Replace well plug and protective cap or cover. Lock in place as appropriate.

ATTACHMENTS

Water Level Monitoring Record (sample)

REFERENCES

Benchmark FOPs:
040 Non-Disposable and Non-Dedicated Sampling Equipment Decontamination

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WATER LEVEL MONITORING RECORD

Project Name:	Client:
Project No.:	Location:
Field Personnel:	Date:
Weather:	

Well No.	Time	Top of Riser Elevation (fmsl)	Static Depth to Water (fbTOR)	Groundwater Elevation (fmsl)	Total Depth (fbTOR)	Last Total Depth Measurement (fbTOR)

Comments/Remarks:

PREAPRED BY: DATE:

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FIELD OPERATING PROCEDURES

Groundwater Purging Procedures Prior to Sample Collection

FOP 023.1

GROUNDWATER PURGING PROCEDURES PRIOR TO SAMPLE COLLECTION

PURPOSE

This procedure describes the methods for monitoring well/piezometer purging prior to groundwater sample collection in order to collect representative groundwater samples. The goal of purging is to remove stagnant, non-representative groundwater from the well and/or prevent stagnant water from entering collected samples. Purging involves the removal of at least three to five volumes of water in wells with moderate yields and at least one well volume from wells with low yields (slow water level recovery).

Purge and sample wells in order of least-to-most contaminated (this is not necessary if dedicated or disposable equipment is used). If you do not know this order, sample the upgradient wells first, then the furthest down-gradient or side-gradient wells, and finally the wells closest to, but down-gradient of the most contaminated area. Sampling should commence immediately following purging or as soon as the well has adequately recharged and not more than 24-hours following end time of evacuation.

PROCEDURE

1. Prepare the electronic water level indicator (e-line) in accordance with the procedures referenced in the Benchmark Field Operating Procedure for Groundwater Level Measurement and decontaminate the e-line probe and a lower portion of cable following the procedures referenced in the Benchmark Field Operating Procedure for Non-disposable and Non-dedicated Sampling Equipment Decontamination. Store the e-line in a protected area until use. This may include wrapping the e-line in clean plastic until the time of use.

2. Inspect the interior and exterior of the well/piezometer for signs of vandalism or damage and record condition on the Groundwater Field Form and/or Groundwater Well Inspection Form (samples attached). Specifically, inspect

the integrity of the following: concrete surface seal, lock, protective casing and well cover, well riser and J-plug/cap. Report any irregular findings to the Project Manager.

3. Unlock and remove the well protective cap or cover and place on clean plastic to avoid introducing foreign material into the well.

4. Calibrate the photoionization detector (PID) in accordance with the Benchmark Field Operating Procedure for Calibration and Maintenance of Portable Photoionization Detector.

5. Monitor the well for organic vapors using a PID, as per the Work Plan. If a reading of greater than 5 ppm is recorded, the well should be allowed to vent until levels drop below 5 ppm before proceeding with purging.

6. Lower the e-line probe slowly into the monitoring well and record the initial water level in accordance with the procedures referenced in the Benchmark Field Operating Procedure for Groundwater Level Measurement.

7. Following static water level determinations, slowly lower the e-line to the bottom of the well/piezometer. Record the total depth to the nearest 0.01-foot and compare to the previous total depth measurement. If a significant discrepancy exists, re-measure the total depth. Continue with purging activities observing purge water to determine whether the well/piezometer had become silted due to inactivity or damaged (i.e., well sand within purge water). Upon confirmation of the new total depth and determination of the cause (i.e., siltation or damage), notify the Project Manager following field activities.

