222 South Ferry Street Site

Schenectady County

Schenectady, New York

SITE MANAGEMENT PLAN

NYSDEC Site Number: 447047

Prepared for:

New York State Department of Environmental Conservation

Contract #D009808, Work Assignment No. 12

625 Broadway

Albany, New York

Prepared by:

HRP Associates Inc.

1 Fairchild Square, Suite 110

Clifton Park, New York

518-877-7101

Revisions to Interim Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date
1	6/7/2023	Modifies Monitoring and Reporting Rqmts	6/8/2023 Ruth Cuzley
2	9/8/2023	Incorporates Appendix A (Easement) and removes "interim" from title	9/8/2023 Ruth Cuzley

MAY 2022

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau B
625 Broadway, 12th Floor, Albany, NY 12233-7016
P: (518) 402-9767 I F: (518) 402-9773
www.dec.ny.gov

September 8, 2023

Schenectady County,
Trustee for Schenectady County Community College
Attn: Rory Fluman, City Manager
620 State Street – Sixth Floor
Schenectady NY 12205
Manager@schenectadycounty.com
Rory.fluman@schenectadycounty.com
Chris.gardner@schenectadycounty.com

RE: Interim/Final Site Management Plan (SMP)
222 South Ferry Street, Site 447047
Schenectady, NY

Dear Mr. Fluman :

The Interim Site Management Plan (SMP) for Site 447047 - 222 South Ferry Street outlines the monitoring and reporting requirements for the Site. Schenectady County, as the site owner, is responsible for performing and reporting these activities. The SMP was revised effective July 1, 2023 to provide administrative updates and incorporate modifications in monitoring and reporting requirements.

In August, 2023, Schenectady County recorded an environmental easement for the use of the site, and that easement is required to be incorporated as Appendix A of the SMP. With incorporation of the easement, the Interim Site Management Plan (SMP) will no longer be considered “Interim” and will become a final document. By this letter, the Department is initiating this change effective 10/1/2023. This letter should be incorporated into all copies of the plan, with the revised cover page, dated October 2023.

The following specific changes are effective on 10/1/2023.

1. Appendix A will consist of the environment easement and notice of recording. (attached).

2. The Site Management Plan will be considered final, and the word “Interim” removed from the cover page. (revised page is attached).

As a reminder, the site owner is responsible for implementing the SMP, including inspections, monitoring, recordkeeping and reporting. The Department will issue a reminder letter approximately 75 days prior to the reporting deadline for the Periodic Review Report.

This correspondence should be attached to existing copies of the Site Management Plan. The County's environmental consultant, outside attorney and any other appropriate entities should be provided with a copy of this correspondence. In response to a recent email, I have copied R. Gillen of Metroplex and M. Carr of LaBella Associates PC on this letter as requested. If you or your consultant require clarification, or have any questions, please contact me by email (ruth.curley@dec.ny.gov) or phone (518) 402-9480.

Sincerely,

Ruth Curley

Ruth Curley,
Remedial Bureau B, Section A
Division of Environmental Remediation

Enclosure

ec:	D. MacNeal, C. O'Neil	NYSDEC
	J. Nealon	NYSDOH
	P. Gittelson	NYSDEC
	R. Mustico -	NYSDEC
	R. Gillen – Metroplex	rgillen@schenectadymetroplex.org
	M. Carr - LaBella	mcarr@labellapc.com

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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June 8, 2023

Schenectady County,
Trustee for Schenectady County Community College
Attn: Rory Fluman, City Manager
620 State Street – Sixth Floor
Schenectady NY 12205
Manager@schenectadycounty.com
Rory.fluman@schenectadycounty.com
Chris.gardner@schenectadycounty.com

RE: Interim Site Management Plan (SMP)
222 South Ferry Street, Site 447047
Schenectady, NY

Dear Mr. Fluman :

The Interim Site Management Plan (SMP) for Site 447047 - 222 South Ferry Street is dated May 2022, and outlines the monitoring and reporting requirements for the Site. Schenectady County, as the site owner, is responsible for performing and reporting these activities.

The NYS Department of Environmental Conservation is initiating a change in the Interim Site Management Plan (SMP) to modify monitoring and reporting requirements, and provide administrative updates. This letter should be incorporated into all copies of the plan, with the revised cover page, dated June 2023.

The changes below are effective on 7/1/2023.

1. The groundwater monitoring frequency will change from semi-annually to every fifth quarter. The most recent monitoring occurred in the fourth quarter of 2022, and was performed by NYSDEC's contractor. The next monitoring event is required to be performed by Schenectady County in the first quarter 2024.

2. The initial Periodic Review Report will be required by August 1, 2024. Subsequent to that, a PRR will be required every 3 years.

These changes affect the Executive Summary (pages 1-2) and Section 5.2.3 (pages 16-17), and Section 8.1 (page 21).

The following changes are administrative and ensure that the SMP is up-to-date.

3. Section 2.3: Table 1 – Contacts: Remove Gerard Burke and replace with Douglas MacNeal 518 402 9684 douglas.macneal@dec.ny.gov

4. Two additional reports should be referenced in Section 9

   a. Semi-Annual Groundwater Report -October 2022, dated 1/23/2023

   b. Semi-Annual Groundwater Report – April 2022, dated 8/18/2022

5. Appendix D - MW-10 was replaced in May 2022. The construction log for the replacement well is attached to this memo and should replace the 2014 MW-10 construction log in Appendix D.

The Administrative Settlement required the filing of an environmental easement for the site. To date, NYSDEC has not received this easement. When the completed easement is submitted, an additional modification to the Interim SMP will be required.

This correspondence should be attached to existing copies of the Interim Site Management Plan. Please ensure that County's environmental consultant, outside attorney and any other appropriate entities are provided with a copy of this correspondence. If you or your consultant require clarification, or have any questions, please contact me by email (ruth.curley@dec.ny.gov) or phone (518) 402-9480.

Sincerely,

Ruth Curley

Ruth Curley,
Remedial Bureau B, Section A
Division of Environmental Remediation

Enclosure

ec:	D. MacNeal, C. O'Neil	NYSDEC
	V. Ruglis	NYSDEC – Reg 4
	J. Nealon	NYSDOH
	P. Gittelson	NYSDEC

222 South Ferry Street Site

Schenectady County

Schenectady, New York

INTERIM SITE MANAGEMENT PLAN

NYSDEC Site Number: 447047

Prepared for:

New York State Department of Environmental Conservation

Contract #D009808, Work Assignment No. 12

625 Broadway

Albany, New York

Prepared by:

HRP Associates Inc.

1 Fairchild Square, Suite 110

Clifton Park, New York

518-877-7101

Revisions to Interim Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

MAY 2022

CERTIFICATION STATEMENT

I Thomas Seguljic certify that I am currently a NYS registered professional engineer as is defined in 6 NYCRR Part 375 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).

P.E. #075180-1

May 9, 2022 DATE

TABLE OF CONTENTS

222 South Ferry Street, NY

Schenectady County

Schenectady, New York

SITE MANAGEMENT PLAN

TABLE OF CONTENTS (Continued)

List of Tables

List of Figures

List of Appendices

List of Acronyms

AQWS	Aqueous Water Quality Standards
CVOCs	Chlorinated Volatile Organic Compounds
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
COC	Certificate of Completion
DER	Division of Environmental Remediation
DUSR	Data Usability Summary Report
EC	Engineering Control
ECL	Environmental Conservation Law
Ft Bg	Feet Below Grade
EWP	Excavation Work Plan
HASP	Health and Safety Plan
IC	Institutional Control
MNA	Monitored Natural Attenuation
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
PCB	Poly-Chlorinated Bi-phenyl
PID	Photoionization Detector
PRP	Potentially Responsible Party
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QEP	Qualified Environmental Professional
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
ROD	Record of Decision
RP	Remedial Party
SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System

1.0 EXECUTIVE SUMMARY

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

Site Identification: Site No. 447047 222 South Ferry Street

Institutional Controls:	1. The property may be used for commercial and industrial use;
	2. Institutional Control at the Site include: • The property may be used for: commercial and industrial uses only; • All ECs must be operated, maintained, and completed at a frequency as specified in this SMP; • The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Schenectady 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; • 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; and • The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC, and any potential impacts that are identified must be monitored or mitigated.
Engineering Controls:	1. All ECs must be inspected at a frequency and in a manner defined in the SMP. Engineering Controls at the Site include: • Cover system

Inspections:	Frequency
1. Cover inspection	Annually

Site Identification: Site No. 447047 222 South Ferry Street

Monitoring:	
1. Groundwater Monitoring Wells MW-2, MW-5, MW-6R, MW-8, MW-10, MW-12, MW-13, PES-MW-4, PES-MW-5, and PES-MW-6	Semi-Annual
2. Soil Vapor Intrusion Evaluation for future buildings	As needed
Maintenance:	
1. Cover System Maintenance	As needed
Reporting:	
1. Inspection Report	Semi-Annual
2. Periodic Review Report	Annually for two years, then every five years

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

2.0 INTRODUCTION

2.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the 222 South Ferry Street Site located in Schenectady, New York (hereinafter referred to as the "Site"). See Figure 1. The Site is currently listed in the New York State (NYS) Inactive Hazardous Waste Disposal Site Remedial Program (Site No. 447047), which is administered by New York State Department of Environmental Conservation (NYSDEC or Department).

A figure showing the Site location and boundaries of this Site is provided in Figure 1. The boundaries of the Site are more fully described in the metes and bounds site description that is part of the pending 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" or "remaining impacts." 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. the pending Environmental Easement to be granted to the NYSDEC, and recorded with the Schenectady 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 pending Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC and NYSDOH, and compliance with this plan is required by the grantor of the pending Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC and NYSDOH.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the pending 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 Order on Consent (Index #R4-20210928-80; Site #447047) 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 HRP Associates, Inc. (HRP) on behalf of NYSDEC, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010, and the guidelines provided by the NYSDEC. This Interim SMP addresses the means for implementing the ICs and ECs that are required by the pending Environmental Easement for the Site.

2.2 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, post-remedial removal of contaminated sediment or soil, or other significant change to the Site conditions. In accordance with the pending 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.

2.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC and NYSDOH, 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 Order on Consent, 6 NYCRR Part 375 and/or Environmental Conservation Law.7-day advance notice of any field activity associated with the remedial program.

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 and NYSDOH 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 Order on Consent, 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 and NYSDOH.

Table 1 on the following page 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****
NYSDEC Project Manager: Ruth Curley	518-402-9480 ruth.curley@dec.ny.gov	All Notifications
Gerard Burke Remedial Bureau B	518 402 9817 Gerard.burke@dec.ny.gov	All Notifications
Kelly Lewandowski NYSDEC Site Control	518 402 9569 Kelly.lewandowski.@dec.ny.gov	Notifications 1 and 8
NYSDOH Project Manager: Jaquelyn Nealon	518-402-7883 beei@health.ny.gov	All Notifications

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

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

3.0 SITE BACKGROUND

3.1 Site Location and Description

The Site is located in the City of Schenectady, Schenectady County, New York and is identified as Section 39.71 Block 1 and Lot 14.11 on the Schenectady County Tax Assessors Map. The Site is approximately an 0.98-acre area and is bounded by residential property to the south, a mixed-use commercial, and residential property to the north, South Ferry Street to the east, and Church Street to the west (see Figure 1). The owner of the Site parcel at the time of issuance of this SMP is Schenectady County.

3.2 Physical Setting

3.2.1 Land Use

The 0.98-acre Site is comprised of an asphalted parking lot. Vegetation, small trees, and thickets are present beyond the edge of asphalt on northwestern and southern portions of the Site. Two catch-basins are located on the eastern portion of the Site and remnants of electrical gate systems are located at the Site access points along South Ferry Street and South Church Street. The Site is zoned as C-4, downtown Mixed-Use, on the City of Schenectady zoning map, and is used as a parking lot. No buildings are currently present on-site.

The properties adjoining the Site and, in the neighborhood, surrounding the Site primarily include a mix of vacant, residential, and commercial properties. The properties immediately south of the Site include both residential apartment buildings to the southeast and a vacant lot to the southwest. The Site is bordered to the north the parking area for a residential apartment building. The Site is bounded by South Church Street on the west and South Ferry Street on the east.

3.2.2 Geology

Soils are mapped by the Schenectady Soil Survey as cut and fill land. Surficial geology is mapped as lacustrine silt and clay according to the New York State Surficial Geologic Map, Hudson-Mohawk Sheet, 1987. These soils consist of laminated silts and clays. Subsurface conditions were identified during previous investigations, and consist of fill material (sand, gravel, silt, brick, cinders, and ash) extending from beneath the asphalt pavement and subbase, to depths ranging from 9 feet to 15 feet below grade (ft. bg). The fill is generally underlain by native material consisting of fine sand and silt with lesser amounts of clay and organic matter. Overburden soil have been noted to extend to at least 90 ft bg according to previous investigations.

A transect map showing geologic cross sections is depicted on Figure 2. West-east and south-north geologic cross-sections are depicted on Figures 3 and 4, respectively. Site specific boring logs are provided in Appendix C.

3.2.3 Hydrogeology

Depth to groundwater varies across the Site, and ranges from between 4 ft and 12 ft bg. Site, local, and regional Groundwater flows north, towards the Mohawk River. A list of all Site groundwater monitoring wells is provided as Table 2. A groundwater contour map is shown in Figure 5. Groundwater monitoring well construction logs are provided in Appendix C.

3.3 Summary of Remedial Investigation Findings

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

Reportedly, the first use of the Site was noted in 1884, as a warehouse operated by S.R. James Crockery. The S.R. James Crockery warehouse lasted alongside another warehouse building known as Express Stable, and included a smaller hardware store and residential properties. The Site was then held by McCormack's Private Garage from the 1930s into the 1960s, and featured a paint shop, repair shop, and a truck garage. The buildings on-site were demolished between the 1970s and early 1980s and a vacant parking lot remained ever since.

The following historic uses at the subject Site and its north and south adjacent properties may have contributed to the Site contaminants, as follows.

1) The Site's historic use as a trucking facility. A paint shop, repair shop and portions of a truck garage were located in the general vicinity of the Site contaminants. Solvents may have been used to prepare vehicles for painting and to clean the facility floors. Petroleum-type constituents were not detected in soils and groundwater sampled as part of past investigations of the Site.

2) Land usage to the north (209 and 211 South Church Street) consisted of a paint and varnish removal factory (1914), and dry-cleaning operations (1953). Although these areas are downgradient, these operations utilize solvents and may have contributed to Site contaminants.

3) Land usage to the south which consisted of a color copier, photo lab and glove manufacturer. Solvents may have been used in conjunction with these types of operations and may have contributed to Site contaminants.

Several investigations have been completed at the Site, summaries and key findings of previous investigations are detailed below.

Site Characterization (SC) Report prepared by Arcadis of New York Inc. for NYSDEC (April 2014)

The Site Characterization (SC) investigations consisted of a document review of Site history, a geophysical survey, the installation of soil borings, test pits, soil vapor points and groundwater monitoring wells, as well as the collection and analysis of soil, soil vapor and groundwater samples. Sample locations are depicted on Figure 1.

The SC identified the primary constituents of concern at this site to be chlorinated volatile organic compounds in the groundwater and soil gas. The two main contaminants, cis-1,2 dichloroethene and vinyl chloride, were both found in seven of the thirteen groundwater wells on-site. The highest concentrations were at MW-8 in the center of the Site, where the concentration of cis-DCE was 19,000 parts per billion (ppb) and vinyl chloride was 13,000 ppb. Six other wells on-site contained a maximum of 1,000 ppb of cis-DCE and 420 ppb vinyl chloride. Groundwater standards are 5 ppb and 2 ppb, respectively. Soil samples from 2 of 4 soil borings indicated vinyl chloride in excess of the unrestricted soil cleanup objectives (SCOs) (up to 0.11 ppm vs 0.02 ppm SCO) at the groundwater

interface, but below the residential SCO (0.210 ppm). Metals were present in three of the four borings. The highest values were at MW-10 on the northern site boundary where arsenic, barium, lead, and mercury exceeded commercial SCOs, and cadmium and chromium exceeded residential SCOs. Three test pits (TP1-3) were opened. No obvious signs of soil contamination were found in TP-1 and TP-2. Soil samples at test pit 1 and 2 exceeded the unrestricted SCO for cis-DCE (5 parts per million (ppm) vs 0.25 ppm) and exceeded residential SCO for vinyl chloride (0.3 ppm vs 0.25 ppm). TP-1 and TP-3 exceeded unrestricted SCOs for lead and mercury and TP-2 contained mercury and chromium above residential SCOs. Two buried tanks were located in test pit 3, northeast of the Site's center and downgradient of the suspected source area. Soil at TP-3 exceeded commercial SCOs for five petroleum related compounds, and exceeded residential SCOs for two other petroleum compounds. Soil gas at the site was measured. The highest values were near MW-8, at the center of the site, with cis DCE at 8100 micrograms per cubic meter (ug/m3) and trichloroethene (TCE) at 92,000 ug/m3. Other elevated TCE was found east of MW8 (SV-6 TCE-4200 ug/m3) and southwest of MW-8 near the site border (SV-1 TCE-3200 ug/m3). The soil vapor sample southeast of MW-8 and near the adjacent residence on South Ferry Street did not contain TCE.

Remedial Investigation (RI) report was prepared by Arcadis CE, Inc. (June 2018) for NYSDEC

A RI consisting of a geophysical survey, surface soil sampling, a soil vapor evaluation, and groundwater sampling was completed by Arcadis in 2017. Surface soils were found to contain SVOCs at concentrations exceeding Commercial SCOs. On-site Groundwater samples were collected during the RI and were consistent with prior results. Off-Site soil vapor was evaluated during 2017. No off-site soil vapor impacts were identified in the parcel at the northern boundary of the Site. Off-site Groundwater: An off-site investigation was performed immediately north of the Site during 2017. No chlorinated solvents were detected in off-site groundwater. Chlorinated solvents were confirmed in MW-10 at lower levels than reported in the SC report.

Focused Feasibility Study – by Arcadis CE, Inc. (October 2019) for NYSDEC

In 2019 a Focused Feasibility Study was completed by Arcadis, CE Inc. for NYSDEC (October 2019) to determine the best course of remedial action for the Site. The recommended remedy included in-situ chemical oxidation, and removal of USTs. Estimated remedial costs varied from 1.1 to 4.1 million dollars. The owner had previously removed the USTs in September 2017 without NYSDEC oversite.

Pre-Design Investigation Report – by Precision Environmental Services (June 2020) for the New York State Department of Environmental Conservation

A pre-design investigation (PDI) was completed by Precision Environmental Services (PES) in April 2020. The PDI consisted of sampling existing monitoring wells and completing additional characterization of soil and groundwater around MW-8. Groundwater results were consistent with 2014 data. Data generated during the PDI was used to provide a design for the implementation of in-situ, enhanced biological degradation of CVOCs in the on-site groundwater.

3.4 Summary of Remedial Actions

The Interim Remedial Measure (IRM) selected at the Site included In-situ chemical reduction via injection of 3-D Microemulsion® (3DME), Sulfidated Zerovalent Iron® (S-MicroZVI), and Bio-Dechlor INOCULUM® Plus (BDI Plus). The remedy was implemented in December 2020, in which 36 injection

points were used across a 3,600 square foot area near MW-8 to treat impacts to a depth of 5 to 16 ft bg. In November 2021, a second round of DME, S-MicroZVI, and BDI Plus were injected in two areas at the Site, a 3,000 square foot area upgradient of MW-5 and MW-6, and a 50-foot barrier area upgradient gradient of MW-13. Details are found in the Construction Completion Report (CCR) Monitoring at the Site is currently ongoing, and soil and groundwater contamination remains on-site as described below in Section 2.6

3.5 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site are as follows:

Soil

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

Soil Vapor

RAOs for Public Health Protection

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

3.6 Remaining Contamination

The Site was remediated through an IRM, consisting of two injection events in December 2020 and November 2021. This active remedy was designed to satisfy RAOs, as described above in Section 2.4. Monitoring at the Site is currently ongoing, and contamination remains on-site in various environmental media, as described below. Locations of engineering controls at the Site is provided as Figure 6.

3.6.1 Soil

Soil contamination remains on the Site as depicted on Figure 7. In the central portion of the Site, pre-design sampling in the area around MW-8 was performed. CVOCs were detected in soil ranging from 4-24 feet below grade, and exceeded the protection of groundwater SCOs. Based on the pre-design sampling, the quantity of contaminated soil is estimated at 4,800 cubic yards. The enhanced biodegradation remedy targeted an injection interval of 5-16 feet, it is expected that the enhanced biodegradation will reduce the concentrations of CVOCs in 2,600 cubic yards of impacted soil, however post-remediation soil sampling has not occurred.

In the southern portion of the Site, soil in the top one foot exceeded the commercial soil cleanup objectives (SCO) for three SVOCs, with a maximum concentration of 6.6 ppm of benzo(b)fluoroanthene, compared to a commercial SCO of 5.6 ppm. The SVOCs are not related to Site activities and a demarcation layer and stone cover system has been installed over this area. Previous investigations also identified metals in the vicinity of MW-10 and SVOCs in the vicinity of MW-13 above commercial SCOs. Table 3 summarizes the results of all soil samples collected that exceed both the unrestricted and the commercial SCOs at the Site after completion of the IRM.

3.6.2 Groundwater

VOCs were detected in the on-site groundwater at concentrations exceeding SCGs in samples collected after implementation of the IRM. Increases in TCE concentrations were not observed in any of the monitoring wells. Variations of breakdown products cis-1,2-DCE and vinyl chloride were evident across the monitoring well network and indicate dechlorination is occurring in groundwater beneath the Site. Table 4 and Figure 8 summarize the results of all samples of groundwater that exceed the SCGs after completion of the interim remedial measure.

3.6.3 Soil Vapor

Prior to the IRM, CVOCs in soil, groundwater and soil gas exceeded SCGs in the center of the Site. Since the IRM, CVOC levels in groundwater have been significantly reduced. Despite the reduction, there is still a potential for soil vapor intrusion at the Site. As a result, any future development of the Site will require an SVI evaluation and mitigation measures to address the potential for soil vapor intrusion.

4.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

4.1 Introduction

4.1.1 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.

4.1.2 Purpose

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 pending 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.

4.2 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 and industrial uses only. Adherence to these ICs on the Site is required by the pending Environmental Easement and will be implemented under this SMP. ICs identified in the pending Environmental Easement may not be discontinued without an amendment to or extinguishment of the pending Environmental Easement. ICs to be implemented at the Site are:

- The property may be used for: commercial and industrial uses only;
- All ECs must be operated, maintained, and completed at a frequency as specified in this SMP;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Schenectady 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;

- 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 pending Environmental Easement;
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC, and any potential impacts that are identified must be monitored or mitigated;

4.2.1 Excavation Work Plan

The Site has been remediated for commercial and industrial use. Any future intrusive work that will penetrate the existing soil cover or cap, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with the EWP that is attached as Appendix D to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the Site. A sample HASP is attached as Appendix E to this SMP that is in current compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State, and local regulations. Based on future changes to State and federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section A-1 of the EWP, in consultation with the NYSDOH project manager. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (see Section 7), in consultation with the NYSDOH project manager.

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

4.2.2 Soil Vapor Evaluation

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

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

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

4.3 Engineering Controls

4.3.1 Engineering Control Systems

4.3.1.1. Site 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 4 inches of asphalt pavement, and in some locations, a demarcation layer, has been placed under 6 inches of virgin stone, which provides an equivalent cover system. The EWP provided in Appendix D outlines the procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the Site and provided in Appendix F. 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.

4.3.2 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, if applicable. Also, the remedial party will ensure that no on-going erosion is occurring on the Site.

4.3.2.1. Cover System

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

4.3.2.2. Groundwater Monitoring

Groundwater monitoring activities to assess the effectiveness enhanced bioremediation will continue, as determined by the NYSDEC project manager in consultation with NYSDOH project manager, until residual groundwater concentrations are found to be consistently below ambient water quality standards or the Site SCGs, or have become asymptotic at an acceptable level over an extended period. If monitoring data indicates that monitoring may no longer be required, a proposal to discontinue the remedy will be submitted by the remedial party. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC project manager. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, additional injections, source removal, treatment and/or control measures will be evaluated.

4.4 Inspections and Notifications

4.4.1 Inspections

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

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

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

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

5.0 SITE MONITORING AND SAMPLING PLAN

5.1 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 Site Management Forms as Appendix G, and the Field Activities Plan (FAP) and Quality Assurance Project Plan (QAPP) provided in Appendix H

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 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.

5.2 Site Monitoring

5.2.1 Site 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 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. Modification to the frequency or duration of the inspections will require approval from the NYSDEC Project Manager, in consultation with the NYSDOH Project Manger. 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 pending Environmental Easement;
- Achievement of remedial performance criteria; and
- If Site records are complete and up to date.

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 five 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 seven days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

5.2.2 Cover System Monitoring

The integrity of the site cover system will be monitored on an annual basis.

5.2.3 Groundwater Monitoring

Semi-Annual groundwater monitoring will be performed to assess the performance of the remedy. Modification to the frequency or sampling requirements will require approval from the NYSDEC Project Manager, in consultation with the NYSDOH Project Manager.

The network of monitoring wells has been installed to monitor upgradient, on-site and downgradient groundwater conditions at the Site. The network of on-site wells has been designed to monitor performance of the selected remedy.

Table 2 summarizes the wells identification number, as well as the purpose, location, depths, diameter, and screened intervals of the wells. The remedial party will measure depth to the water table for each monitoring well in the network before sampling. If biofouling or silt accumulation occurs in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged

and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance. Monitoring well construction logs available at the time of this SMP are included in Appendix C of this document.

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, in consultation with the NYSDOH 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 below.

5.2.3.1. Groundwater Monitoring Schedule

Samples shall be collected from the selected monitoring wells on a routine basis. Sampling locations required analytical parameters and a schedule are provided below. Modification to the frequency or sampling requirements will require approval from the NYSDEC Project Manager, in consultation with the NYSDOH Project Manager.

Table 5 – Monitoring and Sampling Schedule

Sampling Location	**Analytical Parameters**	**Well Location**	**Schedule**
	VOCs (EPA Method 8260)		
MW-2	X	Downgradient	Semi-Annual
MW-12	X	Side Gradient	Semi-Annual
PES-MW-4	X	Downgradient	Semi-Annual
PES-MW-5	X	Side Gradient	Semi-Annual
PES-MW-6	X	Side Gradient	Semi-Annual
Sampling Location	VOCs (EPA Method 8260) and Additional Geochemical Parameters	**Well Location**	**Schedule**
MW-5	X	Upgradient	Semi-Annual
MW-6R	X	Upgradient	Semi-Annual
MW-8	X	Former Source Area	Semi-Annual
MW-10	X	Downgradient	Semi-Annual

MW-13	X	Side Gradient	Semi-Annual

Detailed sample collection and analytical procedures and protocols are provided in Appendix H – FAP and QAPP.

5.2.3.2. 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 details regarding monitoring and sampling protocols are provided in the site-specific Field Activities Plan (FAP) provided as Appendix H of this document.

6.0 OPERATION AND MAINTENANCE PLAN

The Site remedy does not rely on any mechanical systems, such as sub-slab depressurization systems or air sparge/ soil vapor extraction systems to protect public health and the environment. Operation and maintenance are not included in this SMP.

7.0 PERIODIC ASSESSMENTS, EVALUATIONS, AND CERTIFICATIONS

7.1 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.

Vulnerability assessments 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.

The Site is located within the Mohawk River flood zone, and is characterized by FEMA as flood zone A, which indicates that the Site is subject to inundation by a 1-percent-annual-chance flood event. Since the Site remedy does not rely on any mechanical systems, the monitoring wells on-site are sealed with well cap plugs and the wells are protected by steel well covers, the risk to damage during flooding is remote. There are no structures or equipment on-site and the location is currently used as a paved parking lot.

Due to the impervious surface of the Site and the current well construction (well cap plugs and steel covers), there is no obvious risk of damage to the wells from erosion, high wind, power loss/ disruption, or surface spill/ contaminant release. No vulnerable areas of the Site have been identified at this time.

7.2 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 PRR.

No waste is generated from the selected remedy at this Site (in-situ groundwater treatment). The remedy does not rely on any mechanical systems, and no emissions are produced. The Site is classified by the USDA Soil Survey as urban fill, capped by asphalt, and is used as a parking lot.

8.0 REPORTING REQUIREMENTS

8.1 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 6 NYCRR Part 375, a 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.

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 the decision document and this SMP, and summarized in the Periodic Review Report.

8.1.1 Schedule of Interim Monitoring/Inspection Reports

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

Table 6 – Interim Reporting Summary/Schedule

Task/Report	Reporting Frequency*
Inspection Report	Semi-Annual
Periodic Review Report	Annual for two years, then every 5 years

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, groundwater, 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.

8.2 Periodic Review Report

A PRR will be submitted to the NYSDEC Project Manager beginning 16 months after the letter 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 RAOs.
    - 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 environmental impacts 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 RAOs; and,
    - The overall performance and effectiveness of the remedy.

8.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a 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, [name], of [business address], am certifying as [Owner/Remedial Party or Owner's/Remedial Party's Designated Site Representative] [I have been authorized and designated by all site owners/remedial parties to sign this certification] for the site."

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.

8.3 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, in consultation with the NYSDOH Project Manager.

9.0 REFERENCES

Focused Feasibility Study – by Arcadis CE, Inc. for the New York State Department of Environmental Conservation, Work Assignment #D007618-50, Site No. 447047 - October 2019.

6 NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.
NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation."

NYSDEC, 1998. 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).

Site Characterization Report Prepared by Arcadis of New York, Inc. for the New York State Department of Environmental Conservation, Work Assignment #D007618-24, Site No. 447047 – April 2014.

Remedial Investigation Report – by Arcadis CE, Inc. for the New York State Department of Environmental Conservation, Work Assignment #D007618-50, Site No. 447047 - June 2018.

Pre-Design Investigation Report – by Precision Environmental Services for the New York State Department of Environmental Conservation, Contract#C100614 – June 2020.

