City of Rochester Fire Department - Engine 13/Truck 10
272 Allen Street
City of Rochester
Monroe County, New York

Soil and Groundwater Management Plan

Prepared for:

City of Rochester
Division of Environmental Quality
City Hall, Rm. 300B
Rochester, New York 14614

Prepared By:

280 East Broad Street, Suite 170
Rochester, NY 14604

November 2023

Lu Project No. 4258-36

Revision to Soil and Groundwater Management Plan:

Revision #	Approval Date	Summary of Revision
1.		

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1.0 Introduction

Lu Engineers has prepared this Soil and Groundwater Management Plan (SGMP) on behalf of the City of Rochester (the "City") for the City of Rochester Fire Department – Engine 13/Truck 10, located at 272 Allen Street, Rochester, New York, herein referred to as the "Site" (Figure 1). This SGMP should be implemented when work has the potential to disturb soil and/or groundwater that is environmentally impaired or that may contain regulated materials including, but not limited to, petroleum impacted soils/groundwater and Urban Fill. This plan should also be implemented in conjunction with Project Plans, Specifications, Special Notes and all applicable regulatory requirements relating to soils, groundwater and/or excavated materials management and disposal.

1.1 Site Description and Previous Environmental Work

The Site consists of an approximate 0.65-acre parcel of land that is currently used as a fire station and is anticipated to continue to be used for this purpose (Figure 2). Property in the immediate vicinity of the Site is utilized for commercial and industrial purposes.

Site record drawings indicate a 550-gallon gasoline underground storage tank (UST) and dispenser pump were present along the southeast corner of the western portion of the building. New York State Department of Environmental Conservation (NYSDEC) records indicated the UST was removed in the 1980's; however, official closure documentation was not available.

Intrusive subsurface work completed as part of building drainage improvements identified petroleum impacted soils and groundwater in the vicinity of the historically documented tank. Additionally, dispenser lines, suspected fill ports, and a vent pipe were observed suggesting the presence of the UST. Limited excavation of the suspected tank and inspection of the fill ports indicated the tank was presumably filled in-place with flowable fill. The City immediately notified NYSDEC Region 8 upon encountering the impacted media and remaining appurtenances.

Correspondence with the NYSDEC determined the UST could remain in-place, provided a SGMP be prepared for the Site to outline methods for handling potentially impacted media encountered during any future redevelopment.

1.2 Statement of Purpose

The purpose of this SGMP is to present procedures to evaluate and manage potential environmentally impacted soil, regulated Urban Fill and/or groundwater that may be encountered during intrusive subsurface project activities. This SGMP was prepared in general accordance with typical NYSDEC requirements.

2.0 Project Entities and Responsibilities

Various entities will be involved with the implementation of this SGMP during intrusive City infrastructure projects. The entities and their responsibilities are summarized in Section 2.0 and further discussed in specific sections of the SGMP.

City of Rochester

The City of Rochester Project Manager (PM) and/or Designated Representative (including Resident Project Representative (RPR) or other) will be responsible for conducting a pre-excavation Site visit of the specific work areas to identify potential any environmental-related conditions or equipment that may potentially be encountered during excavation, including, but not limited to, the following:

- Monitoring wells;
- In-situ environmental remediation systems (i.e., contaminant recovery systems, remediation delivery systems, which many times include buried horizontal and/or vertical components);
- Possible locations of fuel dispensers, buried storage tanks and buried piping;
- Current or former businesses of potential environmental concern (i.e., gas stations, dry cleaners, car dealers, industrial facilities, contractor yards, etc.); and
- Other features indicating potential environmental impairment.

The City PM or Designated Representative will also be responsible for project observation and documentation of conditions encountered.

Resident Project Representative (RPR)

This project will have a consultant Resident Project Representative (RPR) that is retained by the City to perform the on-Site duties of the PM or City Inspector. The RPR's responsibilities will include, but not be limited to, project observation and documentation of conditions encountered as well as directing the contractor relative to staging, sampling and shipment activities associated with impacted or otherwise regulated materials. The RPR must coordinate directly with the City's Waste Compliance Officer (WCO) (Jane Forbes) on all environmental-related materials characterization and handling.

The RPR may also be responsible for conducting the pre-excavation Site visit and/or research of Site history to identify any environmental-related conditions or equipment that may be encountered during the construction project.

Qualified Environmental Professional (QEP)

If environmental impacts to soil, fill or groundwater are known or encountered, the PM, City Inspector or RPR will be responsible for retaining a QEP to:

- Assist in environmental field monitoring;
- Collect samples;
- Observe segregation of impacted material from unimpacted material; and
- Conduct periodic observation/review of site conditions and staged wastes and complete related documentation.