8. Calculate the volume of water in the well based on the water level below the top of riser and the total depth of the well using the following equation:

$$V = 0.0408[(B)^2 \times \{(A) - (C)\}]$$

Where,

A = Total Depth of Well (feet below measuring point)
B = Casing diameter (inches)
C = Static Water Level (feet below measuring point)

9. **For wells where the water level is 20 feet or less below the top of riser**, a peristaltic pump may be used to purge the well. Measure the purged volume using a calibrated container (i.e., graduated 5-gallon bucket) and record measurements on the attached Groundwater Well Development and Purge Log. Use new and dedicated tubing for each well. During the evacuation of shallow wells, the intake opening of the pump tubing should be positioned just below the surface of the water. As the water level drops, lower the tubing as needed to maintain flow. For higher yielding wells, the intake level should not be lowered past the top of the screen. Pumping from the top of the water column will ensure proper flushing of the well. Continue pumping until the required volumes are removed (typically three well volumes). For higher yielding wells, adjust the purging rate to maintain the water level above the screen. For lower yielding wells or wells where the screen straddles the water table, maintain purging at a rate that matches the rate of recovery of the well (well yield). If the well purges to dryness and is slow to recharge (greater than 15 minutes), terminate evacuation. **A peristaltic pump and dedicated tubing cannot be used to collect VOC or SVOC project-required samples; only non-organic compounds may be collected using this type of pump.**

10. **For wells where the water level is initially below 20 feet,** or drawn down to this level because of slow recharge rate, conduct purging using one of three devices listed below:

- Bailer – A bottom filling dedicated polyethylene bailer attached to a length of dedicated hollow-braid polypropylene rope. Purging a well utilizing a bailer should be conducted smoothly and slowly as not to agitate the groundwater or damage the well.

- Well Wizard Purge Pump (or similar) – This pneumatic bladder pump uses compressed air to push water to the surface. Groundwater is not in contact

with the drive air during the pumping process, therefore the pump may be used for sample collection.

- Submersible Pump (12 or 24 volt, or similar) – These submersible pumps are constructed of PVC or stainless steel and are capable of pumping up to 70 feet from ground surface using a 12 volt battery (standard pump) and standard low flow controller. For depths up to 200 feet from ground surface, a high performance power booster controller is used with a 12 volt battery. Unless these pumps are dedicated to the monitoring well location, decontamination between locations is necessary and an equipment blank may be required.

- Waterra™ Pump – This manually operated pump uses dedicated polyethylene tubing and a check valve that can be used as an optional method for purging deeper wells. The pump utilizes positive pressure to evacuate the well, therefore the pump may be used for sample collection, and however over-agitation groundwater should be avoided.

Prior to use in a well, non-dedicated bailers, exterior pump bodies and pump tubing should be cleaned in accordance with the Benchmark Field Operating Procedure for Non-Disposable and Non-Dedicated Sampling Equipment Decontamination. Dedicated and/or disposable equipment should be contained within the sealed original manufacturers packaging and certified pre-cleaned by the manufacturer with a non-phosphate laboratory detergent and rinsed using de-ionized water.

8. Purging will continue until a predetermined volume of water has been removed (typically three well volumes) or to dryness. Measurements for pH, temperature, specific conductance, dissolved oxygen (optional), Eh (optional), and turbidity will be recorded following removal of each well volume. Purge the well to dryness or until the readings for indicator parameters listed above (or well-specific indicator parameters) stabilize within the following limits for each parameter measured:

Field Parameter	Stabilization Criteria
Dissolved Oxygen	± 0.3 mg/L
Turbidity	± 10 %
Specific Conductance	± 3 %
Eh	± 10 mV
PH	± 0.1 unit

Stabilization criteria presented within the project Work Plan will take precedence.

DOCUMENTATION AND SAMPLE COLLECTION

This section pertains to the documentation of collected field data during and following purging activities and sample collection.

1. Record all data including the final three stable readings for each indicator parameter on the attached Groundwater Well Purge & Sample Log.

2. Record, at a minimum, the "volume purged," "purging stop-time," "purged dry (Y/N)," "purged below sand pack (Y/N)," and any problems purging on the attached Groundwater Well Purge & Sample Log.

3. Collect groundwater samples in accordance with the Benchmark Field Operating Procedure for Groundwater Sample Collection. Record "sample flow rate" as an average, "time sample collected," and any other pertinent information related to the sampling event on the attached Groundwater Well Purge & Sample Log.