TABLES

Table 2

Monitoring Well Construction Details

Site #447047

222 South Ferry Street, Schenectady, New York

Monitoring Well ID	Well Location	Coordinates	Well Diameter (inches)	Elevation (above mean sea level)			
				Casing	Surface	Screen Top	Screen Bottom
MW-1 (Removed)	Downgradient	N/A	1	224.34	224.47	N/A	N/A
MW-2	Downgradient	N/A	1	223.84	223.96	N/A	N/A
MW-3 (Removed)	Downgradient	N/A	1	223.4	223.49	N/A	N/A
MW-4 (Removed)	Upgradient	N/A	1	223.92	224.14	N/A	N/A
MW-5	Upgradient	N/A	1	224.51	224.59	N/A	N/A
MW-6R	Upgradient	N/A	2	224.06	224.4	219.06	209.06
MW-7 (Removed)	Upgradient	N/A	1	225.13	225.41	N/A	N/A
MW-8	Former Source Area	N/A	1	224	224.12	N/A	N/A
MW-9 (Removed)	Upgradient	N/A	1	222.81	222.91	N/A	N/A
MW-10 (Replaced)	Downgradient	N/A	2	223.87	224.06	213.87	203.87
MW-11	Downgradient	N/A	2	225.29	225.49	215.29	205.29
MW-12	Side Gradient	N/A	2	224.19	224.38	219.19	209.19
MW-13	Side Gradient	N/A	2	223.08	223.6	218.08	208.08
MW-14	Downgradient	N/A	2	222.36	222.6	220.36	210.36
PES-MW-4	Downgradient	N/A	2	223.88	219.07	218.88	213.88
PES-MW-5	Side Gradient	N/A	2	224.07	218.9	216.07	211.07
PES-MW-6	Side Gradient	N/A	2	224.3	219.26	220.3	210.3

N/A - Not Available

MW - Monitoring Well

ID - Identification

Table 3
Remaining Soil Sample Exceedances
VOCs SVOC and Metals
Site # 447047
222 South Ferry Street, Schenectady, NY

Sample ID	NYS part 375-6 SCOs Unrestricted	NY part 375-6 SCO-Protection of Public Health - Commercial	PES-B1		PES-B2			PES-B3		PES-B4		PES-B5		PES-B6			PES-B7		PES-B9		PES-B10	
Depth (feet)			4-8'	12-16'	4-8'	8-12'	12-16'	4-8'	16-20'	4-8'	8-10'	4-8'	12-16'	4-8'	12-16'	20-24'	4-7'	15-16'	0-4'	12-16'	4-8'	8-12'
Date Collected:			4/3/2020	4/3/2020	4/3/2020	4/3/2020	4/3/2020	4/3/2020	4/3/2020	4/3/2020	4/3/2020	4/6/2020	4/6/2020	4/6/2020	4/6/2020	4/6/2020	4/6/2020	4/6/2020	4/6/2020	4/6/2020	4/6/2020	4/6/2020
Volatile Organic Compounds (VOCs) (µg/kg)																						
Acetone	**50**	**500,000**	ND	**220**	ND	**94**	**140**	**27**	**130**	ND	**360**	ND	**100**	ND	**320**	**150**	**42**	**270**	ND	**85**	**400**	**58**
Trichloroethene	**470**	**500,000**	**12,000**	ND	**4,500**	ND	ND	**110**	ND	**61**	ND	**69**	**18**	**2,800**	ND	ND	**2,000**	ND	**99**	**130**	**45**	**1,900**
cis-1,2-Dichloroethene	**250**	**500,000**	**830**	**67**	**440**	**3,500**	**16**	**13**	**3,000**	**14**	**59**	**34**	**100**	**7**	**8,800**	ND	**350**	**17**	**9.4**	**7,300**	**31**	**11,000**
trans-1,2-Dichloroethene	**190**	**200,000**	ND	**110**	ND	**7.5**	**6.5**	ND	**62**	ND	ND	ND	ND	ND	**2,000**	**2,600**	ND	**59**	ND	**130**	ND	**220**
Vinyl Chloride	**20**	**13,000**	ND	ND	ND	**1,200**	ND	ND	**12**	ND	**100**	ND	**9.9**	ND	**88**	ND	**12**	ND	ND	**4,800**	**21**	**1,200**

Sample ID	NYS part 375-6 SCOs Unrestricted	NY part 375-6 SCO-Protection of Public Health - Commercial	TP-1	TP-2	TP-3	MW-10	MW-11	MW-12	MW-13	SS-01		SS-02		SS-03	
Depth (feet)			10'	10'	10'	7-8'	8-9'	9-10'	4-5'	0-2" bgs	2-12" bgs	0-2" bgs	2-12" bgs	0-2" bgs	2-12" bgs
Date Collected:			12/3/2013	12/3/2013	12/3/2013	1/14/2014	1/15/2014	1/15/2014	1/16/2014	11/15/2017	11/15/2017	11/15/2017	11/15/2017	11/15/2017	11/15/2017
Volatile Organic Compounds (VOCs)(µg/kg)															
Acetone	**50**	**500,000**	< 300	< 320	**28**	**21**	< 5.5	**11**	< 4.9	< 3	< 3	< 3	< 3	< 3	< 3
Trichloroethene	**470**	**500,000**	< 300	**52**	< 5.9	< 7	< 5.5	**78**	**3.4**	< 5.9	**1.7**	< 5.9	< 5.9	< 5.9	< 5.9
cis-1,2-Dichloroethene	**250**	**500,000**	**4,100**	**5,000**	**5.6**	**200**	**6**	**86**	**5**	< 5.4	< 5.4	< 5.10	< 5.10	< 5.10	< 5.10
trans-1,2-Dichloroethene	**190**	**200,000**	**87**	**53**	< 5.9	< 7	< 5.5	< 5.4	< 4.9	< 5.5	< 5.5	< 5.5	< 5.5	< 5.5	< 5.5
Vinyl Chloride	**20**	**13,000**	**110**	**300**	**5.9**	**53**	**5.5**	**33**	**4.9**	< 5.9	< 5.9	< 5.5	< 5.5	< 6.0	< 6.0
Semi Volatile Organic Compounds (SVOCs) (µg/kg)															
Benzo(a)anthracene	**1,000**	**5,600**	< 380	< 400	< 410	< 390	< 99	< 100	**35,000**	**1,200**	**1,400**	**2,200**	**2,200**	**1,700**	**6,000**
Benzo(a)pyrene	**1,000**	**1,000**	< 380	< 400	< 410	< 420	< 96	< 84	**36,000**	**1,300**	**1,300**	**2,300**	**2,400**	**2,100**	**5,200**
Benzo(b)fluoranthene	**1,000**	**5,600**	< 380	< 110	< 410	< 510	< 130	< 130	**46,000**	**1,700**	**1,900**	**2,900**	**2,700**	**2,900**	**6,600**
Benzo(k)fluoranthene	**800**	**56000**	< 380	< 400	< 410	< 170	< 380	< 380	**5,200**	**720**	**550**	**1,300**	**1,600**	**910**	**3,800**
Chrysene	**1,000**	**56,000**	< 380	< 400	< 410	< 420	< 100	< 100	**35,000**	**1,200**	**1,300**	**2,300**	**2,300**	**2,000**	**5,800**
Dibenzo(a,h)anthracene	**330**	**560**	< 380	< 400	< 410	< 82	< 380	< 380	**5,500**	< 380	< 400	< 410	< 380	< 400	< 410
Indeno(1,2,3-cd)pyrene	**500**	**5600**	< 380	< 400	< 410	< 320	< 380	< 380	**27,000**	**880**	**930**	**1,600**	**1,700**	**1,600**	**3,300**
Metals (mg/kg)															
Arsenic	**13**	**16**	**4.1**	**5.3**	**3.7**	**130**	**4.6**	**11.1**	**4.8**	**4.4**	**5.5**	**5**	**6**	**5.8**	**5.8**
Barium	**350**	**400**	**31.3**	**37.6**	**65.2**	**588**	**30.2**	**41.3**	**42.3**	**68.2**	**78.9**	**125**	**104**	**98.4**	**115**
Cadmium	**2.5**	**9.3**	**0.13**	**0.15**	**0.18**	**5.5**	**0.015**	**0.016**	**0.015**	**0.37**	**0.39**	**0.73**	**0.55**	**0.58**	**0.6**
Chromium	**30**	**1,500**	**7.4**	**40.3**	**8.5**	**57.6 J**	**9.2**	**9.3**	**14.9**	**13.1**	**13.2**	**16.1**	**15**	**13.9**	**16.5**
Lead	**63**	**1,000**	**18.4**	**125 J**	**146**	**5680 J**	**31.4**	**77.7 J**	**104 J**	**160**	**167**	**230**	**223**	**221**	**246**
Mercury	**0.18**	**2.8**	**0.19**	**2.5 J**	**0.29 J**	**3.3**	**0.0098**	**0.084**	**0.74**	**0.38**	**0.49**	**0.52**	**0.52**	**0.68**	**0.86**
Zinc	**0.0033**	**47**	NA	NA	NA	NA	NA	NA	NA	**162**	**129**	**242**	**232**	**213**	**242**

<1	Parameter not detected above the method detection limit
<1	Indicates the method detection limit is greater than the Unrestricted SCO Criteria
1	Parameter reported at a concentration greater than the Unrestricted SCO Criteria
1	Parameter reported at a concentration greater than the Protection of Public Health - Commercial SCO Criteria
1	Parameter reported above the laboratory method detection limit but below the Unrestricted SCO Criteria

Notes:
µg/Kg = micrograms per Kilogram
mg/Kg = milligrams per Kilogram
ND = not detected
NYS Part 375 SCOs from 6 NYCRR Part 375 Subpart 375-6: Remedial Program Soil Cleanup Objectives
J = Estimated concentration

Analytical Results reported from ARCADIS Site Characterization Report (2014) Analytical Results reported from ARCADIS Remedial Investigation Report (2017) and Precision Environmental Services Pre Design Investigation Report (2020)

Table 4
Remaining Groundwater Sample Exceedances
VOCs and Metals
Site # 447047
222 South Ferry Street, Schenectady, NY

Sample ID	NYSDEC Class GA Criteria	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-6R	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	PES-MW-4	PES-MW-5	PES-MW-6
Sampling Date		**11/28/2017**	**4/5/2021**	**1/24/2014**	**1/15/2021**	**4/5/2021**	**1/23/2014**	**4/5/2021**	**1/23/2014**	**4/5/2021**	**1/23/2014**	**4/5/2021**	**1/24/2014**	**4/5/2021**	**4/5/2021**	**4/5/2021**	**4/5/2021**	**4/5/2021**
Volatile Organic Compounds (VOCs) (µg/L)																		
1,1-Dichloroethene	**5**	<1.0	< 0.29	<1.0	< 0.29	< 1.5	<1.0	**0.34**	<1.0	< 12	<1.0	< 1.2	<1.0	< 0.29	< 2.3	< 0.29	< 2.9	< 1.2
2-Butanone (MEK)	**50**	<5.0	< 1.3	<1.0	<5.0	< 6.6	<5.0	< 5.3	<1.0	< 53	<1.0	< 5.3	<1.0	< 1.3	< 11	**5.2**	**44**	**100**
Benzene	**1**	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	**5**	**1.2**	**2.2**	<1.0	< 0.81	**160**	**32**	**150**	<1.0	**2,100**	<1.0	**12**	**0.76**	**5.9**	**49**	**3.1**	**610**	**27**
Methylene Chloride	**5**	<1.0	< 0.44	<1.0	<1.0	< 2.2	<1.0	< 1.8	<1.0	**18**	<1.0	< 1.8	<1.0	< 0.44	< 3.5	< 0.44	< 4.4	< 1.8
Toluene	**5**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	**5**	<1.0	< 0.90	<1.0	< 0.90	< 4.5	<1.0	**1.2**	<1.0	< 36	<1.0	< 3.6	<1.0	< 0.90	< 7.2	< 0.90	**17**	< 3.6
Trichloroethene	**5**	<1.0	< 0.46	<1.0	< 0.46	**260**	<1.0	< 1.8	<1.0	**95**	<1.0	< 1.8	<1.0	< 0.46	< 3.7	< 0.46	< 4.6	**5.5**
Vinyl Chloride	**2**	**17**	**4**	<1.0	< 0.90	**22**	**32**	**19**	<1.0	**930**	<1.0	**160**	<1.0	**2**	**170**	**24**	**610**	**26**
Metals (mg/L)																		
Arsenic	**25**	ND	**11**	**4.3**	**4.3**	**4.3**	**34.3**	NA	**11.2**	**7.7**	**45.6**	**12.5**	**4.3**	**16.1**	**4.3**	NA	NA	NA
Selenium	**10**	ND	**12.6**	**14.5**	**12**	**12**	**12**	NA	**12**	**12**	**12**	**12**	**12**	**14.3**	**12**	NA	NA	NA

<1	Parameter not detected above the method detection limit
<1	Indicates the method detection limit is greater than the NYSDEC Class GA Standards
1	Parameter reported at a concentration greater than the NYSDEC Class GA Standards
1	Parameter reported above the laboratory method detection limit but below the NYSDEC Class GA Standards

Notes:
µg/L = micorgrams per Liter
NA = Sample Not Analyzed for Specified Compound
NYS Class GA Groundwater Criteria

Analytical Results reported from ARCADIS Site Characterization Report (2014) ARCADIS Remedial Investigation Report (2017) and collected by HRP during ongoing minitoring post insitu groundwater injections (2021)

Table 4
Remaining Groundwater Sample Exceedances
Volatile Organic Compounds
Detected Analytes Only
222 Ferry Street Site, Site # 447047
222 South Ferry Street, Schenectady, New York

Lab Report No.:	NY-NYSDEC CLASS GA CRITERIA	70197977									
ID:		MW-2	MW-12	MW-13	MW-14	MW-5	MW-6R	MW-8	PES-MW-4	PES-MW-5	PES-MW-6
Date Collected:		12/13/2021	12/13/2021	12/14/2021	12/13/2021	12/14/2021	12/14/2021	12/13/2021	12/13/2021	12/13/2021	12/13/2021
Volatile Organic Compounds (VOCs) (ug/L)											
1,1-Dichloroethylene	5	< 0.23	< 0.23	< 0.23	< 0.23	**1.2**	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
1,2-Dichloroethane	0.6	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	**1.7**	< 0.19	< 0.19	< 0.19
2-Butanone (MEK)	50	< 1.3	< 1.3	**2.3**	< 1.3	**194**	**31.8**	**10.9**	< 1.3	**2.6**	< 1.3
Acetone	50	< 1.6	< 1.6	**2.8**	< 1.6	**62.3**	**3.4**	**15.5**	< 1.6	**1.9**	< 1.6
Benzene	1	< 0.22	< 0.22	< 0.22	< 0.22	< 0.22	< 0.22	**1.4**	< 0.22	< 0.22	< 0.22
Carbon disulfide	60	< 0.25	< 0.25	< 0.25	< 0.25	**6.4**	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Chloromethane	5	< 0.2	< 0.2	**2.4**	< 0.2	< 0.2	< 0.2	< 0.2	**1.5**	**1.3**	< 0.2
cis-1,2-Dichloroethylene	5	**3.8**	**7.6**	**1.9**	< 0.24	**191**	**199**	**649**	**35.9**	**6.8**	**242**
METHYL ACETATE	NP	< 0.57	< 0.57	< 0.57	< 0.57	**1.7**	< 0.57	< 0.57	< 0.57	< 0.57	< 0.57
Toluene	5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	**7.3**	< 0.2	< 0.2	< 0.2
trans-1,2-Dichloroethylene	5	< 0.19	< 0.19	< 0.19	< 0.19	**4.3**	**1.9**	**1.1**	< 0.19	< 0.19	**67**
Trichloroethylene	5	< 0.22	< 0.22	< 0.22	< 0.22	**49.6**	< 0.22	< 0.22	**6.2**	< 0.22	< 0.22
Vinyl chloride	2	**10.7**	**3.1**	**12**	< 0.33	**70.9**	**86.5**	**6,170**	**23.5**	**6.3**	**377**

Legend

<1	Parameter not detected above the method detection limit
<1	Indicates the method detection limit is greater than one or more applicable comparison criteria
<1	Indicates the method detection limit is greater than one or more applicable comparison criteria
1	Parameter reported above the laboratory method detection limit but below the applicable regulatory standard/criterion

Notes:

µg/L = micorgrams per Liter

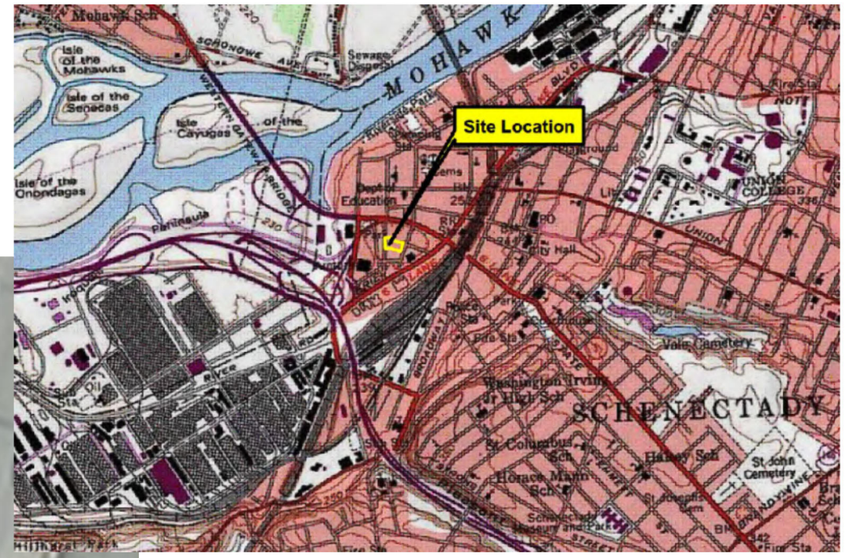
NA = Sample Not Analyzed for Specified CompoundNYS Class GA Groundwater Criteria

Analytical Results reported from ARCADIS Site Characterization Report (2014) ARCADIS Remedial Investigation Report (2017) and collected by HRP during ongoing monitoring post insitu groundwater injections (2021)

Monitoring Wells MW-1, MW-3, MW-4, MW-7 and MW-9 were removed

Monitoring Wells MW-10 and MW-11 were not located during the 12/13/21 - 12/14/21 sampling event

FIGURES



0 1,000 2,000 4,000 6,000 8,000

1 inch = 2,000 Feet

Section Lot and Block (SBL)
Property Tax Number:
39307100010140110000

LEGEND

- MW — MONITORING WELL (ALL ARE FLUSH MOUNT) W/ELEVATIONS
- B,EB — SOIL BORING W/ELEVATION
- SV — SOIL VAPOR POINT W/ELEVATION
- EDGE OF TEST PIT
- OHW — OVERHEAD WIRES
- UTILITY POLE
- LIGHT POLE
- E — UNDERGROUND ELECTRIC LINE
- GV — GAS VALVE
- G — UNDERGROUND GAS LINE
- CB — CATCH BASIN
- DMH — STORM DRAIN MANHOLE
- SD — UNDERGROUND STORM DRAIN LINE
- SMH — SANITARY MANHOLE
- SS — UNDERGROUND SANITARY SEWER LINE
- WV — WATER VALVE
- HYD — HYDRANT
- W — UNDERGROUND WATER LINE
- CHAIN LINE FENCE
- WOOD PRIVACY FENCE
- PROPERTY LINE
- IRON ROD FOUND
- NAIL FOUND
- NAIL SET
- Remedial Injection Area (12/2020)
- Remedial Injection Area (11/2021)

N

DATUM: HORIZONTAL—NAD83; VERTICAL NAVD88 FROM GPS OBSERVATIONS
NEW YORK STATE PLANE COORDINATES
SURVEYED SEPTEMBER 3–4, 2013 AND JANUARY 20, 2014

SCALE
0 20 40 FT.

REVISIONS	YEC, INC.	
1/27/14 ADD WELLS: MW-10 THRU MW-13; VAPOR POINTS: SV-1 THRU SV-8, BORINGS: EB-1, EB-3, EB-4, B-3; AND 2 TEST PITS SURVEYED 1/20/14	VALLEY COTTAGE	NEW YORK
	222 SOUTH FERRY STREET SURVEY	
	CITY OF SCHENECTADY SCHENECTADY COUNTY, NEW YORK	

DATE:	SCALE:	DRAWN BY:	CHECKED BY:	JOB NO.
SEPT 2013	1" = 20'	MBW	JD	A0474

HRP
MOVE YOUR ENVIRONMENT FORWARD
ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM

NORTH

0 15' 30'

REVISIONS

NO.	DATE

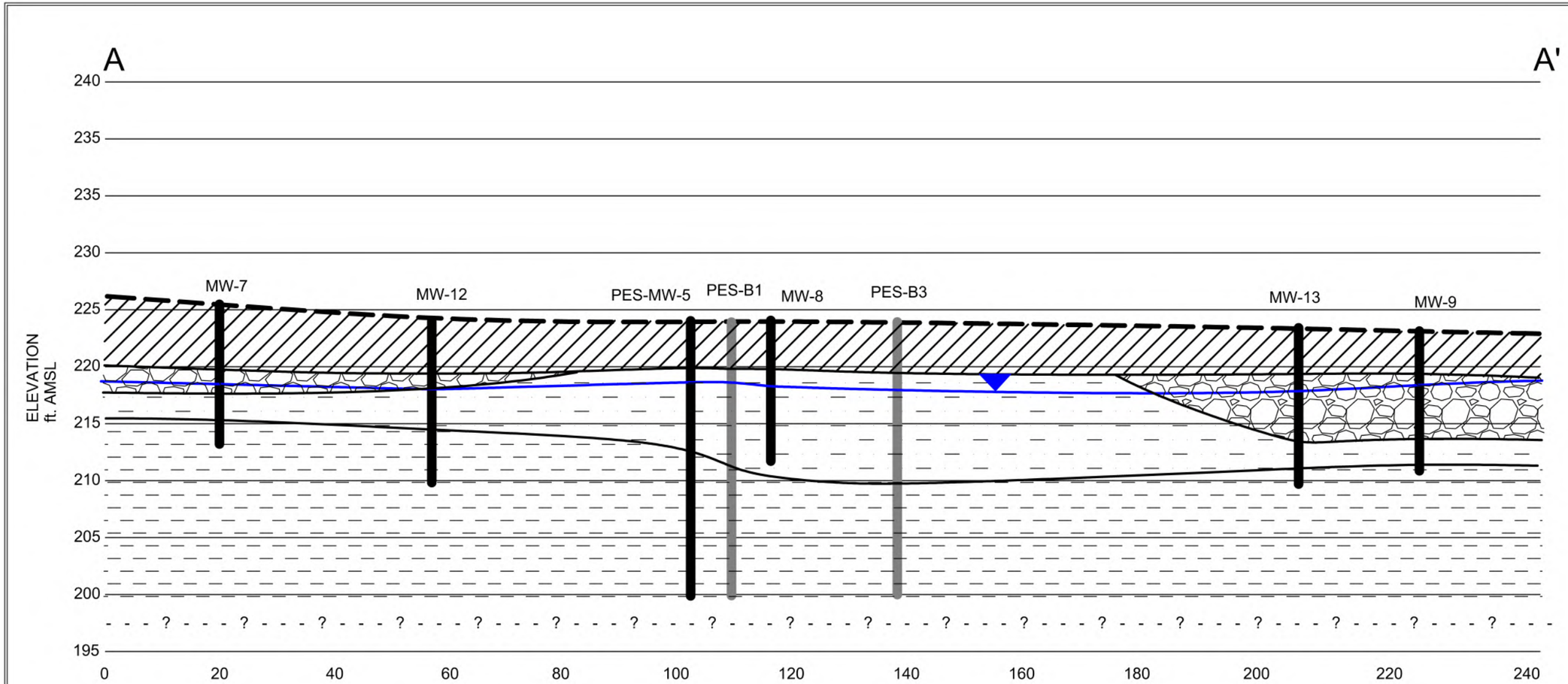
DESIGNED BY: CMS
DRAWN BY: CMS
REVIEWED BY: MEW

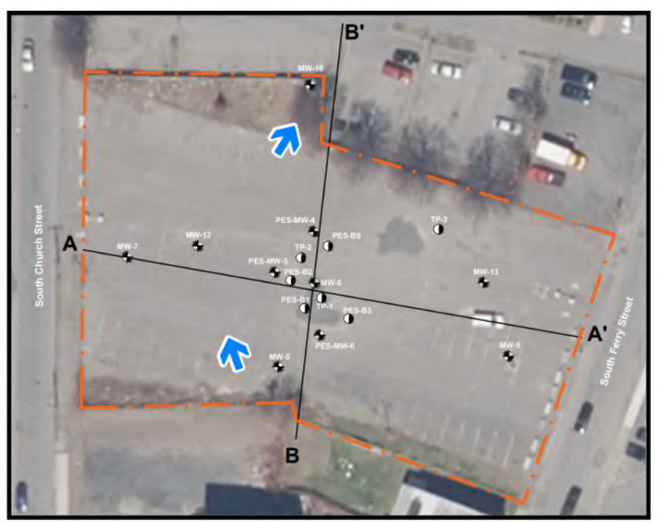
ISSUE DATE: 1/11/2022
PROJECT NUMBER: DEC1012.RA
SHEET SIZE: 11"x17"

Cross Section Transect Map

222 SOUTH FERRY STREET
SCHENECTADY, NEW YORK

FIGURE NO.
2





LEGEND

- SOIL BORING
- MONITORING WELL
- FILL
- GRAVELY SAND
- SILTY SAND WITH SOME-TRACE GRAVEL
- SILTY CLAY
- GROUNDWATER ELEVATION
- ? - GEOLOGY UNKNOWN BELOW 200 FT BG

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ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM

NORTH

0 15' 30'

REVISIONS

NO.	DATE

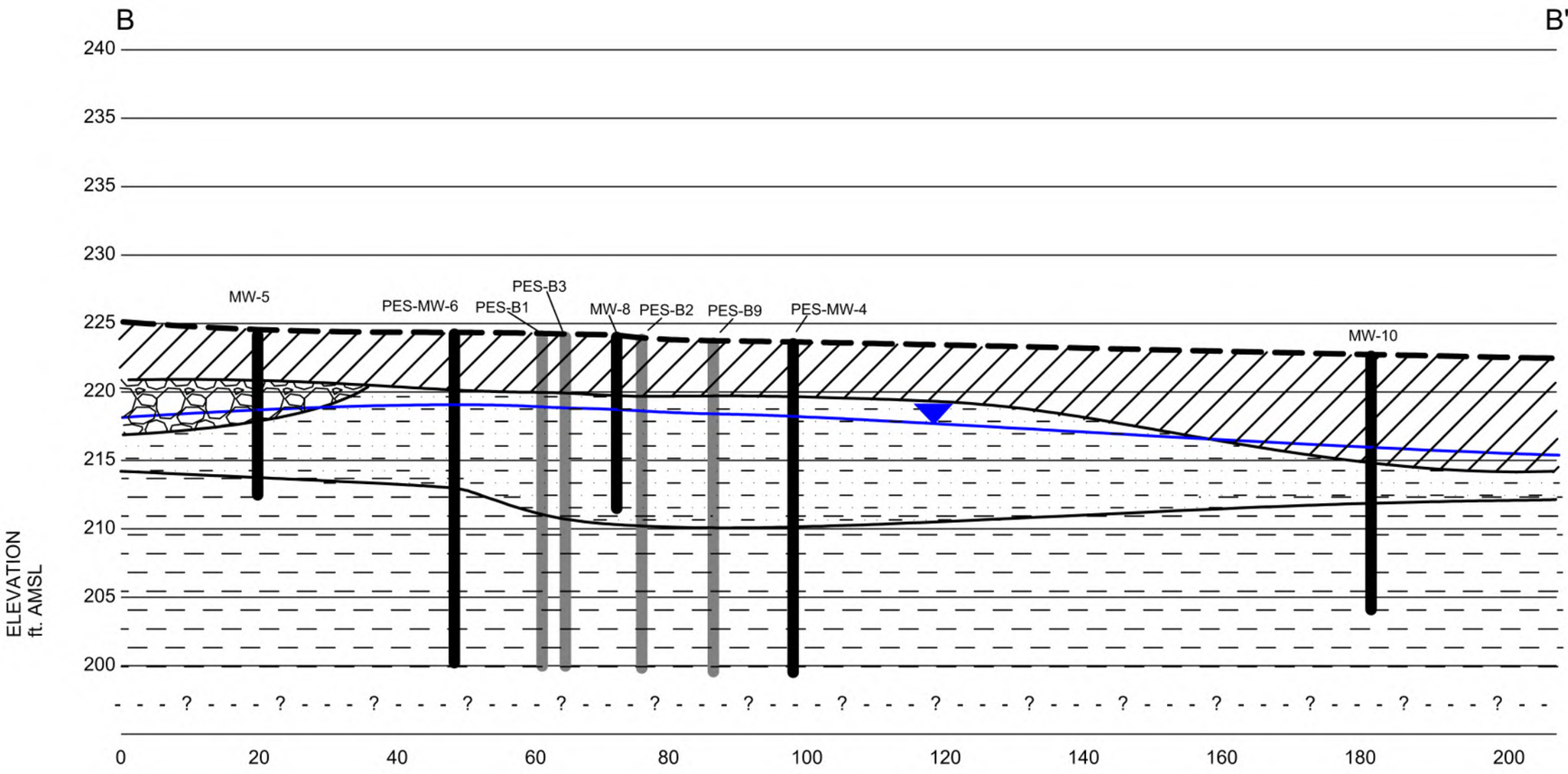
DESIGNED BY: CMS
DRAWN BY: CMS
REVIEWED BY: MEW

ISSUE DATE: 1/11/2022
PROJECT NUMBER: DEC1012.RA
SHEET SIZE: 11"x17"

Geologic Cross Section (W-E)

222 SOUTH FERRY STREET
SCHENECTADY, NEW YORK

FIGURE NO.
3



LEGEND

- SOIL BORING
- MONITORING WELL
- FILL
- GRAVELY SAND
- SILTY SAND WITH SOME-TRACE GRAVEL
- SILTY CLAY
- GROUNDWATER ELEVATION
- ? - GEOLOGY UNKNOWN BELOW 200 FT BG