The company retained to provide the QEP shall be an environmental consulting/engineering firm with experience in the design, investigation and cleanup of contaminated sites. The choice of the QEP and associated company shall be approved by the City.

At a minimum, the QEP shall meet the following qualifications:

- Completed 40-Hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training and 8-hour HAZWOPER refresher training (as per Title 29 of Code of Federal Regulations Part 1910.120 (29 CFR 1910.120))
- Trained in the use and calibration of environmental monitoring equipment, including a photoionization detector (PID), aerosol (i.e., particulate, dust) meter, an oil/water interface probe meter, etc.

- Trained in the proper techniques for collecting samples of various environmental media (i.e., soil, groundwater, fill, etc.) for analytical laboratory sampling.
- Experienced in identifying the types of environmental impacts to soil, fill and groundwater that may be encountered.
- Maintain an understanding of Federal, State and local environmental laws, regulations and guidance documents, including, but not limited to, NYSDEC Technical Guidance for Site Investigation and Remediation (DER-10), NYSDEC Spill Notification requirements and Monroe County Sewer Use Law and Discharge Permit requirements.
- Maintain an understanding of the project Health and Safety Plan (HASP) requirements, including the Community Air Monitoring Program (CAMP).

City Waste Compliance Officer (WCO)

The City WCO will be responsible for determining if conditions warrant reporting as a spill to environmental regulatory agencies (i.e., NYSDEC) and approving storage and disposal aspects associated with impacted materials. These responsibilities include providing approval of proposed disposal facilities and waste transporters; reviewing and signing waste profiles; reviewing and signing waste shipping papers; and periodic observation/review of Site conditions and staged wastes and complete related documentation.

City Division of Environmental Quality (DEQ) Contact Information is provided below:

Jane Forbes, Senior Environmental Specialist (WCO)
City of Rochester Division of Environmental Quality
City Hall Room 300B
Office: 585-428-7474
Cell: 585-281-6306
E-mail: Jane.Forbes@CityofRochester.gov

Dennis Peck, Environmental Technician
City of Rochester Division of Environmental Quality
City Hall Room 300B
Office: 585-428-6884
Cell: 585-469-6372
E-Mail: peckd@cityofrochester.gov

Contractor

The Contractor will be responsible for completing the scope of work agreed upon with the City. The City WCO shall be immediately notified by the Contractor, RPR and QEP upon identification of potential or actual environmental impact. The Contractor is to be made aware of the existence impacted media, where it is located within the excavation and how it is to be managed in accordance with this SGMP, the Contract Documents and all applicable regulations.

The Contractor will be responsible for stockpiling impacted media, providing necessary polyethylene sheeting and weights (i.e., sandbags or other) and maintaining the stockpile. The Contractor will also be responsible for trucking and disposal as directed by the PM or WCO.

2.1 Notifications

In the event that suspected subsurface material (i.e., soil, groundwater, etc.) containing environmental impacts and/or regulated Urban Fill are encountered during ground intrusive activities, the following notification sequence should be followed:

Contractor

If the Contractor observes field evidence of environmental impact (i.e., visual, odors, fill, etc.), it shall stop work at the location, immediately notify the PM or RPR and will only resume work in that area as directed by the PM, RPR or QEP in accordance with this SGMP.

PM and RPR

If the PM or RPR observe field evidence of environmental impact and/or regulated Urban Fill, it shall stop work at the location until a QEP is present and a plan is in place to address the impact. The QEP will then notify and properly direct the Contractor to implement SGMP actions to address the impact (typically segregating the waste, staging, covering, etc.). The City WCO should be notified immediately to determine if the encountered impact appears to require reporting to the NYSDEC as a spill.

If the environmental impacts observed by the Contractor, PM, RPR or QEP include non-aqueous phase liquid (i.e., floating petroleum free product), tanks or piping associated with underground storage systems, piping or other materials associated with in-situ remediation systems or engineering controls or monitoring wells, the work shall be stopped. In addition, the City WCO shall be immediately notified and an appropriate strategy for managing the material will be approved by City WCO prior to being implemented.

City WCO

If the City WCO determines that an environmental impact condition requires reporting to the NYSDEC as a spill, it shall contact the NYSDEC and document the call.