4. Restore the well to its capped/covered and locked condition.

ALTERNATIVE METHODS

Alternative purging and sampling methods and equipment, other than those described herein are acceptable if they provide representative groundwater samples. The purging and sampling method and equipment must not adversely affect sample integrity, chemistry, temperature, and turbidity. In addition, alternative equipment must have minimal or no effect on groundwater geochemistry, aquifer permeability and well materials. Equipment materials must also minimize sorption and leaching. The field team is responsible for documenting and describing any alternative equipment and procedures used to purge a well and collect samples.

ATTACHMENTS

Groundwater Field Form
Groundwater Well Inspection Form

REFERENCES

Benchmark FOPs:

011 *Calibration and Maintenance of Portable Photoionization Detector*
022 *Groundwater Level Measurement*
024 *Groundwater Sample Collection Procedures*
040 *Non-disposable and Non-dedicated Sampling Equipment Decontamination*

GROUNDWATER PURGING PROCEDURES PRIOR TO SAMPLE COLLECTION

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER FIELD FORM

Project Name: Date:

Location: Project No.: Field Team:

Well No.			Diameter (inches):			Sample Time:			
Product Depth (fbTOR):			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR):			Casing Volume:			Purpose: ☐ Development ☐ Sample			
Total Depth (fbTOR):			Purge Volume (gal):			Purge Method:			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:			Date: (if different from above)						
	S1								
	S2								

Well No.			Diameter (inches):			Sample Time:			
Product Depth (fbTOR):			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR):			Casing Volume:			Purpose: ☐ Development ☐ Sample			
Total Depth (fbTOR):			Purge Volume (gal):			Purge Method:			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:			Date: (if different from above)						
	S1								
	S2								

REMARKS:

Note: All water level measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY:

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER WELL INSPECTION FORM

Project:	**WELL I.D.:**
Client:	
Job No.:	
Date:	
Time:	

EXTERIOR INSPECTION

Protective Casing:
Lock:
Hinge/Lid:
Concrete Surface Seal:
Bollards:
Label/I.D.:
Other:

INTERIOR INSPECTION

Well Riser:
Annular Space:
Well Cap:
Water Level (fbTOR):
Total Depth (fbTOR):
Other:

Comments/Corrective Actions:

PREPARED BY: DATE:

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FIELD OPERATING PROCEDURES

Groundwater Sample Collection Procedures

FOP 024.1

GROUNDWATER SAMPLE COLLECTION PROCEDURES

PURPOSE

This procedure describes the methods for collecting groundwater samples from monitoring wells and domestic supply wells following purging and sufficient recovery. This procedure also includes the preferred collection order in which water samples are collected based on the volatilization sensitivity or suite of analytical parameters required.

PROCEDURE

Allow approximately 3 to 10 days following well development before performing purge and sample activities at any well location. Conversely, perform sampling as soon as practical after sample purging at any time after the well has recovered sufficiently to sample, or within 24 hours after evacuation, if the well recharges slowly. If the well does not yield sufficient volume for all required laboratory analytical testing (including quality control), a decision should be made to prioritize analyses based on contaminants of concern at the site. If the well takes longer than 24 hours to recharge, the Project Manager should be consulted. The following two procedures outline sample collection activities for monitoring and domestic type wells.

Monitoring Wells

1. Purge the monitoring well in accordance with the Benchmark FOPs for Groundwater Purging Procedures Prior to Sample Collection or Low Flow (Minimal Drawdown) Groundwater Purging & Sampling Procedures. Perform sampling as soon as practical after purging at any time after the well has recovered sufficiently to sample, or within 24 hours after evacuation, if the well recharges slowly. If the well does not yield sufficient volume for all required laboratory analytical testing (including quality control), a decision should be made to prioritize analyses based on contaminants of concern at the site. Analyses will be prioritized in the order of the parameters volatilization sensitivity. After volatile organics have been collected, field parameters

must be measured from the next sample collected. If a well takes longer than 24 hours to recharge, the Project Manager should be consulted.