HRP
MOVE YOUR ENVIRONMENT FORWARD
ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM

NORTH

0 15' 30'

REVISIONS

NO.	DATE

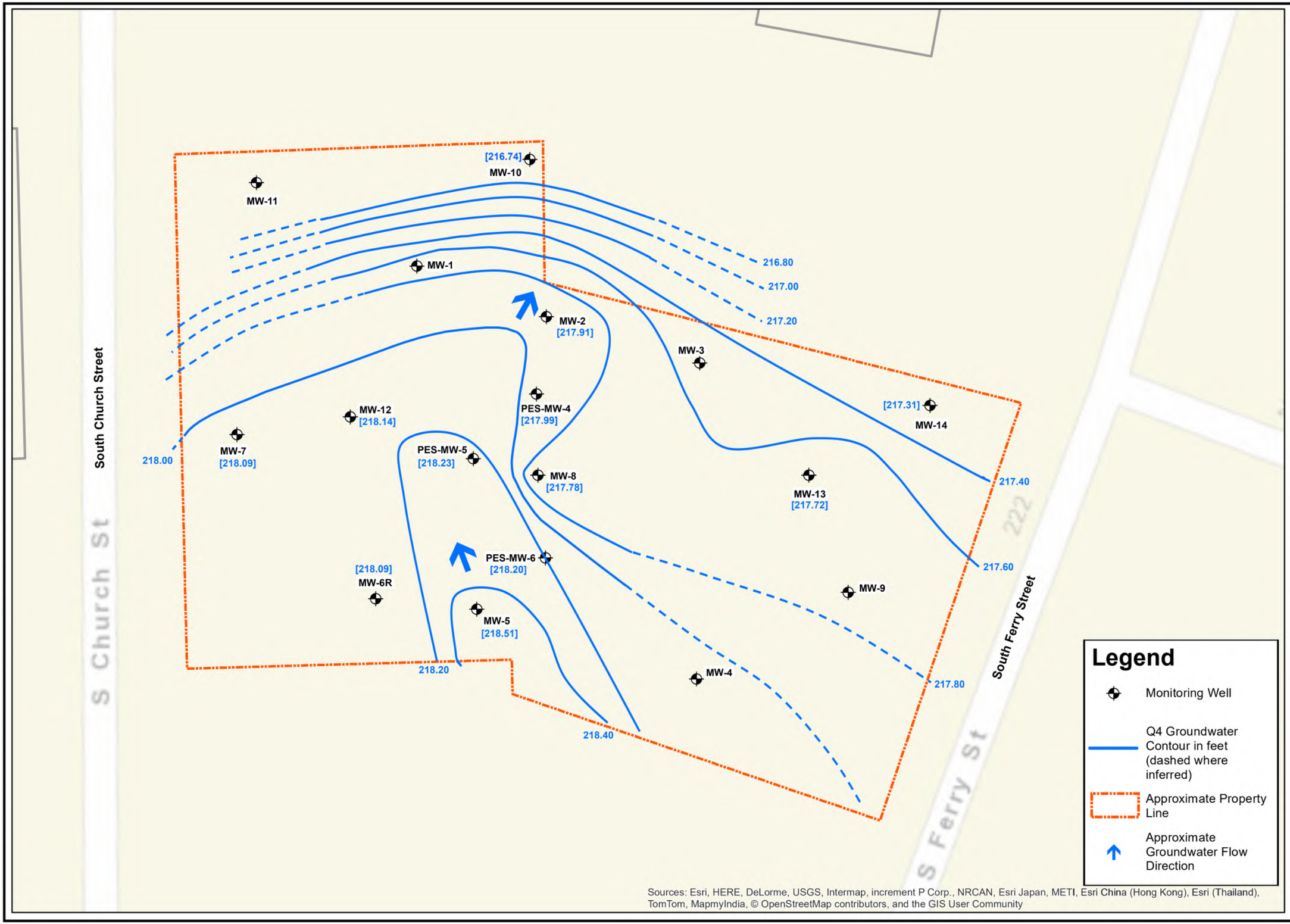
DESIGNED BY: CMS
DRAWN BY: CMS
REVIEWED BY: MEW

ISSUE DATE: 1/11/2022
PROJECT NUMBER: DEC1012.RA
SHEET SIZE: 11"x17"

Geologic Cross Section (S-N)

222 SOUTH FERRY STREET
SCHENECTADY, NEW YORK

FIGURE NO.
4



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

HRP
MOVE YOUR ENVIRONMENT FORWARD
ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM

North

0 20 40 Feet

Revisions						
No.						
Date						

Designed By:	Drawn By:	Reviewed By:
PRL	PRL	PM

Issue Date:	Project No:	Sheet Size:
1/11/2021	DEC1012.RA	11x17

Monitoring Well Locations and GroundwaterContours December 13, 2021

222 South Ferry Street
Schenectady, New York

FIGURE NO.

5

HRP
MOVE YOUR ENVIRONMENT FORWARD
ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM

NORTH

0 15 30
Feet

Revisions					
No.					
Date					

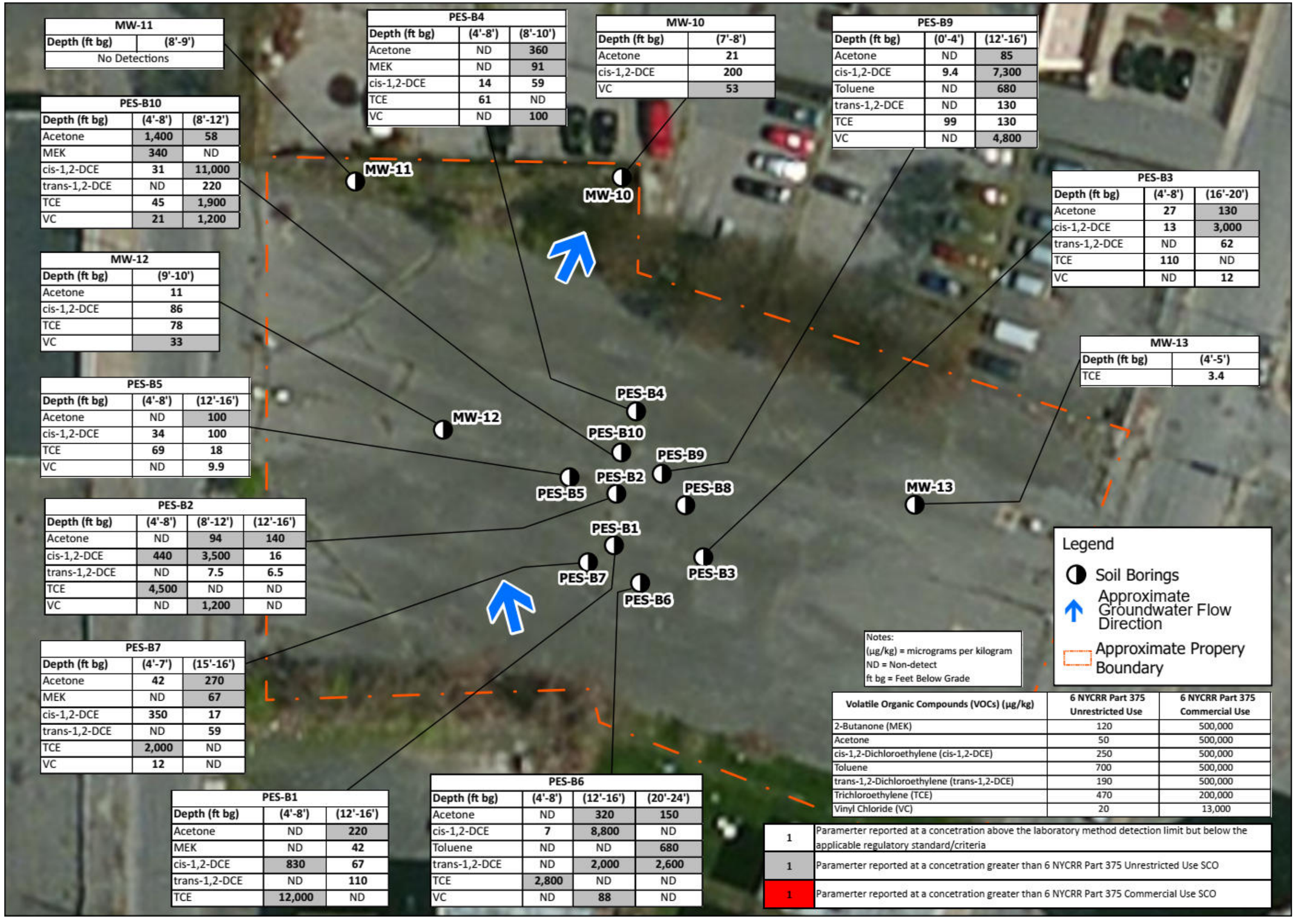
Designed By:	Drawn By:	Reviewed By:
PWM	CMS	PWM

Issue Date:	Project No:	Sheet Size:
10/11/2021	DEC1012.RA	11x17

Engineer Controls Location

222 South Ferry Street
Schenectady, New York

FIGURE NO.
6



MW-11	
Depth (ft bg)	(8'-9')
No Detections	

PES-B4		
Depth (ft bg)	(4'-8')	(8'-10')
Acetone	ND	360
MEK	ND	91
cis-1,2-DCE	14	59
TCE	61	ND
VC	ND	100

MW-10	
Depth (ft bg)	(7'-8')
Acetone	21
cis-1,2-DCE	200
VC	53

PES-B9		
Depth (ft bg)	(0'-4')	(12'-16')
Acetone	ND	85
cis-1,2-DCE	9.4	7,300
Toluene	ND	680
trans-1,2-DCE	ND	130
TCE	99	130
VC	ND	4,800

PES-B10		
Depth (ft bg)	(4'-8')	(8'-12')
Acetone	1,400	58
MEK	340	ND
cis-1,2-DCE	31	11,000
trans-1,2-DCE	ND	220
TCE	45	1,900
VC	21	1,200

PES-B3		
Depth (ft bg)	(4'-8')	(16'-20')
Acetone	27	130
cis-1,2-DCE	13	3,000
trans-1,2-DCE	ND	62
TCE	110	ND
VC	ND	12

MW-12	
Depth (ft bg)	(9'-10')
Acetone	11
cis-1,2-DCE	86
TCE	78
VC	33

MW-13	
Depth (ft bg)	(4'-5')
TCE	3.4

PES-B5		
Depth (ft bg)	(4'-8')	(12'-16')
Acetone	ND	100
cis-1,2-DCE	34	100
TCE	69	18
VC	ND	9.9

PES-B2			
Depth (ft bg)	(4'-8')	(8'-12')	(12'-16')
Acetone	ND	94	140
cis-1,2-DCE	440	3,500	16
trans-1,2-DCE	ND	7.5	6.5
TCE	4,500	ND	ND
VC	ND	1,200	ND

PES-B7		
Depth (ft bg)	(4'-7')	(15'-16')
Acetone	42	270
MEK	ND	67
cis-1,2-DCE	350	17
trans-1,2-DCE	ND	59
TCE	2,000	ND
VC	12	ND

PES-B1		
Depth (ft bg)	(4'-8')	(12'-16')
Acetone	ND	220
MEK	ND	42
cis-1,2-DCE	830	67
trans-1,2-DCE	ND	110
TCE	12,000	ND

PES-B6			
Depth (ft bg)	(4'-8')	(12'-16')	(20'-24')
Acetone	ND	320	150
cis-1,2-DCE	7	8,800	ND
Toluene	ND	ND	680
trans-1,2-DCE	ND	2,000	2,600
TCE	2,800	ND	ND
VC	ND	88	ND

Legend
- Soil Borings
- Approximate Groundwater Flow Direction
- Approximate Propery Boundary

Notes:
(µg/kg) = micrograms per kilogram
ND = Non-detect
ft bg = Feet Below Grade

Volatile Organic Compounds (VOCs) (µg/kg)	6 NYCRR Part 375 Unrestricted Use	6 NYCRR Part 375 Commercial Use
2-Butanone (MEK)	120	500,000
Acetone	50	500,000
cis-1,2-Dichloroethylene (cis-1,2-DCE)	250	500,000
Toluene	700	500,000
trans-1,2-Dichloroethylene (trans-1,2-DCE)	190	500,000
Trichloroethylene (TCE)	470	200,000
Vinyl Chloride (VC)	20	13,000

1	Paramerter reported at a concetration above the laboratory method detection limit but below the applicable regulatory standard/criteria
1	Paramerter reported at a concetration greater than 6 NYCRR Part 375 Unrestricted Use SCO
1	Paramerter reported at a concetration greater than 6 NYCRR Part 375 Commercial Use SCO

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North

0 15 30 Feet

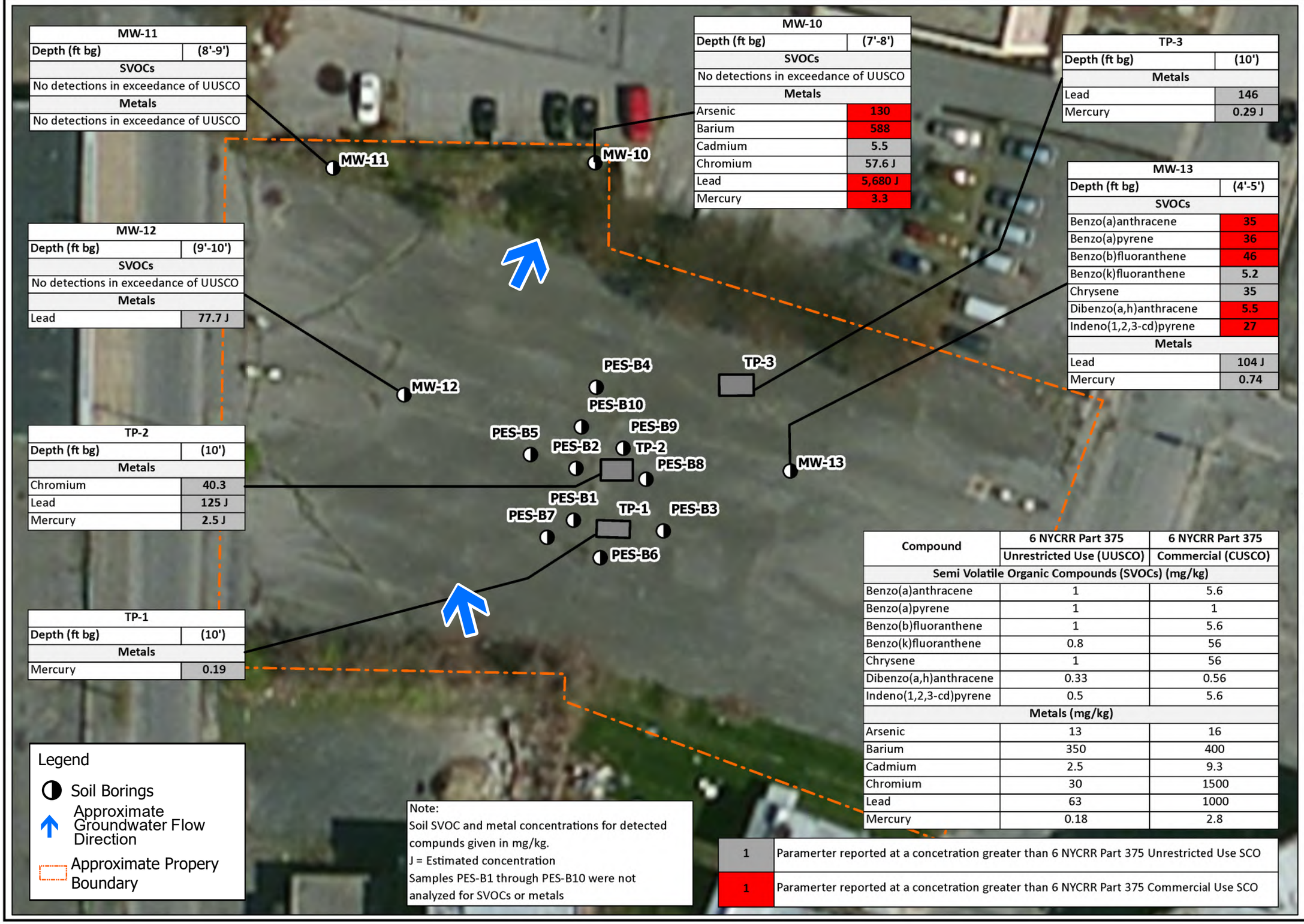
Revisions						
No.						
Date						

Designed By: CMS	Drawn By: CMS	Reviewed By: PM
Issue Date: 1/11/2021	Project No: DEC1012.RA	Sheet Size: 11x17

Remaining VOC Soil Contamination

222 South Ferry Street
Schenectady, New York

FIGURE NO.
7A



MW-11	
Depth (ft bg)	(8'-9')
SVOCs	
No detections in exceedance of UUSCO	
Metals	
No detections in exceedance of UUSCO	

MW-10	
Depth (ft bg)	(7'-8')
SVOCs	
No detections in exceedance of UUSCO	
Metals	
Arsenic	130
Barium	588
Cadmium	5.5
Chromium	57.6 J
Lead	5,680 J
Mercury	3.3

TP-3	
Depth (ft bg)	(10')
Metals	
Lead	146
Mercury	0.29 J

MW-12	
Depth (ft bg)	(9'-10')
SVOCs	
No detections in exceedance of UUSCO	
Metals	
Lead	77.7 J

MW-13	
Depth (ft bg)	(4'-5')
SVOCs	
Benzo(a)anthracene	35
Benzo(a)pyrene	36
Benzo(b)fluoranthene	46
Benzo(k)fluoranthene	5.2
Chrysene	35
Dibenzo(a,h)anthracene	5.5
Indeno(1,2,3-cd)pyrene	27
Metals	
Lead	104 J
Mercury	0.74

TP-2	
Depth (ft bg)	(10')
Metals	
Chromium	40.3
Lead	125 J
Mercury	2.5 J

TP-1	
Depth (ft bg)	(10')
Metals	
Mercury	0.19

Legend

- Soil Borings
- Approximate Groundwater Flow Direction
- Approximate Propery Boundary

Note:
Soil SVOC and metal concentrations for detected compunds given in mg/kg.
J = Estimated concentration
Samples PES-B1 through PES-B10 were not analyzed for SVOCs or metals

Compound	6 NYCRR Part 375 Unrestricted Use (UUSCO)	6 NYCRR Part 375 Commercial (CUSCO)
Semi Volatile Organic Compounds (SVOCs) (mg/kg)		
Benzo(a)anthracene	1	5.6
Benzo(a)pyrene	1	1
Benzo(b)fluoranthene	1	5.6
Benzo(k)fluoranthene	0.8	56
Chrysene	1	56
Dibenzo(a,h)anthracene	0.33	0.56
Indeno(1,2,3-cd)pyrene	0.5	5.6
Metals (mg/kg)		
Arsenic	13	16
Barium	350	400
Cadmium	2.5	9.3
Chromium	30	1500
Lead	63	1000
Mercury	0.18	2.8

1	Paramerter reported at a concetration greater than 6 NYCRR Part 375 Unrestricted Use SCO
1	Paramerter reported at a concetration greater than 6 NYCRR Part 375 Commercial Use SCO

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Revisions

No.	Date

Designed By: CMS
Drawn By: CMS
Reviewed By: PWM

Issue Date: 05/19/2021
Project No: DEC1012.RA
Sheet Size: 11x17

Remaining SVOC and Metals Soil Contamination

222 South Ferry Street, Schenectady, New York

FIGURE NO.

7B

PES-MW-5					
Date Collected	4/9/2020	1/15/2021	4/5/2021	7/7/2021	12/14/2021
1,1-DCE	< 50	**6.2**	< 2.9	< 2.9	< 0.23
Chloromethane	NA	< 18	< 0.35	< 1.4	**1.3**
MEK	< 500	**42**	**44**	**34**	**2.6**
trans-1,2-DCE	< 50	**27**	**17**	< 9.0	< 0.19
TCE	**51**	**5.8**	< 4.6	< 4.6	<0.22
cis-1,2-DCE	**3,200**	**2,700**	**610**	**12**	**6.8**
VC	**1,500**	**1,400**	**610**	**16**	**6.3**

MW-10				
Date Collected	3/27/2020	1/15/2021	4/5/2021	7/7/2021
MC	< 10	**5.3**	< 1.8	< 0.44
cis-1,2-DCE	**330**	**120**	**12**	**1.2**
VC	**420**	**610**	**160**	**8.3**

MW-2					
Date Collected	3/27/2020	1/15/2021	4/5/2021	7/7/2021	12/14/2021
cis-1,2-DCE	**3.9**	**2.3**	**2.2**	**6.9**	**3.8**
VC	**13**	**4**	**4**	**13**	**10.7**

PES-MW-4					
Date Collected	4/9/2020	1/15/2021	4/5/2021	7/7/2021	12/14/2021
Chloromethane	NA	< 18	< 0.35	< 1.4	**1.5**
MC	< 80	**44**	< 0.44	< 1.8	< 0.3
MEK	< 800	< 66	**5.2**	**8.9**	< 1.3
TCE	< 80	< 23	< 0.46	<0.46	**6.2**
cis-1,2-DCE	**310**	< 41	**3.1**	< 0.81	**35.9**
VC	**1,600**	**2,200**	**24**	**7.1**	**23.5**

MW-13				
Date Collected	3/27/2020	4/5/2021	7/7/2021	12/14/2021
Chloromethane	NA	< 2.8	< 2.8	**2.4**
cis-1,2-DCE	**43**	**49**	**79**	**1.9**
VC	**280**	**170**	**500**	**12**

MW-14				
Date Collected	1/18/2021	4/5/2021	7/7/2021	12/14/2021
PCE	**1.1**	**1.2**	< 0.36	< 0.28

Legend

- Monitoring Well
- December 2020 Injection Points
- November 2021 Injection Points
- Approximate Groundwater Flow Direction
- Approximate Property Line

<1	Parameter not detected above the laboratory method detection limit
<1	Indicates the laboratory method detection limit is greater than one or more applicable comparison criteria
1	Parameter reported at a concentration greater than applicable regulatory standard/criterion
1	Parameter reported above the laboratory method detection limit but below the applicable regulatory standard/criterion

Volatile Organic Compounds (VOCs) (µg/L)	NYSDEC CLASS GA CRITERIA
1,1-Dichloroethylene (1,1-DCE)	5
2-Butanone (MEK)	50
Benzene	1
Carbon disulfide (CD)	60
Chloromethane	5
cis-1,2-Dichloroethylene (cis-1,2-DCE)	5
Methylene chloride (MC)	5
Tetrachloroethylene (PCE)	5
Toluene	5
trans-1,2-Dichloroethylene (trans-1,2-DCE)	5
Trichloroethylene (TCE)	5
Vinyl chloride (VC)	2

MW-5				
Date Collected	3/27/2020	4/5/2021	7/7/2021	12/14/2021
CD	NA	< 0.95	< 0.95	**6.4**
MEK	< 40	< 6.6	< 6.6	**194**
TCE	**150**	**260**	**200**	**49.6**
cis-1,2-DCE	**41**	**160**	**160**	**191**
VC	< 4.0	**22**	**45**	**70.9**

MW-6R					
Date Collected	3/27/2020	1/18/2021	4/5/2021	7/7/2021	12/14/2021
1,1-DCE	< 2	< 0.29	**0.34**	< 1.2	< 0.23
MEK	< 20	< 1.3	< 5.3	< 1.2	**31.8**
trans-1,2-DCE	< 2	< 0.90	**1.2**	< 3.6	**1.9**
cis-1,2-DCE	**130**	**51**	**150**	**170**	**199**
VC	**22**	**14**	**19**	**30**	**86.5**

PES-MW-6					
Date Collected	4/9/2020	1/18/2021	4/5/2021	7/7/2021	12/14/2021
MC	< 10	**3.9**	< 1.8	< 4.4	< 0.3
MEK	<100	< 6.6	**100**	**100**	< 1.3
trans-1,2-DCE	**28**	**33**	< 3.6	**42**	**67**
TCE	**17**	**13**	**5.5**	< 4.6	< 0.22
cis-1,2-DCE	**60**	**170**	**27**	**330**	**242**
VC	**240**	**200**	**26**	**360**	**377**

MW-4	
Date Collected	1/15/2021
No Detections or Exceedances	

MW-8					
Date Collected	3/27/2020	1/15/2021	4/5/2021	7/7/2021	12/14/2021
Benzene	**NA**	< 210	< 16	< 41	**1.4**
MC	< 500	**250**	**18**	<18	< 0.3
MEK	< 5000	< 660	< 53	< 53	10.9
Toluene	NA	< 260	< 20	< 51	**7.3**
TCE	<500	< 230	**95**	**25**	< 0.22
trans-1,2-DCE	< 500	< 450	< 36	< 36	**1.1**
cis-1,2-DCE	**25,000**	**11,000**	**2,100**	**250**	**649**
VC	**14,000**	**6,200**	**930**	**5,900**	**6,170**

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Revisions						
No.						
Date						

Designed By:	Drawn By:	Reviewed By:
PRL	PRL	PM

Issue Date:	Project No:	Sheet Size:
01/10/2022	DEC1012.RA	11x17

Groundwater VOC Detections - March 2020 to December 2021

222 South Ferry Street
Schenectady, New York

FIGURE

8

APPENDIX A – Environmental Easement

OFFICE OF THE SCHENECTADY COUNTY CLERK

620 STATE STREET
SCHENECTADY, NY 12305-2114
PHONE (518) 388-4220
FAX (518) 388-4224

Cara M. Ackerley
County Clerk

Instrument Number - 202346455
Recorded On 8/16/2023 At 9:23:33 AM
* Instrument Type - EASEMENT
* Book/Page - DEED/2113/786
* Total Pages - 11
Invoice Number - 1179725 User ID: TMH
* Document Number - 2023-3150
* Grantor - SCHENECTADY COUNTY COMMUNITY COLLEGE

* Grantee - PEOPLE STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

*RETURN DOCUMENT TO:
YOUNG/SOMMER LLC
5 PALISADES DR STE 300
ALBANY, NY 12205-6433

* FEES

NY LAND SUR	$4.75
NY LAND COMP SUR	$14.25
CO GENERAL REVENUE	$80.50
CO LAND SUR	$0.25
CO LAND COMP SUR	$0.75
TOTAL PAID	$100.50

TRANSFER TAX
Real Estate Transfer Tax Num - 184
Transfer Tax Amount - $ 0.00

I hereby CONFIRM that this document is
Recorded in the Schenectady County Clerk's Office
in Schenectady, New York

Cara M. Ackerley
Schenectady County Clerk

THIS IS AN ENDORSEMENT PAGE

Do Not Detach

THIS PAGE IS NOW PART OF THIS LEGAL DOCUMENT

* - Information denoted by an asterisk may change during the verification process and may not be reflected on this page.

0049CV

INSTRUMENT NUMBER - **202346455**

County: Schenectady Site No: 447047 Order on Consent Index : R4-20210928-80

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

THIS INDENTURE made this 31st day of July, 2023 between Owner, County of Schenectady, Trustee for Schenectady County Community College, having an office at 620 State Street, County of Schenectady, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee"), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

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

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

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

WHEREAS, Grantor, is the owner of real property located at the address of 222 South Ferry Street in the City of Schenectady, County of Schenectady and State of New York, known and designated on the tax map of the County Clerk of Schenectady as tax map parcel number: Section 39.71 Block 1 Lot 14.11, being the same as that property conveyed to Grantor by deed dated January 5, 2022 and recorded in the Schenectady County Clerk's Office in Liber and Page Liber 2075, Page 836. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately .98 +/- acres, and is hereinafter more fully described in the Land Title Survey dated December 19, 2022 and revised on January 24, 2023 prepared by Donald E. Albrecht, 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 Order on Consent Index Number: R4-20210928-80, 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 Schenectady 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 Controlled Property.

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

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

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

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

Parties shall address correspondence to:	Site Number: 447047 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.

11. Consistency with the SMP. To the extent there is any conflict or inconsistency between the terms of this Environmental Easement and the SMP, regarding matters specifically addressed by the SMP, the terms of the SMP will control.

Remainder of Page Intentionally Left Blank

County: Schenectady Site No: 447047 Order on Consent Index : R4-20210928-80

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

County of Schenectady,
Trustee for Schenectady County Community College:

By: _____

Print Name: Rory Fluman

Title: County Manager Date: 7/20/23

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF)

On the 20 day of July, in the year 2023, before me, the undersigned, personally appeared Rory Fluman, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public - State of New York

Frank S. Salamone
Notary Public, State of New York
Qualified in Schenectady County
No. 02SA6224102
Commission Expires June 28, 2026

County: Schenectady Site No: 447047 Order on Consent Index : R4-20210928-80

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: Andrew Guglielmi
Andrew O. Guglielmi, Director
Division of Environmental Remediation

Grantee's Acknowledgment

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

On the 31 day of July, in the year 2023 before me, the undersigned, personally appeared Andrew O. Guglielmi, 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.