If a spill needs to be reported to the NYSDEC, contact:
NYS Spill Hotline: (800) 457-7362, or
Region 8 Office: (585) 226-2466

3.0 Soil and Groundwater Management Plan

This SGMP provides procedures to recognize Urban Fill and environmental impacts that could be encountered during City ground intrusive infrastructure projects. In addition, this SGMP provides guidance and options regarding the management and disposal of subsurface material. The procedures presented herein are intended to reduce potential exposure to workers conducting subsurface activities should impacted subsurface materials be encountered that require management.

3.1 Potential Environmentally Impacted Material

This section describes the types of environmentally impacted material that may be encountered and provides information on the identification, handling, analytical laboratory testing and disposal of these materials.

3.1.1 In-field Identification

Petroleum-Impacted Material

Petroleum-impacted soil may be stained gray or black, contain a rainbow-type sheen and emit petroleum-type odor. Petroleum-impacted groundwater may emit a petroleum-type odor and could contain a floating sheen. Free-phase petroleum product, if encountered, would exhibit an oily type texture, emit a strong petroleum-type odor, likely be amber to dark brown/black in color, and would be floating on the groundwater surface.

Elevated PID readings exceeding background measurements on ambient air above soil or groundwater is also indicative of the presence of volatile organic compounds (VOCs) associated with petroleum impact.

Unknown VOC-Impacted Material:

VOC-impacted soil or fill may be stained (i.e., gray, black, etc.) and emit a chemical, sweet, or ethereal odor depending upon the actual VOCs present. Any odor may dissipate quickly, even in severely impacted samples due to the volatile nature of the VOCs. VOC-impacted groundwater may also emit a chemical, sweet or ethereal odor. Free-phase product, if encountered, may exhibit a slippery type texture, emit a strong odor, likely present as amber to dark gray color and may sink in water. Elevated PID readings exceeding background measurements on ambient air above soil, fill or groundwater is also indicative of the potential presence of VOCs impact.

Urban Fill Material

Various types of fill material may be encountered during ground intrusive activities. Fill material may not exhibit elevated PID readings exceeding background measurements on ambient air unless they are also impacted with VOCs (i.e., petroleum, chlorinated solvents, etc.). Below are some examples of fill materials that may be encountered but should not be considered an all-inclusive list.

(RUCARBS)

Recognizable Uncontaminated Concrete, Asphalt, Rock, Bricks and Soil (RUCARBS). This includes reworked soil that occasionally may contain de minimis (very minor) amounts of other material.

Imported Geotechnical Fill

Geotechnical fill such as sand, bank run sand and gravel and various sizes of crushed stone may have been imported during previous projects. Sand color is typically tan, brown, reddish brown, or grayish brown and may be fine to coarse in size. Bank run sand and gravel is typically tan, brown, reddish brown or grayish brown, with fine to coarse sand, small to large rounded to sub-angular gravel, and occasional small rounded to sub-angular cobble. Crushed stone generally consists of locally mined and processed, gray to dark grey dolostone.

Ash Fill

Layers, lenses or pockets of fill material primarily consisting of ash may appear white, yellow or gray in color and is relatively soft and has a gritty texture. It may or may not have exhibit an unusual odor. Other similar types of fill material include cinders, slag, coal, foundry sand, etc. All of these materials are considered to be regulated industrial solid waste.

Unknown Fill/ Building Debris/Miscellaneous Debris

Fill material of unknown composition, may vary in color, contain odors, etc.

3.1.2 Handling

Impacted soil, fill and groundwater that are encountered must be managed in accordance with applicable federal, state, and local regulations, including Title 6 of New York Codes, Rules and Regulations (6 NYCRR) Part 360 and Part 375. During intrusive work where suspected or known impacted media are present, soil, fill and liquids (i.e., water) being disturbed or removed must be assessed for field evidence of impact (i.e., petroleum and/or chemical-type odors, staining, free product, sheen, fill types considered to be regulated waste, etc.) by the QEP. In addition, the ambient air above removed or excavated media must be screened for VOCs using visual, olfactory and/or environmental monitoring equipment (i.e. PID, dust meter, etc.).

To the extent possible, wastes are to be segregated by type and/or location to limit comingling of various waste streams. The following is general guidance for the handling of materials that are potentially impacted with petroleum, fill and/or chlorinated solvents that may be encountered during subsurface work.

Generation of impacted groundwater should be avoided and/or minimized whenever possible. Excavations should not be left open if inclement weather is anticipated. Diversion sumps or channels should be used to divert water from work area. Water should be allowed to drain back into the ground whenever possible. If staging of groundwater becomes necessary to avoid project delays, properly control impacted media or for other reasons agreed upon with the QEP and/or RPR, the WCO shall be immediately notified. No staging of groundwater shall be conducted without approval of the City WCO.