2. Sampling equipment that is not disposable or dedicated to the well will be decontaminated in accordance with the Benchmark Field Operating Procedure for Non-Disposable and Non-Dedicated Sampling Equipment Decontamination.

3. Calibrate all field meters (i.e., pH/Eh, turbidity, specific conductance, dissolved oxygen, PID etc.) in accordance with the Benchmark Field Operating Procedure for Calibration and Maintenance of the specific field meter.

4. Prepare the electronic water level indicator (e-line) in accordance with the procedures referenced in the Benchmark Field Operating Procedure for Groundwater Level Measurement and decontaminate the e-line probe and a lower portion of cable following the procedures referenced in the Benchmark Field Operating Procedure for Non-disposable and Non-dedicated Sampling Equipment Decontamination. Store the e-line in a protected area until use. This may include wrapping the e-line in clean plastic until the time of use.

5. Inspect the well/piezometer for signs of vandalism or damage and record condition on the Groundwater Field Form (sample attached). Specifically, inspect the integrity of the following: concrete surface seal, lock, protective casing and well cover, well casing and J-plug/cap. Report any irregular findings to the Project Manager.

6. Unlock and remove the well protective cap or cover and place on clean plastic to avoid introducing foreign material into the well.

7. Calibrate the photoionization detector (PID) in accordance with the Benchmark Field Operating Procedure for Calibration and Maintenance of Portable Photoionization Detector.

8. Monitor the well for organic vapors using a PID, as per the Work Plan. If a reading of greater than 5 ppm is recorded, the well should be allowed to vent until levels drop below 5 ppm before proceeding with purging. Record PID measurements on a well-specific Groundwater Field Form (sample attached).

9. Lower the e-line probe slowly into the monitoring well and record the measurement on a well-specific Groundwater Field Form (sample attached).

10. Groundwater samples will be collected directly from the sampling valve on the flow through cell (low-flow), discharge port of a standard pump assembly (peristaltic, pneumatic, submersible, or Waterra™ pump) or bailer (stainless steel, PVC or polyethylene) into appropriate laboratory provided containers. In low-yielding wells at which the flow through cell is not used, the samples may be collected using a disposable bailer. **A peristaltic pump and dedicated tubing cannot be used to collect VOC or SVOC project-required samples; only non-organic compounds may be collected using this type of pump.**

11. If disposable polyethylene bailers are used, the bailer should be lowered *slowly* below the surface of the water to minimize agitation and volatilization. For wells that are known to produce turbid samples (values greater than 50 NTU), the bailer should be lowered and retrieved at a rate that limits surging of the well.

12. Sampling data will be recorded on a Groundwater Field Form (sample attached).

13. Pre-label all sample bottles in the field using a waterproof permanent marker in accordance with the Benchmark Sample Labeling, Storage, and Shipment FOP. The following information, at a minimum, should be included on the label:

    - Project Number;
    - Sample identification code (as per project specifications);
    - Date of sample collection (mm, dd, yy);
    - Time of sample collection (military time only) (hh:mm);
    - Specify "grab" or "composite" sample type;
    - Sampler initials;
    - Preservative(s) (if applicable); and
    - Analytes for analysis (if practicable).

14. Collect a separate sample of approximately 200 ml into an appropriate container prior to collecting the first and following the last groundwater sample collected to measure the following field parameters:

Parameter	Units
Dissolved Oxygen	parts per million (ppm)
Specific Conductance	μmhos/cm or μS or mS
pH	pH units
Temperature	^{o}C or ^{o}F
Turbidity	NTU
Eh (*optional*)	mV
PID VOCs (*optional*)	ppm

Record all field measurements on a Groundwater Field Form (sample attached).

15. Collect samples into pre-cleaned bottles provided by the analytical laboratory with the appropriate preservative(s) added based on the volatilization sensitivity or suite of analytical parameters required, as designated in the **Sample Collection Order** section below.