Cheryl A. Salem
Notary Public - State of New York

Cheryl A. Salem
Notary Public State of New York
Registration No. 01SA0002177
Qualified in Albany County
My Commission Expires March 3, 2027

County: Schenectady Site No: 447047 Order on Consent Index : R4-20210928-80

SCHEDULE "A" PROPERTY DESCRIPTION

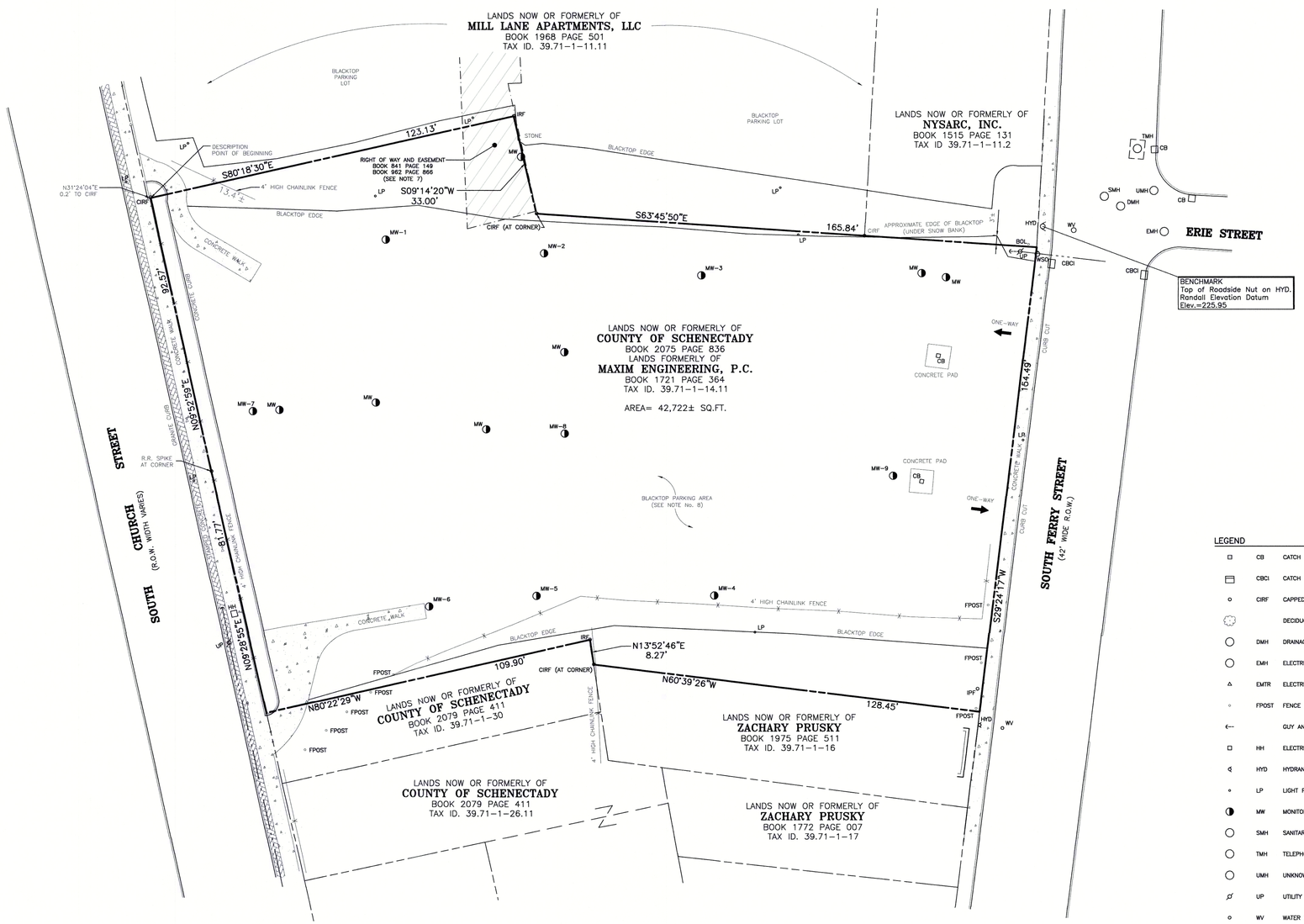
DESCRIPTION
ENVIRONMENTAL EASEMENT
LANDS NOW OR FORMERLY OF
COUNTY OF SCHENECTADY
CITY OF SCHENECTADY, COUNTY OF SCHENECTADY, STATE OF NEW YORK
AREA = 0.98 +/- ACRE OF LAND

All that certain tract, piece or parcel of land situate in the City of Schenectady, County of Schenectady, State of New York, lying Easterly of South Church Street, Northwesterly of South Ferry Street, and being more particularly bounded and described as follows:

BEGINNING at the point of intersection of the Easterly street boundary of South Church Street (right-of-way width varies) with the division line between the lands now or formerly of County of Schenectady as described in Book 2075 at Page 836 on the South and the lands now or formerly of Mill Lane Apartments, LLC as described in Book 1968 at Page 501 on the North and runs thence from said Point of Beginning South 80 deg. 18 min. 30 sec. East along said division line 123.13 feet to its point of intersection with the division line between the said lands now or formerly of County of Schenectady on the West and the said lands now or formerly of Mill Lane Apartments, LLC on the East; thence South 09 deg. 14 min. 20 sec. West along the last mentioned division line 33.00 feet to its point of intersection with the common division line between the said lands now or formerly of County of Schenectady on the Southwest and the said lands now or formerly of Mill Lane Apartments, LLC and lands now or formerly of NYSARC, Inc. as described in Book 1515 at Page 131 on the Northeast; thence South 63 deg. 45 min. 50 sec. East along the last mentioned common division line 165.84 feet to its point of intersection with the Northwesterly street boundary of South Ferry Street (42-foot-wide right-of-way); thence South 29 deg. 24 min. 17 sec. West along said Northwesterly street boundary 154.49 feet to its point of intersection with the common division line between the said lands now or formerly of County of Schenectady generally on the North and the lands now or formerly of Zachary Prusky as described in Book 1975 at Page 511 and other lands now or formerly of County of Schenectady as described in Book 2079 at Page

411 generally on the South; thence along the last mentioned common division line the following three (3) courses: 1) North 60 deg. 39 min. 26 sec. West 128.45 feet to a point; 2) North 13 deg. 52 min. 46 sec. East 8.27 feet to a point; and 3) North 80 deg. 22 min. 29 sec. West 109.90 feet to its point of intersection with the first herein mentioned Easterly street boundary of South Church Street; thence along said Easterly street boundary the following two (2) courses: 1) North 09 deg. 28 min. 55 sec. East 81.77 feet to a point; and 2) North 09 deg. 52 min. 59 sec. East 92.57 feet to the point or place of beginning and containing 0.98+/- acre of land.

Subject to any easements, covenants, rights-of-way, or restrictions of record.



MAP NOTES:

1. Boundary information shown hereon was compiled from an actual field survey conducted on August 26, 2008. Field updated on December 19, 2022.
2. North orientation and bearing base per map reference no. 1.
3. Objects shown on this drawing with a distance indicating how far that object is from a particular line, lie on the same side of the line that the offset distance is written.
4. Vertical datum shown was taken from Randall Elevation Datum.
5. Underground facilities, structures, and utilities have been plotted from data obtained from previous maps and record drawings. Surface features such as catch basin rims, manhole covers, water valves, gas valves, etc. are the result of field survey unless noted otherwise. There may be other underground utilities, the existence of which is not known to the undersigned. Size and location of all underground utilities and structures must be verified by the appropriate authorities. Dig Safely New York must be notified prior to conducting test borings, excavation and construction.
6. This survey does not constitute a record search by C.T. Male Associates Engineering, Surveying, Architecture, Landscape Architecture & Geology D.P.C to determine ownership or easements of record. For all information regarding easements, rights of way and title of record, the surveyor relied upon title commitment number OR-21-036, prepared by Old Republic National Title Insurance Company, dated August 24, 2021.
7. Surveyed parcel is subject to an easement and right of way for ingress and egress contained in Book 962 of Deeds at Page 866 and in Book 841 of Deeds at Page 149.
8. Prior to conducting the December 19, 2022 field update this geographic area accumulated approximately 6 inches of packed snow and ice. Therefore the undersigned cannot certify that some object or feature has been omitted.

MAP REFERENCE:

1. "ALTA/ACSM Title Survey Lands Now or Formerly of South Ferry Associates 134-136 State Street" prepared by C.T. Male Associates, P.C., dated November 30, 2006.

MONITOR WELL CHART

MONITOR WELL	GRADE ELEV.	TOP OF CASING	TOP OF PVC
MW-1	226.73	226.73	226.58
MW-2	226.22	226.22	226.06
MW-3	225.79	225.79	225.64
MW-4	226.44	226.44	226.28
MW-5	226.94	226.94	226.80
MW-6	226.91	226.91	226.78
MW-7	227.68	227.68	227.48
MW-8	226.37	226.37	226.28
MW-9	225.20	225.20	225.07

NOTE: Monitor Wells shown without numbers were located on 12/19/2022.

LEGEND

⊡	CB	CATCH BASIN
▭	CBCI	CATCH BASIN CURB INLET
○	CIRF	CAPPED IRON ROD FOUND
◌		DECIDUOUS TREE
◯	DMH	DRAINAGE MANHOLE
◯	EMH	ELECTRIC MANHOLE
△	EMTR	ELECTRIC METER
◦	FPOST	FENCE POST
←		GUY ANCHOR W/ WIRE
□	HH	ELECTRIC HANDHOLE
◁	HYD	HYDRANT
∘	LP	LIGHT POLE
◑	MW	MONITOR WELL
◯	SMH	SANITARY MANHOLE
◯	TMH	TELEPHONE MANHOLE
◯	UMH	UNKNOWN MANHOLE
⌀	UP	UTILITY POLE
∘	WV	WATER VALVE
-x-		FENCE LINE

DEED AND ENVIRONMENTAL EASEMENT DESCRIPTION
LANDS NOW OR FORMERLY OF
COUNTY OF SCHENECTADY
CITY OF SCHENECTADY, COUNTY OF SCHENECTADY, STATE OF NEW YORK
AREA = 42,722± SQUARE FEET OF LAND

All that certain tract, piece or parcel of land situate in the City of Schenectady, County of Schenectady, State of New York, lying Easterly of South Church Street, Northwesterly of South Ferry Street, and being more particularly bounded and described as follows:

BEGINNING at the point of intersection of the Easterly street boundary of South Church Street (right-of-way width varies) with the division line between the lands now or formerly of County of Schenectady as described in Book 2075 at Page 836 on the South and the lands now or formerly of Mill Lane Apartments, LLC as described in Book 1968 at Page 501 on the North and runs thence from said Point of Beginning South 80 deg. 18 min. 30 sec. East along said division line 123.13 feet to its point of intersection with the division line between the said lands now or formerly of County of Schenectady on the West and the said lands now or formerly of Mill Lane Apartments, LLC on the East; thence South 09 deg. 14 min. 20 sec. West along the last mentioned division line 33.00 feet to its point of intersection with the common division line between the said lands now or formerly of County of Schenectady on the Southwest and the said lands now or formerly of Mill Lane Apartments, LLC and lands now or formerly of NYSARC, Inc. as described in Book 1515 at Page 131 on the Northeast; thence South 63 deg. 45 min. 50 sec. East along the last mentioned common division line 165.84 feet to its point of intersection with the Northwesterly street boundary of South Ferry Street (42-foot-wide right-of-way); thence South 29 deg. 24 min. 17 sec. West along said Northwesterly street boundary 154.49 feet to its point of intersection with the common division line between the said lands now or formerly of County of Schenectady generally on the North and the lands now or formerly of Zachary Prusky as described in Book 1975 at Page 511 and other lands now or formerly of County of Schenectady as described in Book 2079 at Page 411 generally on the South; thence along the last mentioned common division line the following three (3) courses: 1) North 60 deg. 39 min. 26 sec. West 128.45 feet to a point; 2) North 13 deg. 52 min. 46 sec. East 8.27 feet to a point; and 3) North 80 deg. 22 min. 29 sec. West 109.90 feet to its point of intersection with the first herein mentioned Easterly street boundary of South Church Street; thence along said Easterly street boundary the following two (2) courses: 1) North 09 deg. 28 min. 55 sec. East 81.77 feet to a point; and 2) North 09 deg. 52 min. 59 sec. East 92.57 feet to the point or place of beginning and containing 42,722± square feet of land.

Subject to any easements, covenants, rights-of-way, or restrictions of record.

I certify to the following that this survey has been prepared in accordance with the Code of Practice for Land Surveys adopted by the N.Y.S. Association of Professional Land Surveyors as last revised.

County of Schenectady
Old Republic National Title Insurance Company

Donald E. Albrecht, P.L.S. No. 50302 — 01/24/23 Date

"ONLY COPIES OF THIS MAP SIGNED IN RED INK AND EMBOSSED WITH THE SEAL OF AN OFFICER OF C.T. MALE ASSOCIATES OR A DESIGNATED REPRESENTATIVE SHALL BE CONSIDERED TO BE A VALID TRUE COPY".

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

BAR SCALE
20 0 10 20 40
1 inch = 20 ft.

DONALD E. ALBRECHT
P.L.S. NO. 50302

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
12/19/22	1	SURVEY UPDATE (PNO 22.2794)	KEC	DGD	DEA
1/24/23	2	DEC REQUIREMENTS AND MISC. REVISIONS	KEC	DEA	DEA
	3				
	4				
	5				
	6				
	7				
	8				
	9				

APPROVED: WJN
DRAFTED : MMB/KEC
CHECKED : DGD/DEA
PROJ. NO: 08.8562
SCALE : 1"=20'
DATE : AUG. 26, 2008

BOUNDARY SURVEY
LANDS NOW OR FORMERLY OF
MAXIM ENGINEERING, P.C.
PREPARED FOR
COUNTY OF SCHENECTADY
222 SOUTH FERRY STREET
CITY OF SCHENECTADY — SCHENECTADY COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH 518.786.7400
COBLESKILL, NY · GLENS FALLS, NY · POUGHKEEPSIE, NY
JOHNSTOWN, NY · RED HOOK, NY · SYRACUSE, NY
www.ctmale.com

SHEET 1 OF 1
DWG. NO: 08-577

CAD DWG. FILE NAME: K:\Projects\22279A\Survey\Drawings-Maps\2023_BS_STH-FERRY.dwg

APPENDIX B – List of Site Contacts

APPENDIX B – LIST OF SITE CONTACTS

Name	Phone/Email Address
Site Owner: Rory Fluman, Schenectady County Manager	manager@schenectadycounty.com 518 388 4355
Engineering Firm HRP Associates, Inc.	518-877-7101 / mark.wright@hrpassociates.com
NYSDEC DER Project Manager: Ruth Curley	518-402-9480 / ruth.curley@dec.ny.gov
NYSDOH Project Manager: Jaquelyn Nealon	518-402-7883 / beei@health.ny.gov

APPENDIX C – Monitoring Well Construction Diagrams and Soil Boring Logs

MONITORING WELL / BORING NO. **MW-10**

Site Name: 222 South Ferry St | Date Drilled: May 13, 2022

Location: 222 South Ferry St., Schenectady, NY | Drilling Co.: LaBella Associates D. P. C.

Client: Schenectady Metroplex | Driller: Ray Hammond

Phone No.: N/A | Logged by: T. Rollend

Drilling Method: Hollow Stem Auger (Dia): 4.25" | Sampling Method: Macro Core (Dia): 2"

Drilled TD: 15' (Dia): 4.25" | Sampled TD: (Dia):

Well TD: 15' (Dia): 2" | Well Type: Groundwater Monitoring

Screen Interval: 5' - 15' | Slot Size: 0.010 Slot | Diameter: 2.0"

Cased Interval: >0' - 5' | Type: Sch 40 PVC | Diameter: 2.0"

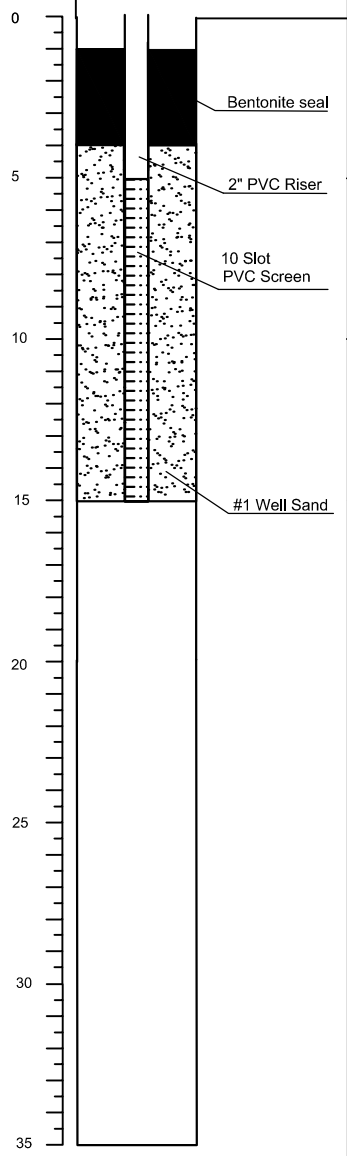
Sand Pack Interval: 4' - 15' | Type: #1 Well Sand | Wellhead Prot: Stick up

Bentonite Seal Interval: 1' - 4' | Type: | Grouted Interval:

LaBella
Powered by partnership.

LOCATION:

SEE SITE MAP



Depth (Feet)	Monitoring Well Construction	Recovery;	PID (ppm):	Description / Soil Classification
		S-1: 0 - 5.0' Rec: 2.5'/5.0'	< 1.0	0.0' - 0.5' Grey, moist, Angular fine-medium Gravel (stone base) (fill material) 0.5' - 6.0' Brown, moist to wet, coarse to fine SAND and silt, fine to medium rounded gravel. Unsorted. (urban fill).
		S-2: 5.0' - 10' Rec: 4.0'/5.0'	< 1.0	▼ Wet at 6.0' 6.0 - 10' Grey, wet, fine to medium rounded and angular GRAVEL, coarse to fine SAND and silt and ash (fill).
		S-3: 10' - 15' Rec: 5.0'/5.0'	< 3.0	10 - 15' Dark Grey, wet, Fine to medium SAND and SILT, some CLAY CLAY increasing with depth to mostly clay at 15'
				End of Boring @ 15' Advanced 4.25" hollow stem augers with expendable point to 15' below grade. Installed 5.0' of 2.0" ID screen (#10-slot) from 5' to 15' and solid riser above grade. Finished with 4" steel stick up set in concrete.
15'				

ARCADIS
Infrastructure · Water · Environment · Buildings

TEST BORING LOG

BORING No.MW-11

PROJECT	**222 South Ferry Street**	LOCATION	**Schenectady, NY**	SHEET	**1** OF **1**
CLIENT	**NYSDEC**			PROJECT No.	**00266419.0000**
DRILLING CONTRACTOR	**Aztech Technologies Inc.**			MEAS. PT. ELEV.	
PURPOSE	**Site Characterization**			GROUND ELEV.	
WELL MATERIAL	**2" PVC**			DATUM	
DRILLING METHOD(S)	**Direct Push/HSA**	SAMPLE	CORE / CASING	DATE STARTED	**1/15/14**
DRILL RIG TYPE	**Geoprobe 6610**	TYPE		DATE FINISHED	**1/15/14**
GROUND WATER DEPTH	**7.5'**	DIA.	"	DRILLER	**Aztech**
MEASURING POINT		WEIGHT	#	PIRNIE STAFF	**Amber Goodrich**
DATE OF MEASUREMENT		FALL	"		

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
2					Lt. brown fine to coarse SAND, Some fine Gravel, dry.		2.0	
4					Lt. brown fine SAND and SILT, dry.	2.0		
6					Lt. brown fine to medium SAND and SILT, damp.	5.0		
8	2.5		0				8.0 ▼	Sample collected at 8'-9' bgs.
10					Dk. brown SILT and CLAY, Some Gravel, wet.	10.0		
12	1		0					
14								
16					Brown fine to medium SAND and GRAVEL, Some Brick fragments, saturated.	15.0		
18	1		0					
20						20.0	20.0	End of boring.

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TEST BORING LOG

BORING No.MW-12

PROJECT	**222 South Ferry Street**	LOCATION	**Schenectady, NY**	SHEET	**1** OF **1**
CLIENT	**NYSDEC**			PROJECT No.	**00266419.0000**
DRILLING CONTRACTOR	**Aztech Technologies Inc.**			MEAS. PT. ELEV.	
PURPOSE	**Site Characterization**			GROUND ELEV.	
WELL MATERIAL	**2" PVC**			DATUM	
DRILLING METHOD(S)	**Direct Push/HSA**	SAMPLE	CORE / CASING	DATE STARTED	**1/15/14**
DRILL RIG TYPE	**Geoprobe 6610**	TYPE		DATE FINISHED	**1/15/14**
GROUND WATER DEPTH	**6.6'**	DIA.	"	DRILLER	**Aztech**
MEASURING POINT		WEIGHT	#	PIRNIE STAFF	**Amber Goodrich**
DATE OF MEASUREMENT		FALL	"		

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
2	2.5		0		Brown fine to medium SAND and GRAVEL, little asphalt and brick fragments, damp.			
4							3.0	
6	2		0		Gray coarse SAND and GRAVEL, wet.	5.0		▼
8					Gray fine SAND and SILT, wet.	7.5		Sample collected from 9'-10' bgs.
10					Brown-gray CLAY, saturated.	10.0		
12	4		0		Brown-gray CLAY, Some coarse Sand, Some Gravel, saturated.	11.0		
14					Brown-gray CLAY, saturated.	12.0		
							15.0	
	3.5		0		Brown-gray CLAY and SILT, saturated.	15.0		
						20.0		End of Boring.

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TEST BORING LOG

BORING No.MW-13

PROJECT	**222 South Ferry Street**	LOCATION	**Schenectady, NY**	SHEET	**1** OF **1**
CLIENT	**NYSDEC**			PROJECT No.	**00266419.0000**
DRILLING CONTRACTOR	**Aztech Technologies Inc.**			MEAS. PT. ELEV.	
PURPOSE	**Site Characterization**			GROUND ELEV.	
WELL MATERIAL	**2" PVC**			DATUM	
DRILLING METHOD(S)	**Direct Push/HSA**	SAMPLE	CORE / CASING	DATE STARTED	**1/16/14**
DRILL RIG TYPE	**Geoprobe 6610**	TYPE		DATE FINISHED	**1/16/14**
GROUND WATER DEPTH	**5.1'**	DIA.	"	DRILLER	**Aztech**
MEASURING POINT		WEIGHT	#	PIRNIE STAFF	**Amber Goodrich**
DATE OF MEASUREMENT		FALL	"		

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
2	2.5		0		Brown fine SAND and SILT, trace clay, trace brick fragments, damp.			
4							3.0	Sample collected at 4'-5' bgs.
6	2		0		Brown, coarse to medium SAND and GRAVEL, Some Silt, saturated.	5.0		
8								
10	2		0		Brown medium SAND and GRAVEL, saturated.	10.0		
12					Brown CLAY and SILT, saturated.	12.0		
14	2		0				15.0	
	4.5		0		Brown CLAY and SILT,	15.0		
						20.0		End of Boring.

PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

DRILLING LOG: PES-B1

Project name & location: 222 South Ferry Street	Site number: 447047	Date & time started: 4/3/2020	Date & time completed: 4/3/2020
Drilling company: PES	Foreman: M. Dudley	Sampler(s): Acetate sleeve	Sampler hammer: NA / Drop: NA
Drilling equipment: Geoprobe 6620DT	Method: Direct Push	Elevation & datum:	Completion depth: 28 ft / Rock depth: NA
Bit(s): NA	Core barrel(s): NA	Inspector(s): Brian Neumann	

DEPTH (ft bg)		SAMPLES: Recovery (inch)	Blow per 6 in.	Time	PID (ppm)	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
0								
-1								
-2	1	30/48	NA	-	7.6		Brown-Yellowish Orange f-c sand, some silt, concrete pcs, brick pc at base, damp (fill), top 0.2 ft asphalt	
-3								
-4								
-5								
-6	2	20/48	NA	-	10			8260 TCL (4-8 ft)
-7							Brown f-c sand, some silt, concrete pcs layer at 7 ft, wet at 6.75 ft (fill)	Water at 7 ft
-8								
-9								
-10	3	20/48	NA	-	20.1		Same as above to 11 ft, saturated	
-11								
-12							11-12 ft Lt Brown-Yellow Orange silty sand, saturated	
-13								
-14	4	38/48	NA	-	56.1		Same as above to 14 ft, saturated	8260 TCL (12-16 ft)
-15							14-15 ft Olive gray silty clay, trace sand, organic matter	
-16							15-16 ft Same as above, no organic matter	
-17								
-18	5	38/48	NA	-	57.1		Olive gray silty clay, increasing silt content with depth, moist	
-19								
-20								
-21								
-22		0/48	NA	-	-		No Recovery	
-23								
-24								
-25								
-26	6	30/48	NA	-	4.6		Olive gray silty clay, few f sand lenses, moist	
-27								
-28							Boring completed at 28 ft	

PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

DRILLING LOG: PES-B2

Project name & location: 222 South Ferry Street	Site number: 447047	Date & time started: 4/3/2020	Date & time completed: 4/3/2020
Drilling company: PES	Foreman: M. Dudley	Sampler(s): Acetate sleeve	Sampler hammer: NA / Drop: NA
Drilling equipment: Geoprobe 6620DT	Method: Direct Push	Elevation & datum:	Completion depth: 24 ft / Rock depth: NA
Bit(s): NA	Core barrel(s): NA	Inspector(s): Brian Neumann	

DEPTH (ft bg)	SAMPLES	Recovery (feet)	Blow per 6 in.	Time	PID (ppm)	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
0								
-1								
-2	1	24/48	NA	-	2.2		Lt Brown to brown sand, asphalt top 0.2 ft, round f gravel bottom 0.4 ft brick, glass, concrete pcs, moist (fill)	
-3								
-4								
-5								
-6	2	16/48	NA	-	1.1		Lt Brown sand, brick and concrete pcs, water at 7 ft (fill)	**8260 TCL (4-8 ft)**
-7								**Water at 7 ft**
-8								
-9							8-9 ft Brown f0m sand, wet	
-10	3	22/48	NA	-	224.7		9-11 ft Brown sandy silt, saturated	**8260 TCL (8-12 ft)**
-11							11-12 ft Brown to olive gray silty clay, brick and concrete pcs organics, wet	
-12								
-13								
-14	4	24/48	NA	-	24.9		Olive gray silty clay, trace f sand, wet	**8260 TCL (12-16 ft)**
-15								
-16								
-17								
-18		0/48	NA	-	-		No Recovery	
-19								
-20								
-21								
-22	5	18/48	NA	-	2.7		Olive gray clayey silt, trace f sand, organics, v moist to wet	
-23							Olive gray silty clay, trace f sand, organics, v moist to wet	
-24								
-25							Boring completed at 24 ft	

PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

DRILLING LOG: PES-B3

Project name & location: 222 South Ferry Street	Site number: 447047	Date & time started: 4/3/2020	Date & time completed: 4/3/2020
Drilling company: PES	Foreman: M. Dudley	Sampler(s): Acetate sleeve	Sampler hammer: NA / Drop: NA
Drilling equipment: Geoprobe 6620DT	Method: Direct Push	Elevation & datum:	Completion depth: 24 ft / Rock depth: NA
Bit(s): NA	Core barrel(s): NA	Inspector(s): Brian Neumann	

DEPTH (ft bg)		SAMPLES Recovery (feet)	Blow per 6 in.	Time	PID (ppm)	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
0								
-1								
-2	1	24/48	NA	-	3.2		Brown to Yellowish orange f-m sand, some silt, brick pcs (fill) top 0.2 ft asphalt, damp	
-3								
-4								
-5								
-6	2	16/48	NA	-	1.1		Same as above, no brick pcs, wet/water at 7.5 ft	**8260 TCL (4-8 ft)**
-7								**Water at 7.5 ft**
-8								
-9								
-10	3	36/48	NA	-	1.0		Olive gray silty sand, transitioning with depth to sandy silt, wet	
-11								
-12								
-13								
-14	4	48/48	NA	-	3.3		Same as above	
-15								
-16							15-16 ft Olive gray silty clay, v moist	
-17								
-18	5	48/48	NA	-	21.5		16-19 ft Same as above	**8260 TCL (16-20 ft)**
-19								
-20							19-20 ft Olive gray clayey silt, trace f sand, v moist	
-21								
-22	6	48/48	NA	-	3.4		Same as above	
-23								
-24								
-25							Boring completed at 24 ft	

PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 3B A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

DRILLING LOG: PES-B4

Project name & location: 222 South Ferry Street	Site number: 447047	Date & time started: 4/3/2020	Date & time completed: 4/3/2020
Drilling company: PES	Foreman: M. Dudley	Sampler(s): Acetate sleeve	Sampler hammer: NA / Drop: NA
Drilling equipment: Geoprobe 6620DT	Method: Direct Push	Elevation & datum:	Completion depth: 20 ft / Rock depth: NA
Bit(s): NA	Core barrel(s): NA	Inspector(s): Brian Neumann	

DEPTH (ft bg)	Sample	Recovery (feet)	Blow per 6 in.	Time	PID (ppm)	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
0								
-1							0-2 in Asphalt 2-6 in Crushed brick	
-2	1	24/48	NA	-	2.4		6 in - 4 ft Lt Brown to brown f sand, trace silt, trace rnd gravel damp to moist	
-3								
-4								
-5							4-7.5 ft Same as above, wet/water at 6-6.5 ft	
-6	2	28/48	NA	-	3.2			8260 TCL (4-8 ft)
-7							7.8-8 ft Black to dark brown silt, concrete and brick pcs (fill)	Water at 6.5 ft
-8								
-9							8-10 ft Same as above, wet	
-10	3	28/48	NA	-	5.1			8260 TCL (8-12 ft)
-11							10-12 ft Olive gray silty clay, v moist	
-12								
-13								
-14	4	18/48	NA	-	5		Same as above	
-15								
-16								
-17								
-18	5	32/48	NA	-	0.9		Same as above	
-19								
-20								
-21							Boring completed at 20 ft 1-inch PVC monitoring well	
-22								
-23								
-24								
-25								

PRECISION ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

DRILLING LOG: PES-B5

Project name & location: 222 South Ferry Street	Site number: 447047	Date & time started: 4/3/2020	Date & time completed: 4/3/2020
Drilling company: PES	Foreman: M. Dudley	Sampler(s): Acetate sleeve	Sampler hammer: NA / Drop: NA
Drilling equipment: Geoprobe 6620DT	Method: Direct Push	Elevation & datum:	Completion depth: 24 ft / Rock depth: NA
Bit(s): NA	Core barrel(s): NA	Inspector(s): Brian Neumann	