16. Lower the e-line probe slowly into the monitoring well and record the measurement on a well-specific Groundwater Field Form (sample attached).

17. The samples will be labeled, stored, and shipped in accordance with the Benchmark Field Operating Procedure for Sample Labeling, Storage, and Shipment Procedures.

Domestic Supply Wells

1. Calculate or estimate the volume of water in the well. It is desirable to purge at least one casing volume before sampling. This is controlled, to some extent, by the depth of the well, well yield and the rate of the existing pump. If the volume of water in the well cannot be calculated, the well should be purged continuously for no less than 15 minutes.

2. Connect a sampling tap to an accessible fitting between the well and the pressure tank where practicable. A hose will be connected to the device and the hose discharge located 25 to 50 feet away. The well will be allowed to pump until the lines and one

well volume is removed. Flow rate will be measured with a container of known volume and a stopwatch.

3. Place a clean piece of polyethylene or Teflon™ tubing on the sampling port and collect the samples in the order designated below and in the sample containers supplied by the laboratory for the specified analytes. ***DO NOT*** use standard garden hose to collect samples.

4. Sampling results and measurements will be recorded on a Groundwater Field Form (sample attached) as described in the previous section.

5. Collect samples into pre-cleaned bottles provided by the analytical laboratory with the appropriate preservative(s) added based on the volatilization sensitivity or suite of analytical parameters required, as designated in the **Sample Collection Order** section below.

6. The samples will be labeled, stored, and shipped in accordance with the Benchmark Field Operating Procedure for Sample Labeling, Storage, and Shipment Procedures.

SAMPLE COLLECTION ORDER

All groundwater samples, from monitoring wells and domestic supply wells, will be collected in accordance with the following.

1. Samples will be collected preferentially in recognition of volatilization sensitivity. The preferred order of sampling if no free product is present is:

    - Field parameters
    - Volatile Organic Compounds (VOCs)
    - Purgeable organic carbons (POC)
    - Purgeable organic halogens (POH)
    - Total Organic Halogens (TOX)
    - Total Organic Carbon (TOC)
    - Extractable Organic Compounds (i.e., BNAs, SVOCs, etc.)
    - Total petroleum hydrocarbons (TPH) and oil and grease

- PCBs and pesticides
- Total metals (Dissolved Metals)
- Total Phenolic Compounds
- Cyanide
- Sulfate and Chloride
- Turbidity
- Nitrate (as Nitrogen) and Ammonia
- Preserved inorganics
- Radionuclides
- Unpreserved inorganics
- Bacteria
- Field parameters

2. Document the sampling procedures and related information in the Project Field Book and on a Groundwater Field Form (sample attached).
3. 1,4-dioxane will be analyzed via the 8270 SIM method.

DOCUMENTATION

The three words used to ensure adequate documentation for groundwater sampling are accountability, controllability, and traceability. Accountability is undertaken in the sampling plan and answers the questions who, what, where, when, and why to assure that the sampling effort meets its goals. Controllability refers to checks (including QA/QC) used to ensure that the procedures used are those specified in the sampling plan. Traceability is documentation of what was done, when it was done, how it was done, and by whom it was done, and is found in the field forms, Project Field Book, and chain-of-custody forms. At a minimum, adequate documentation of the sampling conducted in the field consists of an entry in the Project Field Book (with sewn binding), field data sheets for each well, and a chain-of-custody form.

As a general rule, if one is not sure whether the information is necessary, it should nevertheless be recorded, as it is impossible to over-document one's fieldwork. Years may go by before the documentation comes under close scrutiny, so the documentation must be capable of defending the sampling effort without the assistance or translation of the sampling crew.

The minimum information to be recorded daily with an indelible pen in the Project Field Book and/or field data sheets includes date and time(s), name of the facility, name(s) of the sampling crew, site conditions, the wells sampled, a description of how the sample shipment was handled, and a QA/QC summary. After the last entry for the day in the Project Field Book, the Field Team Leader should sign the bottom of the page under the last entry and then draw a line across the page directly under the signature.

PRECAUTIONS/RECOMMENDATIONS

The following precautions should be adhered to prior to and during sample collection activities:

- Field vehicles should be parked downwind (to avoid potential sample contamination concerns) at a minimum of 15 feet from the well and the engine turned off prior to PID vapor analysis and VOC sample collection.

- Ambient odors, vehicle exhaust, precipitation, or windy/dusty conditions can potentially interfere with obtaining representative samples. These conditions should be minimized and should be recorded in the field notes. Shield sample bottles from strong winds, rain, and dust when being filled.

- The outlet from the sampling device should discharge below the top of the sample's air/water interface, when possible. The sampling plan should specify

how the samples will be transferred from the sample collection device to the sample container to minimize sample alterations.

- The order of sampling should be from the least contaminated to the most contaminated well to reduce the potential for cross contamination of sampling equipment (see the Sampling Plan or Work Plan).

- Samples should not be transferred from one sampling container to another.

- Sampling equipment must not be placed on the ground, because the ground may be contaminated and soil contains trace metals. Equipment and supplies should be removed from the field vehicle only when needed.

- Smoking and eating should not be allowed until the well is sampled and hands are washed with soap and water, due to safety and possibly sample contamination concerns. These activities should be conducted beyond a 15-foot radius of the well.

- No heat-producing or electrical instruments should be within 15 feet of the well, unless they are intrinsically safe, prior to PID vapor analysis.

- Minimize the amount of time that the sample containers remain open.

- Do not touch the inside of sample bottles or the groundwater sample as it enters the bottle. Disposable gloves may be a source of phthalates, which could be introduced into groundwater samples if the gloves contact the sample.

- Sampling personnel should use a new pair of disposable gloves for each well sampled to reduce the potential for exposure of the sampling personnel to contaminants and to reduce sample cross contamination. In addition, sampling personnel should change disposable gloves between purging and sampling operations at the same well.

- Sampling personnel should not use perfume, insect repellent, hand lotion, etc., when taking groundwater samples. If insect repellent must be used, then sampling personnel should not allow samples or sampling equipment to contact the

repellent, and it should be noted in the documentation that insect repellent was used.

- Complete the documentation of the well. A completed assemblage of paperwork for a sampling event includes the completed field forms, entries in the Project Field Book (with a sewn binding), transportation documentation (if required), and possibly chain-of-custody forms.

ATTACHMENTS

Groundwater Field Form (sample)

REFERENCES

1. Wilson, Neal. *Soil Water and Ground Water Sampling*, 1995

Benchmark FOPs:

007 Calibration and Maintenance of Portable Dissolved Oxygen Meter
008 Calibration and Maintenance of Portable Field pH/Eh Meter
009 Calibration and Maintenance of Portable Field Turbidity Meter
011 Calibration and Maintenance of Portable Photoionization Detector
012 Calibration and Maintenance of Portable Specific Conductance Meter
022 Groundwater Level Measurement
023 Groundwater Purging Procedures Prior to Sample Collection (optional)
031 Low Flow (Minimal Drawdown) Groundwater Purging & Sampling Procedures (optional)
040 Non-Disposable and Non-Dedicated Sampling Equipment Decontamination
046 Sample Labeling, Storage and Shipment Procedures

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER FIELD FORM

Project Name: Date:

Location: Project No.: Field Team:

Well No.			Diameter (inches):			Sample Time:			
Product Depth (fbTOR):			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR):			Casing Volume:			Purpose: ☐ Development ☐ Sample			
Total Depth (fbTOR):			Purge Volume (gal):			Purge Method:			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:			Date: (if different from above)						
	S1								
	S2								

Well No.			Diameter (inches):			Sample Time:			
Product Depth (fbTOR):			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR):			Casing Volume:			Purpose: ☐ Development ☐ Sample			
Total Depth (fbTOR):			Purge Volume (gal):			Purge Method:			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:			Date: (if different from above)						
	S1								
	S2								