DEPTH (ft bg)	SAMPLES	Recovery (feet)	Blow per 6 in.	Time	PID (ppm)	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
0								
-1							0-2 in Asphalt	
-2	1	28/48	NA	-	2.8		2 in-2 ft Brown to Dk Gray sand and gravel (fill)	
-3							2-3 ft Lt Brown f sand	
-4							3-4 ft Dk Gray to black f-c sand, concrete pcs (fill)	
-5								
-6	2	14/48	NA	-	4.8		Same as above, moist	8260 TCL (4-8 ft)
-7								
-8								
-9								Water at 9.5 ft
-10	3	28/48	NA	-	6.0		8-11.5 ft Dk gray and black silt, some clay, wet/water at 9.5 ft	
-11								
-12							11.5-12 ft Dk gray clayey silt, brick and shell pcs	
-13							12-14.5 ft Same as above	
-14	4	28/48	NA	-	5.8			8260 TCL (12-16 ft)
-15							14.5-16 ft Olive gray silty clay, moist	
-16								
-17								
-18		0/48	NA	-	-		No Recovery	
-19								
-20								
-21								
-22	5	46/48	NA	-	2.9		Olive gray silty clay transitions with depth to clayey silt, both trace f sand	
-23								
-24								
-25							Boring completed at 24 ft 1-inch PVC monitoring well	

PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

DRILLING LOG: PES-B6

Project name & location: 222 South Ferry Street	Site number: 447047	Date & time started: 4/3/2020	Date & time completed: 4/3/2020
Drilling company: PES	Foreman: M. Dudley	Sampler(s): Acetate sleeve	Sampler hammer: NA / Drop: NA
Drilling equipment: Geoprobe 6620DT	Method: Direct Push	Elevation & datum:	Completion depth: 24 ft / Rock depth: NA
Bit(s): NA	Core barrel(s): NA	Inspector(s): Brian Neumann	

DEPTH (ft bg)	SAMPLES	Recovery (feet)	Blow per 6 in.	Time	PID (ppm)	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
0								
-1							0-2 in Asphalt	
-2	1	16+/48	NA	-	2.2		2 in-2 ft Lt Brown to Yellowish orange sand, m gravel 2-3 ft Lt Brown f sand	
-3							3-4 ft Dk Brown f-c sand, concrete pcs, moist	
-4								
-5							4-6 ft Same as above	
-6	2	18/48	NA	-	3.1			8260 TCL (4-8 ft)
-7							6-8 ft Lt Brown f sand, trace Dk Brown silty clumps, wet 6.5 ft	Water at 6.5 ft
-8								
-9							8-9.5 ft Same as above	
-10	3	34/48	NA	-	4.1		9.5-10 ft Dk Brown clayey silt, v moist to wet	
-11							10-12 ft Brown f-m sand, trace subrnd gravel, wet	
-12								
-13							12-13 ft Same as above	
-14	4	46/48	NA	-	250		13-16 ft Olive gray clayey silt transition with depth to silty clay, moist	8260 TCL (12-16 ft)
-15								
-16								
-17								
-18		0/48	NA	-	-		No Recovery	
-19								
-20								
-21							20-22 ft Olive gray clayey silt, pcs of brick at 22 ft, v moist	
-22	5	40/48	NA	-	53.9		22-23 ft Olice gray silty clay, moist	8260 TCL (20-24 ft)
-23							23-24 Olive gray silt, some clay, trace sand, mosit	
-24								
-25							Boring completed at 24 ft 1-inch PVC monitoring well	

PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

DRILLING LOG: PES-B7

Project name & location: 222 South Ferry Street	Site number: 447047	Date & time started: 4/6/2020	Date & time completed: 4/6/2020
Drilling company: PES	Foreman: M. Dudley	Sampler(s): Acetate sleeve	Sampler hammer: NA / Drop: NA
Drilling equipment: Geoprobe 6620DT	Method: Direct Push	Elevation & datum:	Completion depth: 24 ft / Rock depth: NA
Bit(s): NA	Core barrel(s): NA	Inspector(s): Brian Neumann	

DEPTH (ft bg)	SAMPLES	Recovery (feet)	Blow per 6 in.	Time	PID (ppm)	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
0								
-1								
-2	1	32/48	NA	-	1.7		0-2 inches asphalt Brick pcs with lesser amounts of Brown and Black sand, gravel coal slag, concrete pcs (fill), moist	
-3								
-4								
-5								
-6	2	26/48	NA	-	4.7		4-7 ft Same as above	**8260 TCL (4-8 ft)**
-7								
-8							7-8 ft Olive gray clayey silt, trace f sand, brick pcs, v moist/wet	**Water at 7.5 ft**
-9							8-8.5 ft Same as above	
-10	3	30/48	NA	-	2.1		8.8-11.75 ft Lt Brown to brown silty sand, rave m-c sand, Saturated	
-11								
-12							11.75-12 ft Brown sandy silt, wet	
-13								
-14	4	48/48	NA	-	21.8		12-15 ft Same as above	
-15								
-16							15-16 ft Olive gray silty clay, concrete and tile pcs, moist	**8260 TCL (15-16 ft)**
-17								
-18		0/48	NA	-	-		No Recovery	
-19								
-20								
-21								
-22		0/48	NA	-	-		No Recovery	
-23								
-24								
-25							Boring completed at 24 ft	

PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

DRILLING LOG: PES-B8

Project name & location: 222 South Ferry Street	Site number: 447047	Date & time started: 4/6/2020	Date & time completed: 4/6/2020
Drilling company: PES	Foreman: M. Dudley	Sampler(s): Acetate sleeve	Sampler hammer: NA / Drop: NA
Drilling equipment: Geoprobe 6620DT	Method: Direct Push	Elevation & datum:	Completion depth: 12 ft / Rock depth: NA
Bit(s): NA	Core barrel(s): NA	Inspector(s): Brian Neumann	

DEPTH (ft bg)	SAMPLES				GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	Recovery (feet)	Blow per 6 in.	Time	PID (ppm)			
0 to -4	1 15/48	NA	-	0.2		0-2 inches asphalt 2 inches-4 ft Brown to Yellowish orange f-m sand, some silt, brick pcs (fill), moist	
-5 to -8	0/48	NA	-	-		No Recovery	
-9 to -12	0/48	NA	-	-		No Recovery	
-13 to -25						Boring completed at 12 ft	

PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

DRILLING LOG: PES-B9

Project name & location: 222 South Ferry Street	Site number: 447047	Date & time started: 4/6/2020	Date & time completed: 4/6/2020
Drilling company: PES	Foreman: M. Dudley	Sampler(s): Acetate sleeve	Sampler hammer: NA / Drop: NA
Drilling equipment: Geoprobe 6620DT	Method: Direct Push	Elevation & datum:	Completion depth: 15.5 ft / Rock depth: NA
Bit(s): NA	Core barrel(s): NA	Inspector(s): Brian Neumann	

DEPTH (ft bg)	SAMPLES	Recovery (feet)	Blow per 6 in.	Time	PID (ppm)	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
0								
-1								
-2	1	24/48	NA	-	5.6		0-2 inches asphalt 2 inches-3 ft Brown silty sand, trace c and, psc glass, moist 3-3.5 ft Concrete and wht tile pcs, coal slag 3.5-4 ft Lt Brown f sand, little silt	**8260 TCL (0-4 ft)**
-3								
-4								
-5								
-6	2	28/48	NA	-	1.2		Same as above, wet/saturated at 6.5 ft	**Water at 6.5 ft**
-7								
-8								
-9							8-11 ft Same as above, saturated	
-10	3	32/48	NA	-	24.9			
-11							11-12 ft Olive gray f-m sand, trace silt, trace c sand	
-12								
-13							12-14.5 ft Same as above, saturated	
-14	4	20/48	NA	-	31.2		14.5-15 ft Olive gray clayey silt, v moist to wet	**8260 TCL (12-16 ft)**
-15							15-15.5 ft Olive gray to black crush stone and f-m sand	
-16							Boring completed due to refusal at 15.5 ft	
-17								
-18								
-19								
-20								
-21								
-22								
-23								
-24								
-25							Boring completed at 24 ft	

PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

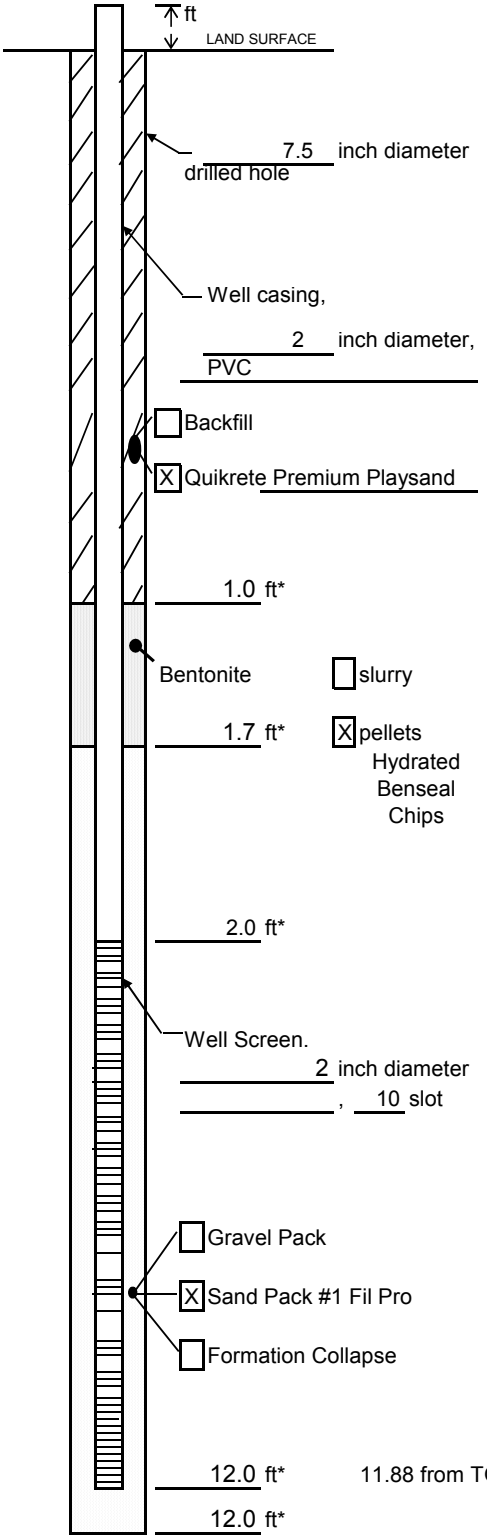
DRILLING LOG: PES-B10

Project name & location: 222 South Ferry Street	Site number: 447047	Date & time started: 4/6/2020	Date & time completed: 4/6/2020
Drilling company: PES	Foreman: M. Dudley	Sampler(s): Acetate sleeve	Sampler hammer: NA / Drop: NA
Drilling equipment: Geoprobe 6620DT	Method: Direct Push	Elevation & datum:	Completion depth: 20 ft / Rock depth: NA
Bit(s): NA	Core barrel(s): NA	Inspector(s): Brian Neumann	

DEPTH (ft bg)	SAMPLES	Recovery (feet)	Blow per 6 in.	Time	PID (ppm)	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
0								
-1								
-2	1	28/48	NA	-	1		0-2 inches asphalt 2 inches - 1.5 ft Brown gray f-c sand, trace gravel 1.5-4 ft Lt Brown to Yellowish orange f-m sand, trace silt, moist	
-3								
-4								
-5							4-4.5 ft Crushed stone	
-6	2	24/48	NA	-	0.7		4.5-7 ft Gray and brown concrete pcs, trace sand	8260 TCL (4-8 ft)
-7							7-8 ft Black organic silt, wood fibers, wet at 8 ft	
-8								Water at 8 ft
-9								
-10	3	20/48	NA	-	16.7		8-10 ft Dk Gray to black m-c sand, gravel, saturated	8260 TCL (8-12 ft)
-11							10-12 ft Olive gray silty clay, trace f sand, pcs wood, moist-wet	
-12								
-13								
-14		0/48	NA	-	-		Negliable, wet sloppy recovery	
-15								
-16								
-17								
-18		0/48	NA	-	-		Negliable, wet sloppy recovery	
-19								
-20								
-21							Boring completed at 20 ft	
-22								
-23								
-24								
-25								

Well Construction Log

(Unconsolidated)



Measuring Point is Top of Well Casing Unless Otherwise Noted.

* Depth Below Land Surface

Project: 222 South Ferry Street Well: MW-14

Town/City: Schenectady

County: Schenectady State: NY

Permit No.:

Land-Surface Elevation and Datum:

_____ feet ☐ Surveyed ☐ Estimated

Installation Date(s): 11/14/2017

Drilling Method: Hollow Stem Auger (4 1/4")

Drilling Contractor: Aztech Technologies

Drilling Fluid: N/A

Development Technique(s) and Date(s)

Pumping & Surging 11/16/2017

Whale Pump used

Fluid Loss During Drilling: _____ gallons

Water Removed During Development: 24 gallons

Static Depth to Water: 4.63 feet below M.P.

Pumping Depth to Water: _____ feet below M.P.

Pumping Duration: _____ hours

Yield: _____ gpm Date: _____

Specific Capacity: _____ gpm/ft

Well Purpose: Monitoring Well

Remarks:

Prepared by: A. Thomas

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well **MW-6R** Project/No. **00266444.0000** Page **1** of **1**

Site Location **222 South Ferry Street Schenectady NY** Drilling Started **11/14/2017** Drilling Completed **11/15/2017**

Drilling Contractor **Aztech Technologies** Driller **Tim** Helper **Garth**

Drilling Fluid Used **N/A** Drilling Method **hollow stem auger - overdrill**

Length and Diameter of Coring Device _____ Sampling Interval _____ feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Total Depth Drilled _____ Feet Hole Diameter ____ Coring Device _____

Prepared By **A. Thomas** Hammer Weight _____ Hammer Drop _____ ins.

Sampling Data:

Depth	Grab/Composite	Time	Laboratory Analysis

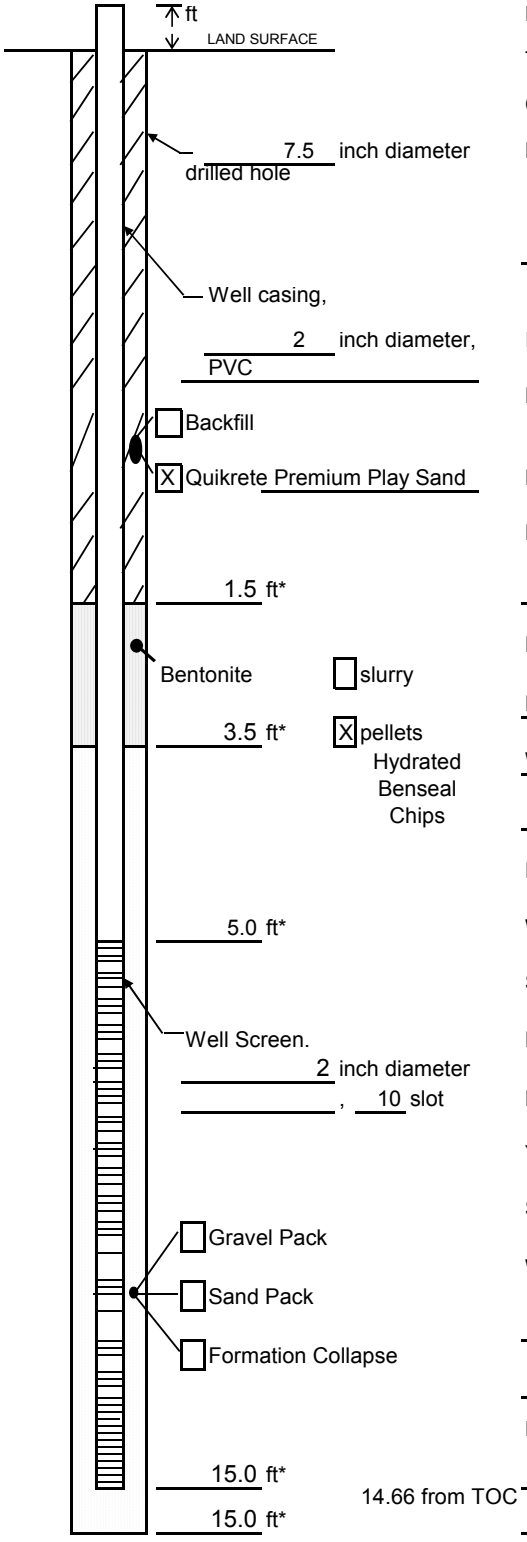
Soil Characterization:

0-5 feet bgs cleared via hand auger.

Sample/Core Depth (Feet bls) From	To	Core Recovery (Feet)	PID Reading (ppm)		Sample/Core Description
0.0	15.0	-	-		MW-6R was a replacement well for MW-6. Aztech Technologies overdrilled MW-6 (1" PVC) with 4'14" HAS to a depth of 15' bgs to install MW-6R (2" PVC). Due to overdrilling, no samples were collected during MW-6R installation.

Well Construction Log

(Unconsolidated)



Measuring Point is Top of Well Casing Unless Otherwise Noted.

* Depth Below Land Surface

Project 222 South Ferry Street Well MW-6R

Town/City Schenectady

County Schenectady State NY

Permit No.

Land-Surface Elevation and Datum:

feet ☐ Surveyed ☐ Estimated

Installation Date(s) 11/15/2017

Drilling Method Hollow Stem Auger (4 1/4")

Drilling Contractor Aztech Technologies

Drilling Fluid N/A

Development Technique(s) and Date(s)

Pumping & surging 11/16/2017

Whale pump used

Fluid Loss During Drilling gallons

Water Removed During Development 45 gallons

Static Depth to Water 6.58 feet below M.P.

Pumping Depth to Water feet below M.P.

Pumping Duration hours

Yield gpm Date

Specific Capacity gpm/ft

Well Purpose Monitoring well

Remarks

Prepared by A. Thomas

APPENDIX D – Excavation Work Plan (EWP)

D-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination or breach or alter the Site's cover system, the Site owner or their representative will notify the NYSDEC contacts listed in the table below. The below table 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 of the SMP.

Notifications*

Name	**Contact Information**	**Required Notification***
NYSDEC Project Manager: Ruth Curley	518-402-9480 ruth.curley@dec.ny.gov	All Notifications
NYSDOH Project Manager: Jaquelyn Nealon	518-402-7883 beei@health.ny.gov	All Notifications

* 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, any modifications of truck routes, 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 the Site SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with the required request to import form and all supporting documentation including, but not limited to, chemical testing results.

D-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed during all excavations into known or potentially contaminated material (remaining contamination) or a breach of the cover system. A qualified environmental professional as defined in 6 NYCRR Part 375, a 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 will perform the screening. 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 the below sections.

D-3 SOIL STAGING METHODS

Soil stockpiles may be necessary during various phases of future construction, and may be continuously encircled with a berm and/or silt fence. Hay bales may be used as needed near catch basins, surface waters and other discharge points.

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

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

D-4 MATERIALS EXCAVATION AND LOAD-OUT

A qualified environmental professional as defined in 6 NYCRR Part 375, a 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 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. A Site utility stakeout will be completed for all utilities prior to any ground intrusive activities at 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 may 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. Material accumulated from the street cleaning and egress cleaning activities will be disposed off-site at a permitted landfill facility in accordance with all applicable local, State, and Federal regulations.

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

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

Truck transport routes are as follows: To enter the Site use South Ferry Street, accessed from Erie Blvd. All trucks loaded with Site materials will exit the vicinity of the Site using only approved truck routes. Appropriate routes shall take into account: (a) limiting transport through residential areas and past sensitive Sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; (f) overall safety in transport; and, (g) community input, where necessary.

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 off-site in a permitted facility in accordance with

all local, State 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 Project Manager. Unregulated off-site management of materials from this Site will not occur without formal NYSDEC Project Manager 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, (e.g. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C&D debris recovery facility) Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include, but will not be limited to: 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 consistent with 6 NYCRR Parts 360, 361, 362, 363, 364 and 365. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State C&D debris recovery facility (6 NYCRR Subpart 360-15 registered or permitted facility).

D-7 MATERIALS REUSE ON-SITE

The qualified environmental professional as defined in 6 NYCRR part 375 will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material (i.e. contaminated) 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.

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 NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl June 2021 guidance values. Approvals for modifications to the analytical parameters must be obtained from the NYSDEC Project Manager prior to the sampling event.

Soil/fill material for reuse on-site will be segregated and staged as described in Sections 3.3 of the SMP. The anticipated size and location of stockpiles will be provided in the 15-day notification to the NYSDEC Project Manager. Stockpile locations will be based on the location of Site excavation activities and proximity to nearby Site features. Material reuse on-site will comply with requirements of NYSDEC DER-10 Section 5.4(e)4. Any modifications to the requirements of DER-10 Section 5.4(e)4 must be approved by the NYSDEC Project Manager.

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.

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 off-site at a permitted facility 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/or any other invasive activities the cover system will be restored in a manner that complies with the Record of Decision. The existing cover system is comprised of asphalt pavement and 6" of crushed stone, underlain by a demarcation layer. A demarcation 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, 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 shall 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, as defined in 6 NYCRR Part 375, 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, 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 6 NYCRR 375-6.7(d) and DER-10 Appendix 5 for commercial use. Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in NYCRR Part 375. Soils that meet 'general' fill requirements under 6 NYCRR Part 360.13, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC Project Manager. Soil material will be sampled for the full suite of analytical parameters, including PFAS and 1,4-dioxane. 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

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. The NYSDEC Project Manager will be promptly notified of the discovery.

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 including TAL metals, TCL volatiles and semi-volatiles (including 1,4-dioxane), TCL pesticides and PCBs, and PFAS, unless the Site history and previous sampling results provide sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC Project Manager for approval prior to sampling. Any tanks will be closed as per NYSDEC regulations and guidance.

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

D-13 COMMUNITY AIR MONITORING PLAN

To ensure the protection of receptors surrounding the Site, HRP has developed and will implement a Community Air Monitoring Program (CAMP) included in Appendix E, which requires real time monitoring of volatile organics and dust. The CAMP will be implemented during all future intrusive activities. Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will 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 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.

If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) greater than the background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that no visible dust is migrating from the work area. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m3 above the upwind level, work will 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/m3 of the upwind level and in preventing visible dust migration.

D-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site and on-site, should future residents or tenants occupy the Site. Specific odor control methods to be used on a routine basis will include engineering controls such as a Site cover. 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 must be conducted according to the Community Air Monitoring Plan (CAMP) provided in the SMP. If particulate levels at the site exceed the thresholds listed in the CAMP or if airborne dust is observed on the Site or leaving the site, the dust suppression techniques listed below will be employed. The remedial party will also take measures listed below to prevent dust production on the site.

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 using 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.

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.

APPENDIX E – Health and Safety Plan

MOVE YOUR ENVIRONMENT FORWARD

SITE-SPECIFIC HEALTH AND SAFETY PLAN (HASP)

222 Ferry Street Site
222 South Ferry Street
Schenectady, New York
DEC Site ID # 447047

Prepared For:

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233
Contract #D009808

Prepared By:

HRP Associates, Inc.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065

HRP #: DEC1012.RA

Issued On: March 15, 2022

Addendum Number	Date Issued	Reason For Modification
1	1/7/2021	Post Remedial Action Monitoring Plan

Disclaimer

HRP Associates does not guarantee the health or safety of any person entering this site. Due to the potential hazards of this site and the activity occurring thereon, it is not possible to discover, evaluate, and provide protection for all possible hazards which may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, but not eliminate, the potential for injury at this site. The health and safety guidelines in this plan were prepared specifically for this site for use and should not be used on any other site.

CERTIFICATION

This Addendum to HRP's Generic Health and Safety Plan has been prepared under the supervision of, and has been reviewed by, a Certified Safety Professional (CSP) certified by the Board of Certified Safety Professionals.

Mark Wright, CSP
BCSP # 9086

TABLE OF CONTENTS

Figures

Tables

Appendices

1.0 EMERGENCY CONTACTS/PLANNING

The Health and Safety Officer will coordinate the entry and exit of response personnel in the event of an emergency. The following information, including directions to the nearest hospital shall be posted at the Site. When contacting the local authorities, be sure to provide: your name, facility name, full address, telephone number, and the nature of the emergency.

Emergency Phone Numbers 222 South Ferry Street Schenectady, New York	
Emergency Contact	**Phone Number**
Fire, Ambulance, Police Emergency:	911
Schenectady Police Department (routine calls):	518-382-5200
Schenectady Fire Department #1 (routine calls):	518-382-5141
Ellis Hospital (Schenectady):	518-243-4000
Poison Control Center:	1-800-222-1222
DEC spills hotline:	1-800-457-7362
National Response Center:	800-424-8802
Project Manager: Mark Wright	203-308-0983
Site Safety Officer: Charlotte Verhoef	518-669-8184
NYSDEC Project Manager: Ruth Curley	518-402-9480

Map and directions to the following medical facilities are provided in **Figure 3**:

- **Ellis Hospital -** located at 1101 Nott Street, Schenectady, NY (approximately 2.0 miles from the work site)

First Aid, Fire Protection, Emergency Response Equipment Storage Locations	
First Aid Kit:	In Vehicle
Fire Extinguisher:	In Vehicle
Eye Wash (Bottle):	In Vehicle
Hand Wash Station:	On Site

A Safety and Logistics Planning call will be held prior to conducting any intrusive activities at the site. Representatives from HRP and each subcontractor will attend the call to discuss logistical and safety challenges general to the scope of work and specific to the Site. This call is documented on the Safety and Logistics Planning Call Log in **Appendix A.**

2.0 INTRODUCTION

2.1 Purpose and Scope

This Health and Safety Plan (HASP) addresses the health and safety practices that will be employed by HRP Associates, Inc. personnel and our subcontractors participating in the INTERIM REMEDIAL MEASURE (IRM) Work Plan that will be performed at the site. This HASP applies specifically to the Post Remedial Action Monitoring Plan (PRAMP) related to quarterly groundwater sampling and monitoring following the completion of groundwater in-situ treatment. This includes monitor well water level gauging, purging, and sample collection. The monitoring and sampling is being performed to monitor the effectiveness of the IRM which included an in-situ application of 3DME, S-MicroZVI and BDI Plus.

This HASP has been developed in accordance with HRP's Generic Safety and Health Program as required under OSHA's Hazardous Waste Operations Standard (29 CFR 1910.120). This Plan has been developed to establish minimum standards necessary for onsite investigation activities to protect the health and safety of HRP personnel. HRP site personnel have received the required level of training and field experience as required under subpart (e) of the Standard, and have received medical examinations in accordance with HRP's medical surveillance program as required under subpart (f) of the Standard. No other personnel will be permitted in the Exclusion Zone unless they have received training and medical surveillance under the Standard.

HRP personnel and associated contractors shall be familiar with this HASP prior to conducting proposed site work. This plan must be present on site and be available for reference/inspection when the subject site work is being conducted.

2.2 Site Information and Areas of Environmental Concern

2.2.1 Site Information and Description

Site Name: 222 Ferry Street Site

Site Address: 222 South Ferry Street, Schenectady, NY

Site Contact: Ruth Curley

Phone Number: 518-402-9480

2.3 Background and Project Description

The 222 Ferry Street Site, located at 222 South Ferry Street, Schenectady, New York, (**Figure 1**) is the focus of this investigation. This property is approximately 0.98 acres in size, according to the Schenectady County online GIS map viewer. The site and surrounding area are zoned C-4, which is the zoning designation for Downtown Commercial Areas in the City of Schenectady.

The site is located at 222 South Ferry Street in the City of Schenectady, Schenectady County, New York and is comprised of a vacant, asphalted parking lot. Vegetation in the form of small

trees and thickets are present beyond the edge of asphalt on northwestern and southeastern portions of the site. The site is bordered to the east by South Ferry Street and to the west by South Church Street. An apartment building and catering company are present immediately to the north of the subject site and row-style apartments, two commercial businesses (Pantalon Construction & Stockade Storage and Mohawk Skill Games) and a vacant lot are located immediately to the south of the subject site. Two catch-basins are located on eastern portion of the site and remnants of electrical gate systems are located at the site access points along South Ferry Street and South Church Street. An approximate four-foot high chain-link fence exists along the perimeter of the site with the exception of the site access points.

Nine (9) monitoring wells are located in a grid pattern across the subject site (Figure 2). The monitoring wells were installed by Evergreen Testing and Environmental Services, Inc. during December 2007 for the purpose of investigating the environmental quality of the site's soils and groundwater. These investigations identified several chlorinated solvent compounds at levels exceeding the NYSDEC criteria in the site's groundwater and one volatile organic compound and several semi-volatile organic compounds exceeding NYSDEC criteria in the site's soil.

2.3.1 Personnel Designations

The following personnel are designated to perform the stated project activities and to ensure that the requirements of this HASP are met. The same person may fill more than one role, and/or serve as an alternate in the absence of the designated team member.

The following personnel are designated to perform the stated project activities and to ensure that the requirements of this HASP are met. The same person may fill more than one role, and/or serve as an alternate in the absence of the designated team member. All subcontractors must have received the required level of training and field experience as required under subpart (e) of OSHA 29 CFR 1910.120 and OSHA 29 CFR 1926.65 for Hazardous Waste Operations and Emergency Response (HAZWOPER).

Project Team Member	Responsibilities and Tasks
Stefan Truex (or Qualified Alternate Safety Officer)	HSO – HRP Associates, Inc. - Ensuring all site work is being performed in accordance with HRP Associates, Inc. Safety Program, as well as in accordance with local, state and federal regulations. - Directing and implementing HRP's HASP. - Reviewing the Subcontractor's HASP and being aware of the hazards detailed therein. - Conduct a job orientation meeting and routine safety meetings for HRP Associates, Inc. employees and subcontractors, as applicable. - Provide copies of these inspections, recordkeeping/personnel logs to the engineer/contractor as required. - Ensuring all project personnel have been adequately trained in the recognition and avoidance of unsafe conditions. - Authorizing Stop Work Orders that shall be executed upon the determination of an imminent health and safety concern, and will notify the appropriate contacts upon issuance of this order. - Authorizing work to resume, upon approval from the Contractor. - Directing activities, as defined in the HRP's and the Contractor's written HASP, during emergency situations. - Providing personnel monitoring where applicable. - Ensuring that adequate personal protective equipment and first aid supplies are available. - Ensure site security, to the extent practicable. - Ensure accident victims are promptly cared for, and the incident is investigated and properly reported.
Mark Wright (Site Supervisor/ Project Manager) **Jessica Kruczek (Alternate Site Supervisor)**	Site Supervisor/Project Manager – HRP Associates, Inc. - Monitor and assist the site Health and Safety officer. - Maintain appropriate rules, regulations and codes at the job site. - Provide advance safety planning for all activities through the use of scheduling and administrative controls. - Obtain site-specific health and safety information and communicate that information with the appropriate personnel (i.e. contractors, client, etc.) - Report all injuries, illnesses and other incidents to the Director of Safety. - Ensure all HRP personnel are trained and qualified to perform site work.
Site Workers (Subcontractors)	**Site Workers** - Read and work in accordance with this HASP. - Report all unsafe work practices to the HSO. - Report all incidents, including near-misses to the HSO. - Work in a safe manner. - Provide Designated Competent Person
A complete list of HRP employee and subcontractor responsibilities (as applicable) can be found in the HRP Generic Health and Safety Plan. 1 A list of site workers will be maintained in the Personnel Log (**Appendix B**) 2 Supervisors Investigation Report included as (**Appendix C**)	

3.0 AREAS OF ENVIRONMENTAL CONCERN

3.1 Scope of Work

In general, the work to be performed by HRP and HRP's subcontractors consists of investigative methods to evaluate the environmental condition of the Site. This HASP applies specifically to the Post Remedial Action Monitoring Plan (PRAMP) related to quarterly groundwater sampling and monitoring following the completion of groundwater in-situ treatment. This includes monitor well water level gauging, purging, and sample collection. Due to the recency of the application (injection) of reagents into groundwater, some of the reagents are likely still present in groundwater and HRP field personnel may come into contact with dissolved or free-phase forms of the reagents in groundwater as well as dissolved concentrations of chlorinated volatile organic compounds (CVOCs) during monitoring and sampling activities.