REMARKS:

Note: All water level measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

FIELD OPERATING PROCEDURES

PFAS Groundwater/Surface Water Sample Collection Procedures

FOP 024.3

PFAS GROUNDWATER/ SURFACE WATER SAMPLE COLLECTION PROCEDURES

PURPOSE

This procedure describes the methods for collecting per-and polyfluoroalkyl substances (PFAS) groundwater samples from monitoring wells, following purging and sufficient recovery, and surface water locations. This procedure is specific to sites where PFAS sample analysis is required, and analysis specific collection and handling procedures are needed. PFAS sample analysis will be completed when Site analysis requires sampling of the full TAL/TCL analyte list. This field operating procedure (FOP) describes the personal protective equipment (PPE) and sampling equipment/materials appropriate for PFAS sample collection. PFAS laboratory analysis is performed using extremely low detection limits (parts per trillion). Therefore, cross contamination from potential sources (i.e., field equipment, consumer products) must be minimized to the extent possible.

PROCEDURE

Prior to sampling, discuss with the Site's Project Manager whether the monitoring wells that are to be sampled for the PFAS analytical parameters are new monitoring wells or existing monitoring wells. The specific handing and collection procedures for PFAS sampling are solely based on job preparation and sampling equipment used for the job. The standard practice of a 10 volume surge and purge of a newly installed monitoring well for development as discussed in Benchmark's FOP 036.0 – Monitoring Well Development Procedures and three volume well purge and/or low flow sampling that are discussed in Benchmark's FOP 023.1 – Groundwater Procedures Prior to Sample Collection remain the same. FOP 064.0 – Surface Water Sampling Procedures remains the same with the exceptions made in this FOP for PFAS sampling. The field sampling personnel must be prepared with appropriate clothing, equipment, and sampling containers for PFAS sampling as discussed below.

FIELD CLOTHING

Unacceptable Field Clothing

- No Gore-Tex®, this includes but not limited to boots, gloves, coveralls, hats, and coats.
- No Tyvex®, this includes but not limited to coveralls, boots, hoods and head coverings. Tyvex® is also found in everyday items such as envelopes, receipts, and adhesives.
- No clothes, jackets, boots, or gloves that have been pretreated with Teflon® water proofing. Teflon® can be found in everyday items such as scissors, plumbers' tape, adhesive tapes, Teflon ® paper for crafting and cookware utensils.
- No clothing that has been waterproofed with PFAS materials
- No brand-new unwashed cotton clothing.
- Clothing that has been washed with fabric softeners prior to sampling.

Acceptable Field Clothing

- Well-worn, washed clothes, jackets, hats, and coveralls without fabric softener usage.
- Rain Gear made from PVC, polyurethane, or rubber only (it cannot contain any of the products listed above).
- Disposable powder free nitrile gloves.

FIELD EQUIPMENT

Unacceptable Field Equipment

- Sampling Equipment containing Teflon® or Low-Density Polyethylene (LDPE). Sampling equipment that may contain these materials include submersible pumps, bailers, tubing, braided poly rope or cord, fishing line.

- No LDPE or glass lined sampling containers, or Teflon®-lined caps.
- Waterproof field books, binders, plastic clip boards, spiral hard cover notebooks.
- No adhesives or permanent makers can be used (i.e., Post-It® notes and Sharpies).
- No Aluminum foil or sampling tins.
- No blue ice packs
- Avoid using paper towels

Acceptable Field Equipment

- Sampling Equipment made from High Density Polyethylene (HDPE), stainless steel, acetate, silicon, or polypropylene.
- Sampling Containers made from HDPE polypropylene

Acceptable Field Equipment (continued)

- Sampling Equipment (i.e. bailers) made from Poly Vinyl Chloride (PVC)
- Nylon rope/twine
- Ice
- Alconox

ADDITIONAL PROCEDURES

- Keep all bottle ware in a dedicated cooler containing only PFAS sample containers.
- Avoid consumption of food or drink prior to and during the sampling event.
- Do not apply cosmetics or moisturizers prior to sampling.