No drilling or other intrusive work is anticipated as part of the PRAMP however a community air monitoring plan (CAMP) and other measures related to intrusive work remain a part of this work plan in case it is determined that intrusive work is required.

4.0 HAZARD ANALYSIS

The project hazard analysis below identifies the hazards that are anticipated to be encountered by the project team.

Physical Hazards Present	☐ Electricity ☐ Trips/Falls/Floor openings ☐ Holes/Pits ☐ Inclement weather ☐ Heat ☒ Cold ☐ Vibration ☐ Flying particles	☐ Ionizing radiation ☐ Non-Ionizing radiation ☐ Lasers ☒ Overhead hazards ☒ Noise ☐ Visible dust ☐ Falling objects ☐ Other _____
Health/Chemical Hazards Present [1]	☐ Dust/Fumes/Particulates ☐ Flammable/Combustible ☐ Compressed gas ☐ Explosive ☐ Water reactive ☐ Unstable ☒ Contact with contaminated media	☐ Oxidizer ☐ Corrosive ☐ Toxic ☐ Highly Toxic ☐ Irritant ☐ Sensitizer ☐ Carcinogen/Mutagen ☐ Other _____
Environmental/Equipment Hazards Present	☒ Heavy machinery ☒ Drilling ☐ Water operations ☐ Mobile equipment ☐ Road work ☐ Railroad work ☐ Forklifts ☐ Power tools ☐ Welding ☐ Gas cylinders ☒ Overhead/underground utilities	☐ Trenching/excavation ☐ Elevated heights/man lifts ☐ Scaffolding ☐ Ladders ☐ Confined spaces ☐ Energized equipment ☐ Overhead hazards ☒ Drums/container handling ☒ Insects/rodents/snakes ☐ Biological hazards ☐ Other _____
Personal Safety Considerations	☐ Security Issues ☐ Remote setting ☐ Employees working alone ☐ Limited lighting	☐ Off hour shifts ☐ Dangerous wildlife/animals ☐ Limited cell phone service ☐ Other _____
[1] **Table 1** (following the text of this HASP) provides a list of chemical substances for reference, along with odor threshold, permissible exposure limit (PEL), threshold limit value (TLV), OSHA ceiling, IDLH concentration, route of exposure and symptoms of acute exposure, if any.		

Details of specific hazards associated with individual tasks will be discussed in the Daily Job Brief Record (**Appendix D**).

4.1 Hazard Analysis Summary/Minimization

HRP's Corporate Health & Safety Plan (in conjunction with this HASP) will be cross-referenced in order to obtain the safe work practice procedures for mitigating and preventing project site hazards identified in the table above. Job site hazard prevention and minimization information can be found in Section 3 of HRP's Generic Health & Safety Plan.

Confined Spaces

Only properly trained HRP personnel are authorized to enter confined spaces. Confined space entry may be performed by subcontractors who have the proper training and experience to conduct this work. Confined space entry is not anticipated during the RI.

Excavations

It is HRP's policy to ensure that for excavation projects the subcontracted environmental contractor will provide a competent person to perform daily and as needed inspections of excavation sites. This policy will be conveyed through the subcontract agreement with the environmental contractor. At a minimum HRP will provide our employees involved with construction projects with awareness level training regarding excavation hazards and notify the subcontracted firm if any obvious excavation safety hazard exists during the course of on-site activities.

Chemical Hazards

Hazardous chemicals known or suspected to be onsite are listed in **Table 1** (follows text). **Table 1** includes Chemical name, odor threshold OSHA PEL, ACGIH TLV, OSHA STEL, IDLH Concentrations, routes of exposure and symptoms of acute exposure. Chemicals likely to be encountered during site work are highlighted.

4.2 Changes in Conditions or Scope

Should conditions or the scope of work described herein change significantly; a HASP Addendum will be completed.

4.3 Monitoring Procedures

Air monitoring will be used to determine the concentrations of various chemicals while working in the exclusion zone to evaluate worker exposure to contaminated media. In order to determine potential health hazards and to determine the level of personal protection needed during sampling activities within the areas of concern, a Photoionization Detector (PID) will be periodically operated to monitor air quality for the purpose of ensuring minimal exposure to volatile organic compounds. Monitoring of atmospheres adjacent to on-going excavations and around the treatment area shall also be conducted with a PID.

The following environmental monitoring instruments/procedures shall be used on-site at the specified intervals.

Instrument/Procedure	**Sampling Interval**
Photoionization Detector (PID) in the breathing zone	Periodically as deemed by HSO

Background ambient air levels will be established outside the exclusion zone prior to commencement of site work. Ambient air sampling will occur in the breathing zone of site workers for comparison to the action levels (described below). Additionally, air sampling will be conducted in the vicinity of any intrusive exploration (i.e. near excavations, trenches, etc.) to determine if any contaminants are present.

The following *Action Levels* will be used:

Instrument	Action Level	Level of Protection or Action Required
PID	No reading above background	▪ No action required. ▪ Continue PID monitoring. ▪ (Modified) Level D protection.
PID	Up to 5 ppm above background	▪ Evacuate exclusion zone. ▪ Recheck levels after 15 minutes. ▪ If levels are sustained, reassess. ▪ Use engineering controls to lower breathing zone vapors. ▪ Level C protection (at the HSO direction).
PID	>5 ppm above background	▪ Evacuate exclusion zone. ▪ Recheck levels after 15 minutes. ▪ Use engineering controls to lower breathing zone vapors. ▪ If levels are sustained, contact Safety Manager, and re-evaluate HASP.

When an action level is equaled or exceeded, the work area should be evacuated and the area re-tested with the sampling device. If the appropriate action level continues to be exceeded, the HSO will have to assess the use of engineering controls to lower vapor levels or availability of required increased personal protection equipment before authorizing re-entry.

Calibration of all instruments will occur at least once per day, when in use. An equipment calibration log is included in **Appendix E.**

Community Air Monitoring

To ensure the protection of receptors surrounding the site HRP has developed and will implement a Community Air Monitoring Program (CAMP), which requires real time monitoring of volatile organics and dust during the remedial investigation.

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will 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 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.

If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) greater than the background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that no visible dust is migrating from the work area.

If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m3 above the upwind level, work will 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/m3 of the upwind level and in preventing visible dust migration.

5.0 ENGINEERING CONTROL MEASURES/GENERAL SAFETY

5.1 Air Monitoring

In order to determine potential health hazards and to determine the level of personal protection needed during drilling, excavation and sampling activities within the areas of concern, a PID will be periodically operated to monitor air quality for the purpose of ensuring minimal exposure to volatile organic compounds. Please refer to Section 4.2 of this plan for specific air monitoring procedures/action levels.

5.2 Protective Zones

Prior to commencement of work in area of suspected contamination, protective zones specific for each phase of the Plan will be established by the HSO if necessary prior to the start of field work. The purpose of the protective zones is to prevent potential cross-contamination of adjacent areas as well as to protect project personnel from exposure to contaminated areas.

Protective zones shall be delineated as follows:

- Exclusion Zone: This is the contaminated area in which intrusive activities are performed. The "Area of Environmental Concern" (AOEC) is located within this area. A single access point for entrance and exit should be established and maintained, if possible. This zone should be delineated from the Contaminant Reduction Zone via perimeter cones or caution tape, or other applicable method. Work areas are shown on **Figure 2**. The Exclusion Zone delineation and any necessary modifications will be based on site conditions.

- Contaminant Reduction Zone: This zone is a transition zone located between the Exclusion Zone and the Support Zone and is utilized to decontaminate personnel and equipment.

- Support Zone: This zone will be utilized by equipment and vehicle storage and will be kept free of contaminated material. The HSO will determine the location of this zone. In the event of a site evacuation, the rally point will be on the southwestern side of the car wash building (**Figure 2**). The designated rally point may be relocated by the HSO based on project or site conditions. All site workers will be notified of any relocation prior to implementation.

6.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

6.1 Level of Protection

As identified in Section 4.0, the overall health and safety risk associated with chemical hazards for HRP and associated contractors is considered significant. This is primarily due to the moderate concentrations of chemical contaminants expected based on minimal contact personnel will have with any potentially contaminated media. Therefore, the minimal level of protection for HRP personnel during the conduct of all the environmental work performed at the site will be Level D PPE, and will generally consist of the PPE listed below:

- Steel toe/shank work boots
- Hard hat, as necessary
- Safety vest, as necessary
- Coveralls/tyvek, as necessary
- Safety glasses/goggles/face shield, as necessary
- Hearing protection, as necessary

If site conditions warrant, an upgrade to Level C PPE may be required (refer to Section 4.2 for the appropriate *Action Levels*) then the contractors will make Level C personal protective equipment (PPE) readily available. Level C PPE generally includes:

- Full face, air purifying respirator with organic vapor cartridges
- Same as Level D, but also includes tyvek taped pant/boot and glove/shirt

If it is determined protection beyond Level C is required, HRP will re-evaluate the HASP as well as the site conditions, and will revise the HASP as required. The following table provides a summary of the minimum level of PPE required on site:

Description	Level of Protection [1]	
	D	C
Body		
Work Clothes	R	R
Chemical Protective Suit (Tyvek)	O	R
Visibility Vest	O [2]	O [2]
Apron	O	O
Fall Protection	O [2]	O [2]
Head		
Hard Hat	R	R
Head Warmer	O	O
Eyes & Face		
Safety Glasses	R	R
Goggles (based on hazard)	O	R
Face Shield	O	O
Ears		
Plugs or Muffs	R [2]	R [2]
Hands & Arms		
Work Gloves	R	O [2]

Description	Level of Protection [1]	
	D	C
Chemical Resistant Gloves (Nitrile)	O	R
Insulated Gloves	O	O
Foot		
Work Boots/Steel Toe Boots	R	R
Chemical Resistant Boots	O	O
Disposable Boot Covers	O	O
Respiratory Protection [3]		
½ Mask Air Purifying Respirator (APR) or Full face APR	NA	R
Dust Protection	O	NA
Powered APR	NA	NA
SCBA/Supplied Air Respirator	NA	NA

R = Required, **O** = Optional, **NA** = Not Applicable

[1] The level of protection identified here does not include the necessary equipment for entering confined spaces. Refer to Moran Environmental Recovery's Safety Manual Confined Space Program for atmospheric sampling protocols and breathing and rescue equipment necessary for those operations.

[2] The use of this PPE may or may not be required depending on site conditions/location and will be addressed at the time of task assignment by the HSO.

[3] Respiratory protection necessary to protect against VOC, dusts/particulates and not oxygen deficient atmospheres.

The following table provides a general description of potential field activity tasks to be performed and associated (recommended) PPE. The use of this PPE may or may not vary depending on site conditions and will be addressed at the time of task assignment by the HSO.

Task Description	Invasive (Y/N)	Protection Level
Site Mobilization - Surveying, fence and barrier installation, hay bale installation, decon and work zone set up, soil staging areas preparation	N	Level D
Soil and Water Sampling - Drilling, sampling, soil moving as needed.	Y	Modified Level D or Level C – Respirator as needed based on monitoring. Eye protection required during collection of any liquid sample
Soil Excavation, Staging and Load-Out	Y	Modified Level D – or Upgrade to Level C dependent on monitoring
Decontamination - Truck dry sweeping, decon pressure wash of equipment, PPE change out	Y	Modified Level D – or Upgrade to Level C dependent on monitoring
Waste Management - Soil load-out for off-site disposal, water removal for disposal, PPE disposal	Y	Modified Level D – or Upgrade to Level C dependent on monitoring
Site Control (Exclusion, Decontamination, Support Zones)	N	Modified Level D – or Upgrade to Level C dependent on monitoring
Communications - Use of hand signals, backup alarms, and voice	N	NA
Site Restoration	Y	Level D

7.0 DECONTAMINATION

7.1 Decontamination Procedures

All personnel and equipment leaving the exclusion zone must be properly cleaned and decontaminated. When there is evidence of chemical contamination during the site operations, all personnel will be decontaminated under the direction of the HSO. Clean-up and/or decontamination of personnel shall consist of washing off excessively soiled PPE with a disinfectant detergent scrub and water. At the very least, all personnel should wash their hands and face before leaving the exclusion zone. After washing, all disposable clothing (tyvek, gloves, etc.) will be removed and placed in a double lined plastic bag.

Sampling tools and any other non-disposable items will be decontaminated between sampling points, and at the direction of HRP personnel, to prevent cross-contamination of work areas or environmental samples, as applicable.

7.2 Emergency Decontamination

If immediate medical attention is required in an emergency, decontamination will be performed after the victim has been stabilized. If a worker has been exposed to an extremely toxic or corrosive material, then emergency decontamination will consist of flushing with copious amounts of water. If the victim cannot be decontaminated because it will interfere with emergency medical aid being administered, then the victim should be wrapped with plastic or other available items (i.e. an uncontaminated coverall) to reduce potential contamination of other personnel or medical equipment.

If a site worker has been overcome by heat related illness, then any protective clothing should be removed immediately. In the case of non-medical emergency evacuation, decontamination should be performed as quickly as possible, unless instant evacuation is necessary to save life or prevent injury.

7.3 Personal Hygiene

All employees will be required to wash hands and face prior to eating, smoking, drinking and going to the bathroom. Workers will be required to remove contaminated PPE and clothing prior to leaving the Contaminant Reduction Zone. All field personnel should avoid contact with potentially contaminated substances such as puddles, pools, mud, etc.

8.0 EMERGENCY ACTION PLAN/SPILL RESPONSE

In the event of a worker injury, fire, explosion, spill, flood, or other emergency that threatens the safety and health of site workers, the following procedure will be followed:

1. If the emergency originates within the work area covered by this Plan, the HRP HSO shall act as the Emergency Coordinator. The emergency evacuation signal is an air horn or a loud yell. All emergency situations (including worker injuries, no matter how small) will be reported to the HSO, who will determine the appropriate emergency response, up to and including evacuation. Only the HSO may initiate evacuation of the work area. The HSO will be responsible for reporting any emergency situation to the appropriate authorities, using a telephone or other appropriate method.

2. In the case of an evacuation, site workers will exit the site along the safest route(s) and assemble with team members at a safe rally point. Those workers in the Exclusion Zone will follow the emergency decontamination procedures outlined in Section 7.2. Accounting of all site personnel will be conducted by the HSO using the personnel log at a location determined by the HSO.

3. HRP personnel are not permitted to participate in handling the emergency. Fire and medical emergencies will be handled by the local fire department and ambulance service. In the case of a spill of hazardous materials the NYSDEC will be contacted.

   In addition, the HSO/Project Manager must advise the site contact that the New York Spill Hotline should be contacted and, if the spill quantity is greater than the Reportable Quantity (RQ) under CERCLA and/or SARA, the National Response Center (NRC) and Local Emergency Planning Committee should also be contacted. If the spill begins to flow overland and threatens to contaminate a storm drain or surface water, HRP personnel may attempt to contain and isolate the spill using any available resources, but only if, in the judgment of the HSO, such action will not expose the workers to dangerous levels of hazardous substances and is necessary to preserve life or property. In the event that a spill of material of any amount threatens to reach navigable waters, the NRC shall be contacted.

4. Once initial emergency procedures to protect worker safety and health have been addressed, and control of emergency has been completed, the HSO will complete an Investigation Report and submit this form to the appropriate personnel (HRP and/or client contact).

5. All site workers will be familiarized with the above procedures during the pre-entry briefing to be conducted before site work begins.

9.0 TRAINING/MEDICAL SURVEILLANCE

9.1 Training Requirements

All HRP and HRP subcontractor personnel who enter the work zone and/or Exclusion Zone must have successfully completed the 40-hour or 24-hour training requirement outlined in 29 CFR 1910(e). If the 40-hour or 24-hour training of any person occurred more than 12 months prior to commencement of work, then that person must have attended an 8-hour refresher course within the 12 months prior to commencement of work. If respirators are in use in the Exclusion Zone, then all personnel must have undergone respirator training and a fit test within the last 12 months. Training certificates and records for HRP employee(s) are on file at HRP. All other contractors will be required to supply written proof of training before being allowed into the Exclusion Zone.

9.2 Pre-Entry Briefing

Prior to commencement of work in an area of suspected contamination, HRP's Health and Safety Officer will conduct a pre-entry briefing with on-site contractors, which will include the following:

- Name of the HSO and person responsible for the visitor log.
- Description of the parcel as well as location of emergency telephones and the location/boundaries of the Exclusion Zone, Contamination Reduction Zone, and Support Zone, if established.
- Review of hospital locations and directions.
- Review of tasks to be conducted within the parcel by the site workers.
- Review of the Emergency Action Plan and rally point, including the nearest emergency communications and telephone numbers.
- The nature, level, and degree of anticipated hazards (physical and chemical) involved in the site work.
- Required personal protective equipment.
- Decontamination procedures.

The HSO should also, at this time, ensure that all on-site HRP and HRP subcontractor personnel have read the HASP and signed the last page of the original (Section 11.0). If additional information on the site becomes available, the HSO will call additional briefings as necessary.

9.3 Morning Safety (Tailgate) Meeting

The HRP HSO will conduct a safety overview meeting at the beginning of each workday on the site. The meeting will be given in addition to any tailgate meetings that the subcontractor conducts. A summary of the meeting topics signed by the personnel attending the meeting is included in **Appendix D**.

9.4 Medical Surveillance

All HRP and HRP subcontractor personnel entering the Exclusion Zone must have had a physical within the 12 months prior to commencement of site work. A physician's written opinion regarding fitness for work for each employee including work limitations, if any, is on file at HRP, as applicable. A written opinion for all other site personnel must be supplied prior to commencement of site work to the HRP HSO. Any work limitations for site personnel, or relevant medical information (i.e. allergic reactions to medication) should be included in this Plan.

10.0 AUTHORIZATIONS

Personnel authorized to enter the Exclusion Zone include the personnel listed in Section 2.4. Persons not listed in Section 2.4 may enter the Exclusion Zone only if the appropriate training and medical fitness certifications have been supplied to either the HRP Project Manager or Health and Safety Manager and the HSO or his/her designee on site has approved site entry. All personnel entering or leaving the Exclusion Zone must sign in and sign out with the recordkeeper.

11.0 FIELD TEAM REVIEW

All HRP personnel shall sign below after reading this HASP and shall agree with the following statement:

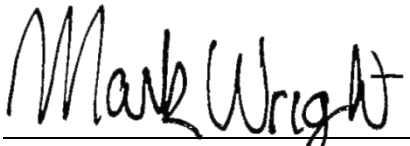
"I have read and understand this site specific Health and Safety Plan. I will comply with the provisions set forth therein."

Printed Name	Signature	Date

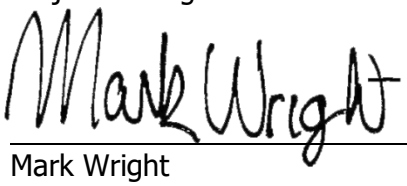
12.0 APPROVALS

This plan meets the minimum requirements of 29 CFR 1910.120 and 29 CFR 1929.65 and has been written for specified site conditions, dates, and personnel, and must be amended if conditions change. By their signature, the undersigned certify that this HASP is approved and will be utilized during activities at the project.

Stefan Truex — January 7, 2020
On-Site Health and Safety Officer



Mark Wright, PG, CHIMM, CSP — January 7, 2020
Project Manager



Mark Wright — January 7, 2020
Office Health and Safety Manager

Subcontractor:

I have been provided a copy of this HASP for review.

[name] — Date

Representing _____

The Designated Competent person representing [subcontractor] at the site will be

_____.

Any alternate Competent Person will be noted in the Daily Job Brief Record (**Appendix D**).

ADDITIONAL APPROVALS (or Re-Approvals)	
Name:	**Date:**

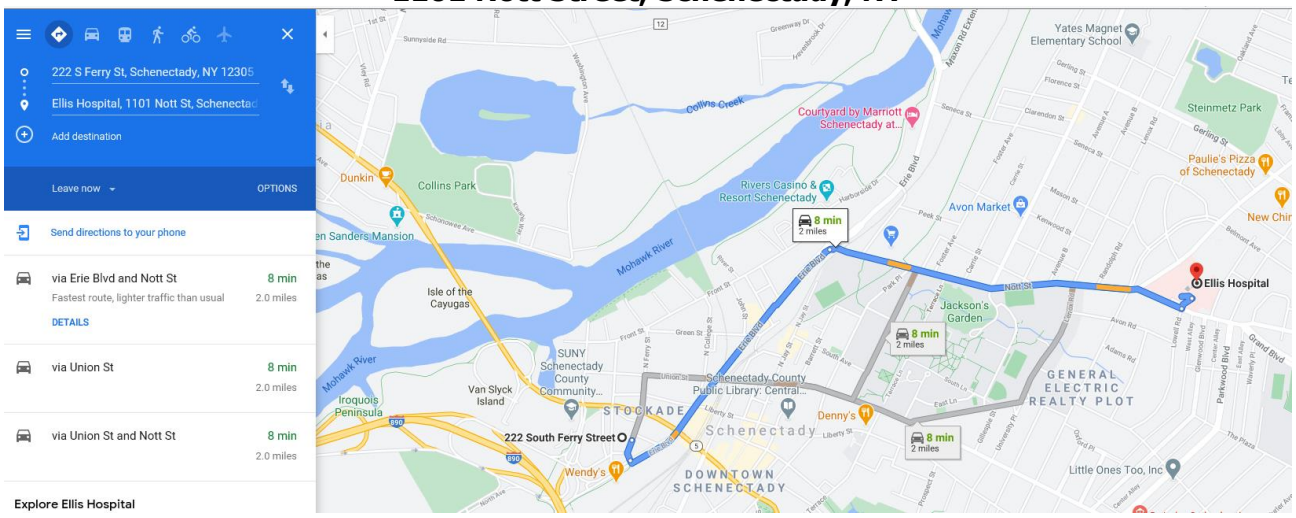
FIGURES

Figure 3: Route and Map to Nearest Hospital and Medical Center

Directions to Ellis Hospital

Total Estimated Time: 8 minutes
Total Estimated Distance: 2.0 miles

Ellis Hospital
1101 Nott Street, Schenectady, NY



TABLES

TABLE 1 CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE							
CONTAMINANT	**ODOR THRESHOLD**	**OSHA PEL[1]**	**TLV (ACGIH)**	**OSHA CEILING[2] /STEL**	**IDLH CONC.**	**ROUTES OF EXPOSURE**	**SYMPTOMS OF ACUTE EXPOSURE[3]**
1,1,1 Trichloroethane	44 ppm	350 ppm	350 ppm	---	700 ppm	Inh, Ing, Con	Head, Lass, CNS, Derm
1,1,2-Trichloroethane	---	10 ppm	10 ppm	----	[100 ppm]	Inh, Ing, Abs, Con	Eyes, Nose Irrit, Resp Irrit, CNS, Liver, Kidney Damage, Derm, [Carc]
1,2,4 Trimethylbenzene 1,3,5 Trimethylbenzene		25 mg/m^3	25 ppm	25 mg/m^3	ND	Inh, Ing, Con	Irrit Eyes, Skin, Nose, Throat, Resp Sys, Bron, Hyprochronic Anemia, Head, Drow, Ftg, Dizz, Nau, Inco, Vomit, Conf, Chemical Pneu (aspir lig)
1,1' Biphenyl	0.0062 mg/m^3	0.2 ppm	0.2 ppm	---	100 mg/m^3	Inh	
1,1-Dichloroethane	120 ppm	100 ppm	100 ppm	---	3,000 ppm	Inh, Ing, Con	CNS Depres, Skin Irrit, Liver, Lung and Kidney Damage
1,1-Dichloroethylene***	500 ppm	---	5 ppm	---	---	Inh, Con	CNS depress, Resp, [Carc]
1,2-Dichlorobenzene	50 ppm	50 ppm	25 ppm		200 ppm	Inh, Ing, Abs, Con	Irrit, Resp
1,2-Dichloroethylene	26-87 ppm	200 ppm	200 ppm	---	1,000 ppm	Inh, Ing, Con	Vomit, Irrit Eyes, Resp Sys; CNS Depres
1,2-Dichloropropane	130-190 ppm	75 ppm	75 ppm	---	[400 ppm]	Inh, Con, Ing	Eye irritation, Drow, light-headedness; irritated skin, [Carc]
1,3-Dichlorobenzene	---	----	---	----	---	----	----
1,4-Dichlorobenzene	20 ppm	75 ppm	10 ppm	----	[150 ppm]	Inh, Ing	[Carc], Eye Irrit, swelling around eye, headache, nausea, vomiting
1-Methylnaphthalene	0.02 ppm	---	---	---	---	---	---
2,4-Dichlorophenol	1.4007 mg/m^3	---	---	---	---	---	---
2,4-Dimethylphenol	0.001 mg/m^3	---	---	---	---	---	---
2-Methylnaphthalene	0.01 ppm	---	---	---	---	---	---
2-Methylphenol (o-cresol) [skin]	1.4 mg/L	5 ppm	5 ppm	---	250 ppm	Inh, Abs, Ing, Con	Confusion, depression, Resp Fail; difficulty breathing, irregular rapid respiration, weak pulse; skin, eye burns; dermatitis

TABLE 1 CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE							
CONTAMINANT	**ODOR THRESHOLD**	**OSHA PEL[1]**	**TLV (ACGIH)**	**OSHA CEILING[2] /STEL**	**IDLH CONC.**	**ROUTES OF EXPOSURE**	**SYMPTOMS OF ACUTE EXPOSURE[3]**
3, 3'-Dichlorobenzidine	---	None	**---**	---	---	Inh, Abs, Ing, Con	Sens, Derm, Head, Dizz, Burns, GI Upset, [Carc]
4-Isopropyltoluene	---	---	---	---	---	Con, Inh, Ing	Defat, Eryt
Acenephthene	0.5048 mg/m^3	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---	---
Acetone	47.5 mg/m^3	1,000 ppm	500 ppm		2,500 ppm	Ing, Inh, Con	Head, Dizz; Irrit Eyes, Nose, Throat; Derm, CNS, Depress, Derm
Acetonitrile	70 mg/m^3	40 ppm	20 ppm	---	500 ppm	Inh, Ing, Abs, Con	Asphy; Nau, Vomit; Chest Pain; Weak, Stupor, Convuls; Eye Irrit
Aldrin	---	0.25 mg/m^3	0.25 mg/m^3	---	25 mg/m^3	Inh, Abs, Ing, Con	Head, Dizz, Nau, Vomit, Mal, Myo, [Carc]
Anthracene (Coal Tar Pitch)	---	0.2 mg/m^3			[80 mg/m^3]	Inh, Con	Derm, bron, [carc]
Antifreeze		50 ppm	100 mg/m^3 (aerosol)	---	ND	Inh, Ing, Con	Irrit Eyes, Skin, Nose, Throat, Nau, Vomit, Abdom Pain, Lass, Dizz, Stup, Conv, CNS, Depres, Skin Sen
Arsenic	----	0.010 mg/m^3	0.01 mg/m^3	----	[5 mg/m^3]	Abs, Inh, Con, Ing	Derm; GI; Resp Irrit; ulceration of nasal septum; Resp, Irrit, Hyper Pig of Skin, [Carc]
Barium (elemental)	---	0.5 mg/m^3	0.5 mg/m^3		50 mg/m^3 (barium components)	Inh, Ing, Con	Resp. Irrit, GI, Muscle Spasm, Eye Irrit, Slow Pulse; skin burns
Benzene*	4.7 ppm	1 ppm	0.5 ppm	5 ppm	[500 ppm]	Inh, Ing, Abs, Con	Irrit Eyes, Nose, Throat; Head, Nau, Derm, Ftg, Anor, Lass, [Carc]
Benzo(a)anthracene (coal tar pitch)	---	0.2 mg/m^3			[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron
Benzo(a)pyrene (coal tar pitch)	---	0.2 mg/m^3	---		[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron
Benzo(b)fluoranthene (coal tar pitch)	---	0.2 mg/m^3	---		[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron
Benzo(g,h,i)perylene (coal tar pitch)	---	0.2 mg/m^3			[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron

TABLE 1 CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE							
CONTAMINANT	**ODOR THRESHOLD**	**OSHA PEL[1]**	**TLV (ACGIH)**	**OSHA CEILING[2] /STEL**	**IDLH CONC.**	**ROUTES OF EXPOSURE**	**SYMPTOMS OF ACUTE EXPOSURE[3]**
Benzo(k)fluoranthene (coal tar pitch)	---	0.2 mg/m^3			[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron
Bis (2-ethylhexyl) Phthalate**	N/A	5 mg/m^3	5 mg/m^3	10 mg/m^3	[5,000 mg/m^3]	Inh, Ing, Con	[Carc], Irrit Eyes
Cadmium (dust)	---	0.005 mg/m^3	Lowest concentration feasible 0.01 mg/m^3	---	[9 mg/m^3]	Inh, Ing	CNS, Resp, Irrit, Vomit, Cough, Head, Chills, Nau, Diarr, Pulm Edema, Dysp, Chest Tight, [Carc]
Carbazole	---	---	---	---	---	Inh	---
Carbon disulfide	0.1-0.2 ppm	20 ppm	1 ppm	30 ppm	500 ppm	Inh, Abs, Ing, Con	Diz, Head,Ftg, Ner, anorexia, trembling hands, loss of fine motor coord, gastritis, eye, skin burns, Derm
Carbon Tetrachloride***	21.4 ppm	10 ppm	5 ppm	25 ppm	[200 ppm]	Inh, Abs, Con, Ing	CNS Depres, Nau, Vomit, Irrit, Irrit Eyes, Skin, Drow, Dizz, [Carc]
Chlorobenzene***	0.98 mg/m^3	75 ppm	10 ppm	---	1,000 ppm	Inh, Ing, Con	Irrit, Drow, CNS, Depres, Eyes, Skin, Nose, Inco.
Chloroform***	85 ppm	50 ppm	10 ppm	50 ppm	[500 ppm]	Inh, Ing. Con, Abs	Dizz, Dullness, Nau, Head, Ftg, Irrit Eyes, Skin, Conf, [Carc]
Chromium	---	1 mg/m^3	0.5 mg/m^3	---	250 mg/m^3	Inh, Ing, Con	Irrit Eyes, Sens Derm
Chrysene (coal tar pitch)		0.2 mg/m^3	---		[80 mg/m^3]	Inh, Con	Derm, Bron, [Carc]
Cis-1-2-Dichloroethylene	---	200 ppm	200 ppm	----	1000 ppm	Inh, Con, Ing	Irrit Eyes, Resp, CNS Depress
Copper (dusts and mists) (fumes)		1 mg/m^3 0.1 mg/m^3	1 mg/m^3 0.2 mg/m^3	----	100 mg/m^3	Inh, Ing, Con	Vomit, Derm, CNS, Irrit, Derm, Nau, Taste (metallic)
Cyanide	0.9 mg/m^3	5 mg/m^3	5 mg/m^3 (10 min)	5 mg/m^3	25 mg/m^3	Inh, Ing, Abs, Con	Weak, Head, Nau, Conf, Cyan
Dibenzo(a,h)anthracene						Inh, Ing	
Dichloromethane	540 mg/m^3	25 ppm	50 ppm	125 ppm	[2,300 ppm]	Inh, Abs, Ing, Con	Irrit Eyes, Skin, lass, drow, dizz, Numb, tingl, Nau, [Carc]

TABLE 1 CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE							
CONTAMINANT	**ODOR THRESHOLD**	**OSHA PEL[1]**	**TLV (ACGIH)**	**OSHA CEILING[2] /STEL**	**IDLH CONC.**	**ROUTES OF EXPOSURE**	**SYMPTOMS OF ACUTE EXPOSURE[3]**
Diethylphthalate**	---	None	5 mg/m^3	---	N.D.	Inh, Ing, Con	Irrit Eyes, Skin, Nose, Throat, Head, Dizz, Nau, Lac, Possible Polyneur, Vestibular Dysfunc, Pain, Numb, lass, Spasms in Arms and Legs
Di-n-octylphthalate	---	---	---	---	---	Inh, Ing, Con	---
Dimethylpthalate	---	5 mg/m^3	5 mg/m^3	---	2,000 mg/m^3	Inh, Ing, Con	Irrit, Resp, Abdom
Ethyl Benzene*	8.7 mg/m^3	100 ppm	100 ppm	125 ppm	700 ppm	Inh, Abs, Con	Head. Irrit, Derm, Narc., Irrit Eyes, Skin; Coma
Fluoranthene		0.2 mg/m^3	0.2 mg/m^3			Ing, Inh	[Carc]
Fluorine*	6 mg/m^3	0.1 ppm	1 ppm	2 ppm	25 ppm	Inh, Con	
Fuel Oil/#2	----	----	300 ppm	----		Inh, Abs, Ins, Con	Irrit Eyes, Skin, Derm, Head, Ftg, Blurred Vision, Dizz, Conf
Ideno(1,2,3-cd)pyrene		0.2 mg/m^3				Ing, Inh	
Lead (inorganic forms and dust as Pb)****		0.05 mg/m^3	0.05 mg/m^3		100 mg/m^3	Inh, Ing, Con	Irrit, Cns, Vomit, Narco, Weak, Pall, Insom, Lass, Abdom, Constip
Mercury (organic alkyl compounds) [skin]		0.01 mg/m^3	0.01 mg/m^3	0.03 mg/m^3	2 mg/m^3	Inh, Abs, Ing, Con	Irrit Eyes, Skin; Cough & Chest Pain, Bron Pneu, Tremor, Insom, Irrty, Indecision, Head, Ftg, Weak, Stomatitis, Salv, GI Dist, Anor, Low-wgt, Ataxia
Mercury (compounds)	----	0.1 mg/m^3	0.025 mg/m^3	0.1 mg/m^3	10 mg/m^3	Inh, Abs, Ing, Con	Irrit Eyes, Skin; Cough & Chest Pain, Bron Pneu, Tremor, Insom, Irrty, Indecision, Head, Ftg, Weak, Stomatitis, Salv, GI Dist, Anor, Low-wgt, Ataxia
Methanol	13.1150 mg/m^3	200 ppm	200 ppm	---	6,000 ppm	Inh, Abs, Ing, Con	Irrit Eyes, Skin, Resp, Head, drow, dizz, Nau, Vomit, vis dist, Optic, derm
Methyl Ether	----	----	---	----	---	Inh	Poison

TABLE 1 CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE							
CONTAMINANT	**ODOR THRESHOLD**	**OSHA PEL[1]**	**TLV (ACGIH)**	**OSHA CEILING[2] /STEL**	**IDLH CONC.**	**ROUTES OF EXPOSURE**	**SYMPTOMS OF ACUTE EXPOSURE[3]**
Methyl Ethyl Ketone (2-Butanone)***	0.7375 mg/m^3	200 ppm	200 ppm	300 ppm	3,000 ppm	Inh, Con, Ing	Irrit Eyes, Skin, Nose, Throat, Head, Dizz, Vomit, Derm
Methylene Chloride	540 mg/m^3	25 ppm	50 ppm	125 ppm	[2,300 ppm]	Inh, Ing, Con, Abs	Ftg, Weak, dizz, drow, Numb, Tingle [carc], Irrit Eyes, Skin, Nau
Mineral Spirit	20 ppm	500 ppm	100 ppm	---	20,000 mg/m^3	Inh, Ing, Con	Irrit Eyes, Nose, Throat, Dizz, Derm, Chemical pneu
Methyl tert butyl ether (MTBE)	---	---	50 ppm	---		Inh, Abs	
Naphtha	0.86 ppm	100 ppm	400 ppm	---	1,000 ppm	Inh, Con, Ing	Light Head, Drow, Irrit, Derm, Irrit Eyes, Skin, Nose
Naphthalene*	0.084 ppm	10 ppm	10 ppm	15 ppm	250 ppm	Inh, Abs, Ing, Con	Eye irritation; headache; confusion, excitement, malaise (vague feeling of ill-being); nausea, vomiting, abdominal pain; irritated bladder; profuse sweating; renal shutdown; dermatitis
Nickel (metal)	---	1 mg/m^3	1.5 mg/m^3	---	[10 mg/m^3]	Inh, Ing, Con	Head, Verti, Nau, Vomit, Pain, Cough, Weak, Convuls, Delirium, Pneu, ,[Carc]
Nitrobenzene	0.0235 mg/m^3	1 ppm	1 ppm	---	200 ppm	Inh, Abs, Ing, Con	Irrit Eyes, Skin, Anoxia, Derm, Anem, Methem
n-Butylbenzene	---	---	---	---	---	---	---
n-Propylbenzene	---	---	---	---	---	---	---
PCBs 42% chlorine (Aroclor 1242)	---	1 mg/m^3 (skin)	1 mg/m^3 (skin)	---	[5 mg/m^3]	Inh, Abs, Ing, Con	Irrit Eyes, Chloracne, Liver Damage [carc]
PCBs 54% chlorine (Aroclor 1254)	---	0.5 mg/m^3 (skin)	0.5 mg/m^3 (skin)	---	[5 mg/m^3]	Inh, Abs, Ing, Con	Irrit Eyes; Chloracne, Liver Damage [carc]
Petroleum Distillates	---	500 ppm	100 ppm		[1,100 ppm]	Inh, Ing, Con	Dizz, Drow, Head, Dry Skin, Nau, Irrit Eyes, Nose, Throat, [Carc]

TABLE 1 CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE							
CONTAMINANT	**ODOR THRESHOLD**	**OSHA PEL[1]**	**TLV (ACGIH)**	**OSHA CEILING[2] /STEL**	**IDLH CONC.**	**ROUTES OF EXPOSURE**	**SYMPTOMS OF ACUTE EXPOSURE[3]**
Phenanthrene (Coal Tar Pitch)		0.2 mg/m^3	0.2 mg/m^3		[80 mg/m^3]	Inh, Con	Derm, bron, (carc)
Phenol**	0.1786 mg/m^3	5 ppm	5 ppm	---	250 ppm	Inh, Abs, Ing, Con	Irrit Eyes, Nose, Throat, Anor, Low Wgt, Weak Musc Ache, Pain, Dark Urine, Cyan, Liver, Kidney Damage, Skin, Burns, Derm, Ochronosis, Tremor, Convuls, Twitch
Pyrene		0.2 mg/m^3			[80 mg/m^3]	Inh, Con	[Carc]
Sec-Butylbenzene	---	---	---	---	---	---	---
Selenium	N/A	0.2 mg/m^3	0.2 mg/m^3	Unknown	1 mg/m^3	Inh, Ing, Con	Irrit, Head, Fever, Chills, Skin/Eye Burns, Metallic Taste, GI, Dysp, Bron
Silver (metal and soluble compounds as Ag)	----	0.01 mg/m^3	Metal = 0.1 mg/m^3 Soluble 0.01 mg/m^3		10 mg/m^3	Inh, Ing, Con	Blue-gray Eyes, Nasal Septum, Throat, Skin; Irrit, Ulcer, Skin, GI Dist
Tetrachloroethylene (a.k.a. perchloroethylene)***	4.68 ppm	100 ppm	25 ppm	200 ppm	[150 ppm]	Inh, Ing, Con, Abs	Irrit Eyes, Skin, Nose, throat, Resp. Nau, flush face, Neck, dizz, inco, head, drow, eryth, [Carc]
Toluene*	2.14 ppm	200 ppm	50 ppm	300 ppm	500 ppm	Inh, Abs, Ins, Con	Resp, Irrit, Ftg, Conf, Dizz, Head, Derm, Euph, Head, Dilated Pupils, Lac, Ner, Musc FTg, Insom, Pares, Derm, lass
Petroleum Distillates (naphtha)	10 ppm	100 ppm	400 ppm	---	1,000 ppm	Con, Inh, Ing	---
Trans 1,2-Dichloroethylene	0.3357 mg/m^3	200 ppm	200 ppm	---	1,000 ppm	Inh, Con	Irrit, Resp, CNS depress
Trichloroethylene***	21.4 ppm	100 ppm	50 ppm	200 ppm	[1,000 ppm]	Inh, Con, Abs, Ing	Head, Vert, Nau, Vomit, Derm, Vis Dist, Tremors, Som, Nau, Irrit Eyes, Skin, Card Acc., Ftg, [Carc]
Trichlorofluoromethane	28 mg/m^3	1,000 ppm	1,000 ppm		2,000 ppm	Inh, Con, Ing	Inco, trem, derm, card, asph, frost
Trichlorotrifluoroethane	45 ppm	1,000 ppm	1,000 ppm	1,250 ppm	2,000 ppm	Inh, Con, Ing	Irrit Skin, throat, Drow, Derm, CSN, Depress

TABLE 1 CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE							
CONTAMINANT	**ODOR THRESHOLD**	**OSHA PEL[1]**	**TLV (ACGIH)**	**OSHA CEILING[2] /STEL**	**IDLH CONC.**	**ROUTES OF EXPOSURE**	**SYMPTOMS OF ACUTE EXPOSURE[3]**
Vinyl Chloride***	10-20 ppm	1 ppm	1 ppm	5 ppm	ND	Inh, Con	Lass, Abdom, Gi Bleeding; Hepatomegaly; Pallor or Cyan of Extremities; Liq: Frostbite; [Carc]
VM&P Naphtha (petroleum naphtha)	---	---	300 ppm	---	ND	Con, Ing, Inh	Irrit Eyes, Nose, Throat, Dizz, drow, head, nau, dry skin, chem. Pneumonitis
Xylene*	4.5 mg/m^3	100 ppm	100 ppm	150 ppm	900 ppm	Inh, Ing, Abs, Con	Dizz, Drow, Irrit, Excite, Nau, Vomit, Eyes, Skin, Nose, Throat
Zinc (oxide)	---	5 mg/m^3	2 mg/m^3	---	500 mg/m^3	Inh	Dry Throat, Cough, Chills, Tight Chest, Blurred Vision
4,4' DDD	---	---	---	---	---	Ing, Inh, Con	---
4,4' DDE	---	---	---	---	---	Ing, Inh, Con	---
4,4' DDT	5.0725 mg/m^3	1 mg/m^3	1 mg/m^3	---	[500 mg/m^3]	Inh, Abs, Ing, Con	Irrit Eyes, Skin, Pares, Tongue, Lips, Face, Trem, Anxi, Dizz, Conf, Mal, Head, Lass, Conv, Paresi Hands, Vomit, [Carc]
Aldrin		0.25 mg/m^3	0.25 mg/m^3	---	[25 mg/m^3]	Inh, Abs, Ing, Con	Head, Dizz, Nau, Vomit, Mal, Myo [Carc]
Chlordane [skin]	0.0084 mg/m^3	0.5 mg/m^3	0.5 mg/m^3		[100 mg/m^3]	Inh, Abs, Ing, Con	Blurred vision, confusion, delirium, cough; abdominal pian, nausea, vomiting diarrhea; irritability, tremor, convulsions [Carc]
EDB	76.8 mg/m^3	20 ppm		30 ppm	[100 ppm]	Inh, Abs	Resp. Irr, Eye Irr. [Carc]
Endosulfan I Endosulfan II	---	0.1 mg/m^3	0.1 mg/m^3	---	N.D.	Inh, Abs, Ing, Con	Irrit, Skin, Nau, Conf, Agit, Flush, Dry, Trem, Conv, Head
Endosulfan Sulfate		---	0.1 mg/m^3	---	---	Ing, Con	---
Endrin	1.8 x 10^{-2} ppm	0.1 mg/m^3	0.1 mg/m^{-3}	---	2 mg/m^3	Inh, Abs, Ing, Con	Epil Conv, Stup, Head, Dizz, Abdom, Nau, Vomit, Insom, Agress, Conf, Drow, Lass, Anor
Endrin Aldehyde	1.8 x 10^{-2} ppm	---	---	---	---	Inh, Con	---
Endrin Ketone	---	---	---	---	---	---	---

TABLE 1
CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Heptachlor	0.02 ppm	0.5 mg/m^3	0.05 mg/m^3	---	[35 mg/m^3]	Inh, Abs, Ing, Con	In animals, Trem, Conv, [Carc]
Heptachlor epoxide	0.02 ppm	---	0.05 mg/m^3	---	---	Ing, Inh	Trem, Conv, [Carc]
Hydrogen Cyanide(Hydrocyanic Acid)	0.9 mg/m^3	10 ppm (11 mg/m^3)	4.7 ppm	4.7 ppm	50 ppm	Con, Inh, Ing, Abs	Asphy & death at high levels; Weak, Head, Conf, Nau, Vomit, Incr. Rate and Depth of Respiration or Respiration Slow and Gasping

NOTES

* = Constituent found in ETPH

**=Constituent found in Acid/Base/Neutral Extractable Compounds

***=Constituent found in Volatile Organic Compounds

****=Constituent found in Leaching Lead

[1]PEL = Permissible Exposure Limit. If no PEL is available, then the NIOSH Threshold Limit Value (TLV) should be used, if available.

[2]Ceiling limit or Short Term Exposure Limit (STEL), if available. Again, the NIOSH TLV may be used if no OSHA standard exists.

[3]Abbreviations are contained on the next page

[ ] = Potential Occupational Carcinogen

ND = Not Been Determined

ABBREVIATIONS

abdom = Abdominal
abs = Absorption
aggress = Aggressiveness
agit = Agitation
anor = Anorexia
anos = Anosmia (loss of the sense of smell)
Anxi = anxiety
anem – Anemia
aspir = Aspiration
asph – asphyxia
bron = Bronchitis
bron pneu = Bronchitis pneumonitis
[carc] = Potential occupational carcinogen
Card = Cardiac arrhythmias
CNS = Central nervous system
conf = Confusion
constip = Constipation
con = Skin and/or eye contact
conv = Convulsions
corn = Corneal
cyan = Cyanosis
defat = Defatting
depres = Depressant/Depression
derm = Dermatitis
diarr = Diarrhea
dist = Disturbance
dizz = Dizziness
drow = Drowsiness
dry = Dry mouth
dysp = Dyspnea (breathing difficulty)
emphy = Emphysema
epil-conv = Epileptiform convulsions
eryth = Erythema
euph = Euphoria
fib = Fibrosis
frost = frostbite
ftg = Fatigue
flush = Flushing
GI = Gastrointestinal
head = Headache
hyperpig = Hyperpigmentation
inco = Incoordination
ing = Ingestion
inh = Inhalation
inj = Injury
insom = Insomnia
irrit = Irritation
irrty = Irritability
lac = Lacrimination (discharge of tears)
lass = Lassitude (weakness, exhaustion)
li-head = Lightheadedness
liq = Liquid
low-wgt = Weight loss
mal = Malaise (vague feeling of discomfort)
malnut = Malnutrition
methem = Methemoglobinemia
myo = Myochonic (jerks of limbs)
mg/m = milligrams/cubic meter
muc memb = Mucous membrane
mus ftg = Muscle fatigue
narco = Narcosis
nau = Nausea
ner = Nervousness
numb = Numbness
optic = Optic nerve damage (blindness)
pall = Facial pallor
parap = Paralysis
ppm = Parts per million
pares = Paresthesia
paresi = Paresis
peri neur = Peripheral neuropathy
pneu = Pneumonitis
prot = Proteinuria
pulm = Pulmonary
peri neur = Peripheral neuropathy
pneu = Pneumonia
prot = Proteinuria
pulm = Pulmonary
repro = Reproductive
resp = Respiratory
skin sen = skin sensitization
salv = Salvation
som = Somnolence (sleepiness unnatural drowsiness)
subs = Substernal (occurring beneath the sternum)
stup = Stupor
sys = System
tingle = tingle limbs
trem – Tremors
verti = Vertigo
vis dist = Visual disturbance
vomit = Vomiting
weak = Weakness

APPENDIX A
Safety and Logistics Planning Call Log

APPENDIX B
Personnel Log

PERSONNEL LOG

Name	Representing	Date	Time In	Time Out

APPENDIX C
Supervisor's Investigation Report

INCIDENT REPORT

Section 1.0: Complete By Employee and Project Manager

(provide to Human Resources Manager) Incident Case No. _____

Employee Name: Employee Title/Position:	Age: Sex: □ Female □ Male	Time employee began work: Date of Incident: Time of Incident:	Weather Conditions: Date of Report: Time Report Completed:
Department: Office Location: Supervisor:			
Employee Address: Street: City/Town: Zip Code: Phone Number:	Location of Incident: Address: City/Town: State:		

Type of Incident:
□ Motor Vehicle Accident or □ Near Miss or □ Injury occurred during routine work

□ Company or □ Personal Vehicle?

First-Aid performed on-site? Yes / No
Other Medical Attention Provided? Yes / No

Time lost from work? Yes / No Number of Hours: or Number of Days:

If injuries occurred, list names and describe nature, degree, and body part injured: Number of injured:_____

1.

2.

3.

4.

Complete Section 3.0

WITNESS STATEMENT: WHAT HAPPENED AND WHAT WAS THE EMPLOYEE DOING BEFORE THE INCIDENT OCCURRED? WHAT WAS THE EMPLOYEE DOING WHEN THE INCIDENT OCCURRED? WHAT WAS THE EMPLOYEE DOING AFTER THE INCIDENT OCCURRED?	Describe what took place? Who was at fault for vehicle accidents, citation? Was power equipment involved, if so, describe?

WHAT WAS THE NATURE OF THE INJURY OR ILLNESS?	Tell us the body part that was affected and how it was affected – be specific Examples: strained lower back; chemical burn on hand
WHAT WAS THE ROOT CAUSE OF THE INCIDENT? List other individual involved in Section 3. COULD INCIDENT HAVE BEEN AVOIDED? HOW?	Get all the facts by studying the Job and situation involved. Question by use of WHY - WHAT – WHERE – WHEN – WHO – HOW Were there other factors (e.g., noise, ventilation, illumination, fatigue, age, medical conditions) that contributed to the accident?
WAS TRAINING FOR THE WORK ACTIVITY PROVIDED: TYPE: DATES:	WERE WARNING SIGNS OR LABELS POSTED:
WHAT SHOULD BE DONE? HOW CAN INCIDENT BE AVOIDED IN THE FUTURE?	WAS PERSONAL PROTECTIVE EQUIPMENT USED? NEEDED: AVAILABLE: CONTRIBUTED TO INJURY:
WHAT HAVE YOU DONE THUS FAR?	Take or recommend action, depending upon your authority. Follow up – was action effective?
HOW WILL THIS IMPROVE OPERATIONS?	OBJECTIVE Eliminate job hindrances

Completed by:	Reviewed by:	Date

Section 2.0: Complete By Supervisor or Human Resources Manager

Name: Role (witness, observer, injured, participant, etc.):	Address: Phone Number
Name: Role:	Address: Phone Number
Name: Role:	Address: Phone Number
Name: Role:	Address: Phone Number
Name: Role:	Address: Phone Number
Name: Role:	Address: Phone Number

Section 3.0: Corrective Actions (To be Completed by OHSM and CHSO)

Are corrective actions warranted? □ Yes □ No If so, proceed with corrective action list

Corrective Actions. List long term actions to be taken as a result of incident (use additional sheets if needed)	How was the corrective action implemented?	Target date of completion

OHSM Name:	CHSO Name:
OHSM Signature:	CHSO Signature:

End of incident report. Section 4.0 is to be completed and maintained by the Human Resources Department.

Section 4.0: Complete By Human Resources Manager

Incident Report Case No. _____

The information on this page is considered CONFIDENTIAL and must be treated as such. This page will only be available to Human Resources Department or the employee's supervisor.

Insured Name:	Employee Hire Dates: Start at Company: Current Position:
Policy Number:	Is employee a company: Owner, Officer, Neither.
Employee Soc. Sec. No.:	Marital Status: Spouse Name:
Was Employee Pay Interrupted, or paid in full for time:	Employee Pay Period: Weekly, Bi-Weekly, Monthly, Other (specify)
Employee Compensated by hourly or salary? Wage Information: (tips, bonuses, commission)	Typical No. of hours worked per day____, hours per week____. Typical Start of day time_____, end of day time_____.
Date of Stop Work: Date Returned to Work:	How often has employee visited doctor/hospital?
Doctor: Authorized by Co.: Y / N Street: City/Town: Zip Code: Phone Number: Authorized by Co.: Y / N	Hospital: Street: City/Town: Zip Code: Phone Number: Authorized by Co.: Y /N
Was the employee treated in an emergency room? □ Yes □ No	Was employee hospitalized overnight as an in-patient? □ Yes □ No If so, for how many days? _____

APPENDIX D
Daily Job Brief Record

JOB BRIEF RECORD

Person Conducting	Site Name/Address	HRP Client Name/Job #
Client Contact/Phone	HRP H&S Rep.	HRP Supervisor
Date/Time	Number Attending	Weather

Designated Competent Person: _____

Description of Work: _____

Attendees (use additional sheets as needed):

Name	Company	Signature

Emergency Telephone Numbers

FIRE / POLICE / AMBULANCE: 911

Hospital Name & Location: _____

NYSDEC Spill Line: 1-518-457-7362

National Response Center: 800-424-8802

CBYD: 800-922-4455

Health & Safety Manager: Mark Wright: 203-308-0983

HAZARDS

- ☐ Toxic
- ☐ Corrosive
- ☐ Flammable
- ☐ Combustible
- ☐ Reactive
- ☐ Path Waste
- ☐ Asbestos
- ☐ Extreme Cold/Heat
- ☐ Drains/Sumps
- ☐ Sharp Objects
- ☐ Drilling in Soil
- ☐ Lighting
- ☐ Slips/Trips/Falls
- ☐ Lead
- ☐ Soil Excavation
- ☐ Tank Excavation
- ☐ Trenching
- ☐ Floor Holes
- ☐ Working on/near Water
- ☐ Underground/Overhead Utilities
- ☐ Vehicle Traffic
- ☐ Hot Work
- ☐ Vac Truck
- ☐ Ladders
- ☐ Noise
- ☐ Lifting
- ☐ Powerwashing
- ☐ Elevated Work Area
- ☐ Live Electrical Circuits
- ☐ Pneumatic Tools
- ☐ Drum Handling
- ☐ Abrasive Blasting

PERSONAL SAFETY

- ☐ Supplied Air Respirator
- ☐ Fully Encapsulating Suit
- ☐ Overboots
- ☐ Safety Glasses
- ☐ Reflective Vests
- ☐ Hearing Protection
- ☐ SAR w/Egress Bottle
- ☐ Flash Suit
- ☐ Lifebelt/Lanyard
- ☐ Chemical Goggles
- ☐ Eye Wash
- ☐ Evacuation Plan
- ☐ SCBA
- ☐ NOMEX (flam resistant)
- ☐ Hardhats
- ☐ Face Shield
- ☐ Safety Shower
- ☐ Communications
- ☐ Air Purifying Respirator Cartridge: _____
- ☐ Protected Coveralls, Type: _____
- ☐ Outer Gloves, Type: _____
- ☐ Inner Gloves, Type: _____
- ☐ First Aid Kit
- ☐ Properly Sloped Excavation/ Trench
- ☐ PFD's
- ☐ Ventilation

FIRE SAFETY

- ☐ Fire Extinguishers
- ☐ Hot Work Permit
- ☐ Fire Blanket
- ☐ Explosion-Proof Equipment
- ☐ Equipment Grounded & Bonded
- ☐ Non-Sparking Tools
- ☐ Eliminate Ignition Sources
- ☐ Area Kept Wet
- ☐ Smoking Area Designated Location: _____
- ☐ Alarm Box in Area, Location: _____
- ☐ Fire Hose Laid Out

ISOLATE EQUIPMENT

- ☐ Establish Exclusion Zone/Traffic Cones
- ☐ Work Signs
- ☐ Stop Transfers
- ☐ Caution Tape Area
- ☐ GFCIS
- ☐ Temporary Fencing

ELECTRICAL EQUIPMENT

- ☐ LockOut/TagOut
- ☐ Non-Conductive Tools
- ☐ Equipment Grounded
- ☐ FR Suits/Coveralls

AIR MONITORING

Type of Meter: _____ Date last calibrated: _____

SUBSTANCE	LEVEL B MAX.	ACTION LEVEL/LEVEL C MAX.	LEVEL D MAX.

Health & Safety Comments / Topics & Safety Rules Reviewed / Questions / Concerns:

_____

_____

_____

_____

_____

_____

_____

Contaminants of Concern: _____

HEALTH & SAFETY SIGNATURE: _____ Date: _____

Is there a Site-Specific or Generic Health & Safety Plan available on-site? Yes ☐ No ☐

☐ HAZARD ZONES NOT APPLICABLE, GENERAL WORK AREA

Level D ☐ Modified Level D ☐ Level C ☐

Anything above Level C, foreman should use a Confined Space Permit/Form.

Note: HOT WORK requires a hot work permit and minimum 20# fire extinguisher. Foreman or HSM must record at least one contaminant of concern above. Toxic plants may be considered a COC if no chemical hazards are expected.

LEVEL C

Respirator Type: _____

Name	Zone	Time In	Time Out	Decon Type

Before performing Level C work, ALL employees must review HRP's Respiratory Protection Program - a copy of which must be on-site along with a HASP.

APPENDIX E
Equipment Calibration Log

EQUIPMENT CALIBRATION LOG		
Instrument	**Calibration Date**	**Calibrated By**

APPENDIX F
Safety Data Sheets

SAFETY DATA SHEET

1. Identification

Product identifier **S-MicroZVI or S-MZVI**

Other means of identification None.

Recommended use Remediation of contaminants in soil and groundwater.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name Regenesis

Address 1011 Calle Sombra
San Clemente, CA 92673 USA

General information 949-366-8000

E-mail CustomerService@regenesis.com

Emergency phone number For Hazardous Materials Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC 24/7 at:

USA, Canada, Mexico 1-800-424-9300

International 1-703-527-3887

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Contact with acids liberates very toxic gas.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Glycerol	56-81-5	40 - 50
Zero valent iron	7439-89-6	30 - 50
Iron(II) sulfide	1317-37-9	1 - 4

Composition comments All concentrations are in percent by weight unless otherwise indicated.
Components not listed are either non-hazardous or are below reportable limits.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed. Combustion products may include: carbon oxides, iron oxides.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	This material will not burn until the water has evaporated. Residue can burn. When dry may form combustible dust concentrations in air.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Glycerol (CAS 56-81-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).

Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Skin protection	
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Viscous metallic suspension.
Color	Dark gray
Odor	Slight.
Odor threshold	Not available.
pH	7 - 8 (When mixed with water) 10 (As shipped)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	3000 cP (77 °F (25 °C))
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Contact with acids will release highly flammable and highly toxic hydrogen sulfide gas. Can react with some acids with the evolution of hydrogen.
Conditions to avoid	Contact with incompatible materials. Avoid drying out product. May generate combustible dust if material dries.
Incompatible materials	Strong oxidizing agents. Acids.

Hazardous decomposition products No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation Spray mist may irritate the respiratory system. For dry material: Dust may irritate respiratory system.

Skin contact Prolonged or repeated exposure may cause minor irritation.