- Do not use standard commercial sunscreen or insect repellents. Use only all natural or organic products.
- Collect PFAS sample from each location prior to collecting other samples for analysis to avoid contact with other sample containers and packing materials.
- New disposable nitrile gloves will be donned at each sampling location.
- Don new disposable nitrile gloves while handling empty sample containers, filling sampling containers, sealing sample containers, and placing containers into sampling coolers.
- Single use (dedicated) or disposable sampling equipment is preferred when multiple locations are sampled.
- Perform a standard two-step decontamination using Alconox detergent and laboratory provided PFAS-free water for all non-dedicated sampling equipment.
- Equipment blanks should be comprised of laboratory provided PFAS-free water. The water should be poured over and/or brought into direct contact with all sampling equipment (bailer, rope, tubing, gloves, water level meter, etc.). The equipment blank will then be sealed and returned to the sample cooler. One equipment blank will be collected each day PFAS samples are collected, or once every 20 samples, whichever is more frequent. Additional equipment blanks may be collected as needed.
- One field duplicate and one matrix spike/matrix spike duplicate (MS/MSD) will be collected for every 20 samples.
- Field blanks should be comprised of laboratory provided PFAS-free water. The field blank should be uncapped and placed near the field crew while purging/sampling preparations take place (i.e. prepare bottle set, calibrate groundwater quality meters, prepare bailers for sampling, etc.). The intent of the uncapped blank is to capture any ambient PFAS compounds that may emanate from the field crew or equipment during typical preparations associated with groundwater/surface water sampling. The field blank will then be capped and returned to the sample cooler.

ATTACHMENTS

Groundwater Field Form (sample)
Surface Water Quality Field Collection Log (Sample)

REFERENCES

Benchmark FOPs:
036.0 Monitoring Well Development Procedures
023.1 Groundwater Purging Procedures Prior to Sample Collection
064.0 Surface Water Sampling Procedures

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER FIELD FORM

Project Name: Date:

Location: Project No.: Field Team:

Well No.			Diameter (inches):			Sample Time:			
Product Depth (fbTOR):			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR):			Casing Volume:			Purpose: ☐ Development ☐ Sample			
Total Depth (fbTOR):			Purge Volume (gal):			Purge Method:			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:			Date: (if different from above)						
	S1								
	S2								

Well No.			Diameter (inches):			Sample Time:			
Product Depth (fbTOR):			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR):			Casing Volume:			Purpose: ☐ Development ☐ Sample			
Total Depth (fbTOR):			Purge Volume (gal):			Purge Method:			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:			Date: (if different from above)						
	S1								
	S2								

REMARKS:

Note: All water level measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY:

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

SURFACE WATER QUALITY FIELD COLLECTION LOG

PROJECT INFORMATION

Project Name:

Project No.:

Client:

SAMPLE DESCRIPTION

I.D.:

Matrix:

Location:

SAMPLE INFORMATION

Date Collected:

Time Collected:

Date Shipped to Lab:

Collected By:

Sample Collection Method:

LABORATORY ANALYSIS

SAMPLING INFORMATION

Weather:

Air Temperature:

Depth of Sample:

Parameter	First	Last	Units
pH			units
Temp.			°C
Cond.			mS
Turbidity			NTU
Eh			mV
D.O.			ppm
Odor			olfactory
Appearance			visual

LOCATION SKETCH

(not to scale, dimensions are approximate)

EXACT LOCATION (if applicable)

Northing (ft)	Easting (ft)	Surface Elevation (fmsl)

ADDITIONAL LABORATORY ANALYSIS:

ADDITIONAL REMARKS:

PREPARED BY: **DATE:**

APPENDIX I

REMEDIAL SYSTEM OPTIMIZATION
TABLE OF CONTENTS

REMEDIAL SYSTEM OPTIMIZATION FOR Tecumseh Phase IA Business Park

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