Eye contact Direct contact with eyes may cause temporary irritation.

Ingestion May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
Glycerol (CAS 56-81-5)		
Acute		
Dermal		
LD50	Rabbit	> 18700 mg/kg
Oral		
LD50	Rat	27200 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Further information Contains an ingredient known to produce adverse effects in a small percentage of hypersensitive individuals exhibited as respiratory distress and allergic skin reactions.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Glycerol (CAS 56-81-5)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	> 10000 mg/l, 24 Hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Glycerol (CAS 56-81-5)	-1.76

Mobility in soil No data available.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Glycerol (CAS 56-81-5)	Other Flavoring Substances with OSHA PEL's

US state regulations

US. Massachusetts RTK - Substance List

Glycerol (CAS 56-81-5)

US. New Jersey Worker and Community Right-to-Know Act

Glycerol (CAS 56-81-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Glycerol (CAS 56-81-5)

US. Rhode Island RTK

Glycerol (CAS 56-81-5)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Zero valent iron (CAS 7439-89-6)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 27-December-2018

Revision date -

Version # 01

HMIS® ratings Health: 1
Flammability: 1
Physical hazard: 0

NFPA ratings

Disclaimer Regenesis cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

APPENDIX F – Community Air Monitoring Program (CAMP)

Appendix 1A
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

Site Specific Additions to Generic CAMP:

DOH has requested a daily copy of the CAMP data as it becomes available.
Daily reports will be emailed to :
jacquelyn.nealon@health.ny.gov
If there are any exceedances to the CAMP, DEC and DOH will be notified as soon as possible.

DOH contact is Jacquelyn Nealon
518 402 7883

APPENDIX G – Site Management Forms

SITE MANAGEMENT FORM

NYSDEC Site # 447047

222 South Ferry Street

Schenectady County

Schenectady, New York

Date:_____ Time:_____

Inspector:_____

Inspection Item	Satisfactory/Unsatisfactory
Monitoring Well Integrity	
Are all Site monitoring wells visible?	
Are all surface seals present?	
Are protective casings/covers in good condition?	
Are any protective casings missing bolts?	
Site Cover System Integrity	
Any indication of a breach in the cover system?	
Are any exposed ground surface areas present?	
Change of Use	
Any indications of active construction at the property?	
Any indications of construction at adjacent properties?	

Comments:_____

_____

_____

_____

_____

_____

APPENDIX H – Field Activities Plan (FAP) and Quality Assurance Project Plan (QAPP)

MOVE YOUR ENVIRONMENT FORWARD

FIELD ACTIVITIES PLAN (FAP) AND QUALITY ASSURANCE PROJECT PLAN (QAPP)

222 Ferry Street Site
NYSDEC Site No. 447047
222 South Ferry Street
Schenectady, New York

Prepared For:

Contract# D009808, Work Assignment No. 12
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7012

Prepared By:

HRP Associates, Inc.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065

HRP #: DEC1012.RA

Issued On: April 26, 2022

TABLE OF CONTENTS

Figures

Tables

1.0 INTRODUCTION

1.1 Purpose and Objectives

This site-specific Field Activities Plan (FAP) describes the methods, procedures, and protocols to be used while sampling at the 222 Ferry Street Site (the Site). The Site is located at 222 South Ferry Street in the City of Schenectady, Schenectady County, New York, and is depicted on **Figure 1**.

The FAP has been designed to provide guidance in the assessment of groundwater at the site, following application of the in-situ, enhanced biological degradation remedy implemented at the Site. The scope of post-remediation monitoring activities includes:

- Assessment of the remedial treatment components in achieving their performance criteria;
- Evaluating site information periodically, to confirm that the remedy continues to be effective in protecting public health and the environment;
- Sampling and analysis of appropriate media; and
- Reporting of the results of monitoring, providing conclusions and recommendations.

This FAP has been prepared as part of a Site Management Plan (SMP) per The New York State Division of Environmental Remediation Technical guidance for Site Investigation and Remediation (DER-10). The formal SMP and associated long-term monitoring plan will be modified and updated based on the results of data collected following protocols outlined in the SMP.

1.2 Site Description and Background Information

The 0.98-acre Site is comprised of a vacant, asphalted parking lot. Vegetation in the form of small trees and thickets are present beyond the edge of asphalt on northwestern and southeastern portions of the Site. The Site is bordered to the east by South Ferry Street and to the west by South Church Street. An apartment building and catering company are present immediately to the north of the subject Site and row-style apartments, two commercial businesses (Pantalon Construction & Stockade Storage and Mohawk Skill Games), and a vacant lot are located immediately to the south of the subject Site. Two catch-basins are located on the eastern portion of the Site and remnants of electrical gate systems are located at the Site access points along South Ferry Street and South Church Street. An approximate four-foot-high chain-link fence exists along the Site's perimeter, with the exception of the Site access points.

During previous environmental investigations conducted at the Site, a total of 17 monitoring wells were installed within the Site property boundaries. Groundwater beneath the Site has been measured at 5 to 8 feet below grade (ft bg) and groundwater flow at the Site is generally to the north toward the Mohawk River, to which regional groundwater discharges. The Site is relatively flat with no discernable slope. The monitoring well locations are shown of **Figure 2**.

Laboratory analysis of groundwater samples collected from on-site wells during previous environmental investigations identified several chlorinated volatile organic compounds (CVOCs) in concentrations exceeding New York State Department of Environmental Conservation (NYSDEC)

Ambient Water Quality Standards (AWQS). The highest concentrations of CVOCs have been found in monitoring wells in the approximate center of the site. This area has been identified as a source area for CVOCs in groundwater.

1.3 Interim Remedial Measure: In-Situ Groundwater Treatment

The Interim Remedial Measure was completed by Regenesis Remediation Services (RRS) and Precision Environmental Services Inc. (PES) using a Geoprobe® 6620DT drill rig and direct-push methods to install temporary injection points to a completion depth of 16 feet bgs. A reagent solution was injected into the boreholes under pressure, and included the application of the following materials:

- 3-D Microemulsion® (3DME), a pH neutral, electron donor;
- BDI Plus® (BDI), an enriched natural microbial consortium containing species of *Dehalococcoides sp.* (DHC) which are capable of completely dechlorinating contaminants during in-situ anaerobic bioremediation processes; and
- S-MicroZVI® (S-MicroZVI), an in-situ chemical reduction (ISCR) reagent containing zero valance iron (ZVI).

Following the completion of injection activities, all injection boreholes were sealed.

2.0 INTERIM REMEDIAL MEASURE MONITORING PLAN SCOPE OF WORK

This scope of work has been designed to gather data to evaluate each project objective listed in **Section 1.1**. The following sections provide specifics regarding the scope of work developed under this NYSDEC-approved Work Assignment in support of post-remediation monitoring at the Site.

2.1 Preliminary Activities

As part of the scope of work, the following documents have been prepared to support field activities at the Site.

- Project-specific FAP (this document) to accompany the SMP;
- Health and Safety Plan, to accompany the SMP; and
- Project-specific Quality Assurance Project Plan (QAPP) (included as Section 3.0 of this Document).

2.2 Groundwater Sampling

For the purpose of evaluating groundwater quality following remedy implementation, samples will be collected from 10 of the 17 existing on-site monitoring wells on a semi-annual basis. The wells have been selected to evaluate post-remediation groundwater conditions and provide data suitable to evaluate the efficacy of the IRM. Samples will be collected at the following wells: MW-2, MW-5, MW-6R, MW-8, MW-10, MW-12, MW-13, PES-MW-4, PES-MW-5, and PES-MW-6. The locations of each well are presented on **Figure 2**.

Samples collected from the 10 wells will be analyzed for VOCs by EPA Method 8260. Five wells, MW-5, MW-6R, MW-8, MW-10 and MW-13 will be analyzed for additional geochemical parameters in addition to the VOC analysis. The full list of parameters and wells are included in **Table 1**.

Table 1 – Monitoring and Sampling Schedule

Sampling Location	**Analytical Parameters**	**Well Location**	**Schedule**
	VOCs (EPA Method 8260)		
MW-2	X	Downgradient	Semi-Annual
MW-12	X	Side Gradient	Semi-Annual
PES-MW-4	X	Downgradient	Semi-Annual
PES-MW-5	X	Side Gradient	Semi-Annual
PES-MW-6	X	Side Gradient	Semi-Annual
Sampling Location	VOCs (EPA Method 8260) and Additional Geochemical Parameters	**Well Location**	**Schedule**
MW-5	X	Upgradient	Semi-Annual
MW-6R	X	Upgradient	Semi-Annual

Sampling Location	VOCs (EPA Method 8260) and Additional Geochemical Parameters	Well Location	Schedule
MW-8	X	Former Source Area	Semi-Annual
MW-10	X	Downgradient	Semi-Annual
MW-13	X	Side Gradient	Semi-Annual

Additional Geochemical Parameters include:
Iron: Total and Dissolved by EPA Method 6010C
Manganese: Total and Dissolved by EPA Method 6010C
Chloride and Sulfate by EPA Method 300.0
Sulfide by SM4500_S2_F
Nitrate by EPA Method 353.2TOC by EPA Method 5310C
Alkalinity, Total by EPA Method 310.2
Methane/Ethane/Ethene - Dissolved Gases (GC) by Method RSK_175

2.2.1 Monitoring Well Sampling Procedures

Prior to sampling, depth to water measurements will be collected from all monitoring wells to the nearest 0.01 foot from the surveyed points prior to sampling activities and the data used to construct a groundwater elevation contour map to confirm the direction of groundwater flow and the hydraulic gradient at the Site.

The wells will be sampled following United States Environmental Protection Agency (US EPA) low-flow techniques. Field parameters must be stable for at least three consecutive readings prior to collection of groundwater samples. Groundwater will be monitored in the field for the presence of non-aqueous phase liquids, pH, temperature, conductivity, dissolved oxygen, turbidity, and oxidation-reduction potential.

All analytical samples will be completed using QA/QC NYSDEC Method Category B. The laboratory will submit analytical results to HRP in NYSDEC EDD format.

2.2.2 Decontamination Procedures

Non-dedicated sampling equipment (i.e., water level indicators, interface probes, etc.) will be subject to decontamination procedures prior to each sample collected to reduce the potential for cross-contamination, as described in the Generic FAP. The decontamination procedures will include the use of a scrub wash with a solution consisting of Alconox® detergent and potable water followed by a rinse with de-ionized water.

2.2.3 Analytical Data Quality Evaluation

This FAP and the associated site-specific QAPP section (**Section 3.0**) detail the data quality objectives and analytical procedures required to conduct groundwater sampling. All quality assurance protocols are provided in the QAPP.

Deviations, if required, from protocols specified in the plans will be approved in advance by NYSDEC. As required, the selected analytical laboratory will maintain New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certification in all categories of US EPA Contract Laboratory Program (CLP) and Solid and Hazardous Waste analytical testing for the duration of the project.

A New York State approved laboratory located in Buffalo, New York, will supply all required data deliverables (USEPA CLP and NYSDEC ASP deliverable format) to enable the data to be validated. All environmental data will be submitted electronically in a specified format named 'NYSDEC' in accordance with the data submission procedures outlined on the NYSDEC's website (http://www.dec.ny.gov/chemical/62440.html).

Upon receipt of the sample data, the validation contractor will quantitatively and qualitatively validate the laboratory data. The validation of the analytical data will be performed according to the protocols and QC requirements of the analytical methods, the US EPA CLP National Functional Guidelines for Organic and Inorganic Data Review (February 1994), the USEPA Region II CLP Data Review Standard Operating Procedures (SOP), and the reviewer's professional judgment.
Additional data review, validation and analysis to be performed includes:

- Review Category B data to complete a DUSR in accordance with DER-10 guidance;
- Process all laboratory data obtained during the investigation through the NYSDEC EQuIS processor for validation; and
- Submit EQuIS approved Electronic Data Deliverable (EDD) to the Department and NYSDEC Project Manager.

2.3 Electronic Data Delivery

All environmental data will be submitted electronically in a specified Electronic Data Deliverable (EDD) format named in accordance with the data submission procedures outlined on the NYSDEC's web site (http://www.dec.ny.gov/chemical/62440.html).

2.4 Monitoring Reports

Groundwater monitoring results shall be included in the semiannual inspection report, and the annual period review report (PRR), per the SMP. Data will be evaluated to assess the progress and effectiveness of the in-situ groundwater treatment-based comparisons of pre- and post-remediation CVOC concentrations and an analysis of geochemical parameters at each well to evaluate lines of evidence that biodegradation is ongoing. Groundwater concentrations will be compared to NYSDEC-AWQS, and trend analyses considered at the end of the annual cycle. Each report will include a summary of work performed, deviations from this FAP as appropriate, tabulated laboratory analytical results, groundwater elevation contour maps, and a summary of data useability. Recommendations for modifications to future monitoring events may be proposed for NYSDEC's consideration based on results.

3.0 SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN (QAPP)

This QAPP section provides general information related to QA/QC procedures associated with the collection and analysis of samples of environmental media and includes specific representative SOPs. applicable to sample handling and field instrumentation use. Information provided in the Generic QAPP includes definitions and generic goals for data quality and required types and quantities of QA/QC samples. Procedures outlined in this QAPP address field documentation; sample handling, custody, and shipping; instrument calibration and maintenance; auditing; data reduction, validation, and reporting; corrective action requirements; and QA/QC reporting specific to the analyses performed by the laboratories that are used for sampling and analysis of environmental media.

All laboratory analytical work will be performed by a NYSDOH ELAP approved laboratory certified in all categories of CLP and Solid and Hazardous Waste analytical testing. A Data Usability Summary Report (DUSR) will be included in a report for each round laboratory analysis. Category B deliverables will be retained in the project files and available for full data validation by a qualified, independent third party. The monitoring wells proposed for semi-annual sampling are listed in **Table 1, Table 2,** and depicted on **Figure 2.** Matrix types, number of samples (including QA/QC) and analytical details are summarized in **Table 3.**

3.1 Laboratory Quality Assurance

The contract laboratory for this project must be certified by the New York State Department of Health's Contract Laboratory protocols (CLP) and Environmental Laboratory Approval Program (ELAP) will be, as required by NYSDEC protocols. The contracted laboratory will provide all the laboratory analysis for the project, including Analytical Services Protocol (ASP), Category B deliverables packages, sample containers, coolers, preservatives, and chain-of-custody documents.

3.2 Quality Control

Quality control measures will be in place during the entire project. This will include, but not be limited to, strict adherence to the following: sample handling, chain-of-custody procedures, equipment calibrations, maintenance, the collection of equipment blanks, field blanks, trip blanks, and decontamination.

3.3 Sample Handling

All samples collected as part of this project will be handled in strict accordance with the Field Sampling Plan (this document). Any deviations will require an addendum, as authorized by the NYSDEC project manager, and SMP.

Samples collected during the SMP activities will be transported by field personnel in laboratory-provided coolers directly to the laboratory. Samples that require a lower temperature for preservation will be placed inside an insulated cooler of wet ice. Prior to transport, the ice chest/cooler will be sealed with custody tape to ensure that the seal has not been inappropriately broken prior to receipt by the laboratory.

3.4 Chain-of-Custody Procedures

Chain-of-custody of procedures begin when clean sample bottles are picked up from the laboratory. Each sample container is identified by a unique number located on the sample label. Properly labeled samples remain in the custody of the field-sampling technician until they are relinquished for transport to the laboratory. A copy of the chain-of-custody will remain on file under each project number in the custody of the project manager.

The primary objective of sample chain-of-custody is to create an accurate written verified record, which can be used to trace the possession and handling of the sample containers from the moment of receipt until returned by the laboratory. Sample custody will be archived by approved field and laboratory documentation. A sample for this project is defined to be in someone's custody if:

1. It is in one's actual physical possession;
2. It is in one's view, after being in one's physical possession;
3. It is in one's physical possession and then locked or otherwise sealed so that tampering will be evident; or
4. It is kept in a secure area, restricted to authorized personnel only.

Field procedures will be designed to minimize sample handling and transfers. During sampling, the field crews will record the following information in field notebooks using ink:

1. The unique sample number as obtained from the sample label and parameters to be analyzed;
2. Source of sample (including designation, name, location, and matrix type);
3. Description of sampling points (i.e., monitor well, number, boring, key landmarks, etc.);
4. Date and time of sample collection;
5. Order of sample collection;
6. Preservatives used;
7. Name(s) of collector(s);
8. Field data (weather and other site conditions);
9. Sampling equipment (i.e., purge method, bailer type, etc.); and
10. Types of quality assurance samples collected (i.e., field blanks, equipment blanks, split, etc.).
11. Field personnel are responsible for uniquely identifying and labeling each sampling point. This identification should be logged onto all field forms, chain-of-custody, and into field logbooks. It will not be permissible to change the sampling point identification once it has been established. All sample collection activities will be traceable by field records, sample collector, chain-of-custody documents, and a database if available. Errors made in original field documentation must be shown with a single line drawn though and initialed by the author of the documentation.

3.5 Equipment Calibrations

During the implementation of the field sampling plan, several pieces of field equipment, which require calibration, will be utilized at the Site. The proposed equipment to be used at the Site will include, but not be limited to, the following:

- Photoionization Detector (PID);
- Water Quality Analyzer; and
- Particulate Meter.

All field equipment will be calibrated immediately prior to use in the field. The calibration procedures will follow standard manufacturer's instructions or routine procedures to assure that the equipment is functioning within tolerances established by the manufacturer and required by the project. Field personnel will document all instrument calibration in bound field notebooks and on calibration forms found at the end of the site specific Health and Safety Plan (HASP). All records generated will be maintained by field personnel and are subject to audit by the QA Manager, as appropriate.

The detailed calibration, operation, and maintenance procedures for field instrumentation routinely used by personnel are specific to manufacturer's instructions.

All calibrations will be recorded in a field notebook and on calibration forms found in the HASP. These calibration records become part of the individual project files as documentation of Quality Assurance (QA) objectives.

3.6 Maintenance

Field personnel must routinely maintain field equipment for optimal results. All maintenance procedures are to be documented in control logbooks designated for each piece of equipment. The individual performing the adjustment of the equipment will record any field activities involving routine maintenance in field logbooks. Maintenance performed at an authorized repair service will be documented in the maintenance log, including service location, specific repair, and method of transport. Methods of routine maintenance depend on the instrument and manufacturer. Refer to the manufacturer's operations manual for these procedures.

In the event that the primary field equipment is inoperable as determined by calibration difficulties, back-up field instruments will be obtained from other sources. These instruments will be calibrated prior to recording data. In no event shall instruments be used to record data unless the performance of the equipment has been documented.

3.7 Blanks

To ensure the validity of the field sampling plan, equipment blanks will be collected at the Site. In addition, trip blanks will be prepared at the laboratory and accompany the sample containers during the entire sampling event (i.e., from the laboratory, to the field, to the sample locations, and back to the laboratory). Trip blanks will be analyzed for VOCs via EPA Method 8260.

Equipment, and trip blanks are slightly different from one another. For preparation of an equipment blank, an appropriate blank material (water) will be brought in contact with the sampling tools used for "real" samples. Equipment blanks will be collected by pouring laboratory grade deionized water over decontaminated equipment (stainless steel scoop, split spoon, etc.) and collecting the water in laboratory-supplied containers. Equipment blanks demonstrate whether the sampling equipment has been properly decontaminated.

Trip blanks are prepared at the laboratory and transported to the Site in sealed containers. They evaluate whether airborne contamination is present at any point during the trip, and whether or not the gas chromatograph columns have been thoroughly purged between samples.

One equipment blank sample for each soil and groundwater matrices shall be collected, if appropriate. In addition, and one trip blank will be collected during the soil, groundwater and soil vapor sampling.

3.8 Duplicates

As per ASP protocols, one duplicate sample per matrix or one duplicate sample for every 20 analytical samples, at a minimum. The duplicate for groundwater samples will be analyzed for VOCs via USEPA Method 8260 and SVOCs via USEPA Method 8270.

3.9 Spikes

As per ASP protocols, one matrix spike/matrix spike duplicate (MS/MSD) sample per matrix or one MS/MSD for every 20 analytical samples, at a minimum. The MS/MSD samples for soil and groundwater samples will be analyzed for VOCs via USEPA Method 8260, and SVOCs via USEPA Method 8270.

3.10 Decontamination Procedures

All non-disposable field equipment which comes into direct contact with sampling media will undergo decontamination procedures. Prior to the commencement of fieldwork, a decontamination area will be constructed on-site, and will be designated for decontamination only.

Groundwater sampling equipment will be decontaminated after each sample is collected in the following manner:

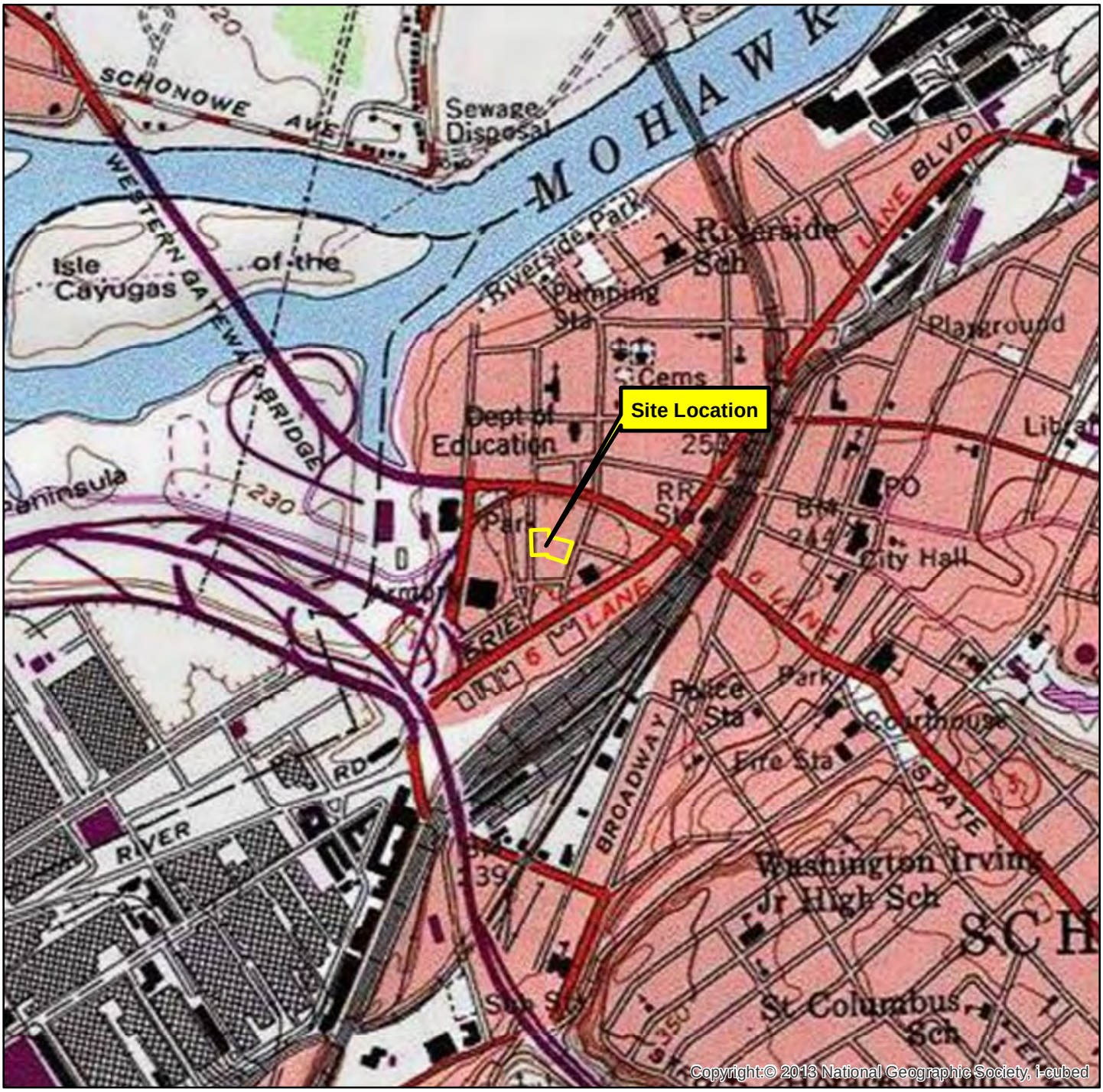
- The equipment will then be washed with a solution of alconox to remove trace organics;
- The equipment will undergo a rinse of tap water;
- The equipment will undergo a final rinse using deionized water; and,
- The equipment will be wiped dry with a paper towel.

3.11 Data Usability Summary Report (DUSR)

The contract laboratory will provide Category B deliverable packages for the analyses, which will be forwarded to an independent data validator for completion of a Data Usability Summary Report (DUSR). The DUSR will be prepared to verify that the laboratory data is usable. The DUSR will examine the laboratory data provided in the deliverables packages and answer the following questions:

- Is the data package complete, as defined under the requirements of NYSDEC ASP Category B deliverables?
- Have all the holding times been met?
- Do all the QC data (i.e., blanks, instrument tunings, calibration standards, verifications, surrogate recoveries, spike recoveries, replicate analyses (duplicates), laboratory controls, and sample data) fall within the protocol required limits and specifications?
- Have all the data been generated using established and agreed upon analytical protocols?
- Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?
- Have all the correct data qualifiers been used?

FIGURES



0 500 1,000 2,000 3,000 4,000

Feet

1 inch = 1,000 feet

N

USGS Quadrangle Information
Quad ID: 42073-G8
Name: Schenectady, New York
Date Rev: 1978
Date Pub: 1981

Figure 1
Site Location
222 South Ferry Street
Schenectady, New York
HRP # DEC1012.RA
Scale 1" = 1,000'

HRP
MOVE YOUR ENVIRONMENT FORWARD
ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM

Path: S:\Data\NNYDEC - NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION\SCHENECTADY\222 SOUTH FERRY STREET\DEC1012RA\GIS\Figure 1 - Site Location - 1000 feet.mxd

Legend

- Monitoring Well used for Water Level Monitoring Only
- Monitoring Well Selected for Quarterly Sampling
- Injection Point Used for In-Situ Groundwater Treatment
- Approximate Groundwater Flow Direction
- Approximate Property Line

HRP
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North

0 15 30 Feet

Revisions					
No.	Date				

Designed By: PM
Drawn By: BOB
Reviewed By: PM

Issue Date: 01/27/2021
Project No: DEC1012.RA
Sheet Size: 11x17

Site Plan

222 South Ferry Street
Schenectady, New York

SHEET NO.
2

TABLES

Table 2
Sample Summary
222 Ferry Street Site, 222 South Ferry Street, Schenectady, NY
D009808-12
HRP# DEC1012.RA

Activity	Matrix	Sample Locations	Monitoring Well IDs	Samples to be Collected	Analyses
Monitoring Well Sampling	Groundwater	10	MW-2, MW-5, MW-6R, MW-8, MW-10, MW-12, MW-13, PES-MW-4, PES-MW-5, and PES-MW-6	14 (includes 1 duplicate, 1 MS, 1 MSD, and Trip Blank)	VOCs by EPA Method 8260C
Monitoring Well Sampling	Groundwater	5	MW-5, MW-6R, MW-8, MW-10, MW-13	8 (includes 1 duplicate, 1 MS, 1 MSD, and Trip Blank)	Iron: Total by EPA Method 6010C Manganese: Total by EPA Method 6010C
		5			Iron: Dissolved by EPA Method 6010C Manganese: Dissolved by EPA Method 6010C
		5			Chloride and Sulfate by EPA Method 300.0
		5			Sulfide by SM4500_S2_F
		5			Nitrate by EPA Method 353.2
		5			TOC by EPA Method 5310C
		5			Alkalinity, Total by EPA Method 310.2
		5			Methane/Ethane/Ethene - Dissolved Gases (GC) by Method RSK_175
		5			

Acronym List:

VOCs: Volatile Organic Compounds
TOC: Total Organic Carbon
CO2: Carbon DioxideG
MSD: Matrix Spike Duplicate
GC: Gas ChromatographMS: Matrix Spike

Table 3
Analytical Methods/Quality Assurance Summary
222 Ferry Street Site
222 South Ferry Street, Schenectady, NY

Parameter	Matrix	Number of Samples (Including Field QC)	Preparation Method	Analytical Method	Containers per Sample			Preservation Requirements			Maximum Holding Time
					No.	Size	Type	Temp.	Light Sensitive	Chemical	
VOCs by GC/MS	Aqueous	14	5030	SW-846 Method 8260C	3	40 ml	glass vial	2-6º C	No	HCl	14 days
Iron and Manganese, Total by ICP	Aqueous	8	3005A	SW-846 Method 6010C	1	250 ml	plastic	2-6º C	No	HNO3	180 days
Iron and Manganese, Dissolved by ICP	Aqueous	8	3005A	SW-846 Method 6010C	1	250 ml	plastic	2-6º C	No	Unpreserved	180 days
Chloride and Sulfate	Aqueous	8	none	SW-846 Method 300.0_28D	1	60 ml	plastic	2-6º C	No	Unpreserved	28 days
Sulfide	Aqueous	8	none	SM4500_S2_F	1	250 ml	plastic	2-6º C	No	ZnA + NaOH	7 days
Nitrate, Nitrate and Nitrate_Calc	Aqueous	8	none	SW-846 Method 353.2	2	125 ml	plastic	2-6º C	No	Unpreserved	48 hours
TOC	Aqueous	8	none	SW-846 Method 5310C	2	40 ml	glass vial	2-6º C	No	HCl	28 days
Alkalinity, Total	Aqueous	8	none	SW-846 Method 310.2	1	125 ml	plastic	2-6º C	No	Unpreserved	14 days
Methane/Ethane/Ethene by GC	Aqueous	8	none	SW-846 Method RSK_175	3	40 ml	glass vial	2-6º C	No	HCl	14 days
CO2 by GC	Aqueous	8	none	SW-846 Method RSK_175_CO2	3	40 ml	glass vial	2-6º C	No	Unpreserved	7 days

GC: Gas Chromatography
HCl: Hydrochloric Acid
HNO3: Nitric Acid
ICP: Inductively Coupled Plasma
NaOH: Sodium Hydroxide
TOC: Total Organic Carbon
VOCs: Volatile Organic Compounds
ZnA: Zinc Acetate