If impacted materials are staged on-Site, any disposal, etc. must be conducted within 60 days, unless otherwise authorized by the City DEQ and/or the NYSDEC. Below is the hierarchy of impacted material storage locations (from most desirable to least desirable):

1. Within the project Site.
2. On a nearby City-owned parcel not contiguous with the work Site. **(*Requires special permission from NYSDEC.)***

Impacted soil or fill that is excavated or disturbed should be segregated from non-impacted media, and handled in one (1) or more of the following methods:

- Place on, and cover with, two (2) layers of polyethylene sheeting that total at least 12 millimeters in thickness. Secure polyethylene sheeting with sandbags or other suitable inert weights, and replace as needed if damaged by wind, site activities or other factors.
- Place in New York State Department of Transportation (NYSDOT)-approved 55-gallon drums with secure lids. Label drums with date, contents and generator.
- Place in one (1) or more lined roll-off with secure cover.

The Contractor performing the work will be responsible for providing the necessary materials, labor and equipment to segregate, handle, and maintain the stockpiled impacted material. The NYSDEC has developed a reference matrix titled “Construction Site Materials Reuse Under NYSDEC Part 360: Quick Reference Guide” to outline regulatory compliance considerations relative to soil and fill materials typically encountered during construction projects. This matrix is included as Appendix A.

The following include general descriptions of types of impacted soil and fill that may be encountered.

Petroleum and/or Unknown and VOC-Impacted Soil or Fill

Soil or fill should be considered to be petroleum and/or chlorinated solvent-impacted if: 1) PID readings on ambient air above a sample of the soil exceed 10 parts per million (ppm) above background; and/or 2) the soil exhibits a petroleum or chemical nuisance odor and/or sheen or contains free product.

Urban Fill Material

Handling requirements are dependent upon the type of fill being encountered. During intrusive work, fill material that is being disturbed or removed should be categorized by type.
The following is general guidance for the handling of various types of fill material that may be encountered during subsurface work within the site.

Ash/Cinders/Slag/Coal/Foundry Sand Fill: Fill material containing these materials in quantities that are not considered de minimis must be managed in accordance with applicable federal, state and local regulations. Fill material containing ash should be segregated from non-impacted media and handled as described above.

Unknown Fill/Building Debris/Miscellaneous Debris: If these fill materials are encountered, they should be managed in accordance with applicable federal, state and local regulations. Unknown fill material/debris should be segregated from other media and handled as described above.

Petroleum- and/or Unknown VOC-Impacted Liquids

Petroleum- and/or chlorinated solvent-impacted groundwater, standing water or free product that must be removed from the subsurface (i.e., excavations, etc.) must be containerized (i.e., placed in new or clean and unused reconditioned sealed NYSDOT-approved 55-gallon drums, holding tanks or frac tanks) prior to characterization and disposal. A suitable pump will need to be utilized to pump the free product, petroleum and/or chlorinated solvent-impacted water from the work areas (i.e., excavation) until such time that the work is completed. To the extent practicable, free product should be segregated/removed from impacted water and stored separately. In addition, petroleum and/or chlorinated solvent-impacted groundwater may require pre-treatment prior to waste characterization sampling and testing.

3.1.3 Characterization

The PM, RPR or QEP will coordinate with the City WCO on all waste characterization (including sampling and laboratory analysis) and waste profiling.

Petroleum or chlorinated solvent impacted soil, fill and groundwater, and certain other fill material, must be characterized in accordance with applicable federal, state and local regulations, as well as disposal facility requirements. The following is general guidance for characterizing these materials.

Petroleum and/or Unknown VOC-Impacted Soil or Fill

Representative samples of the stockpiled Urban Fill, petroleum or chlorinated solvent impacted soil will be collected and submitted to a New York State Department of Health (NYSDOH)

Environmental Laboratory Approval Program (ELAP) certified analytical laboratory for testing of appropriate waste characterization parameters.

The proposed waste disposal company will identify the number of samples and the test parameters required. However, based on typical disposal facility requirements in the Greater Rochester area, it is anticipated that the waste characterization sampling and analysis program required by the disposal facility may include, but not be limited to, one (1) or more of the following:

- Collect one (1) sample for the first 500 tons of soil or fill and one (1) sample for each 1,000 tons thereafter.
- Test each sample at an NYSDOH ELAP-certified analytical laboratory for:
  - United States Environmental Protection Agency (USEPA) target compound list (TCL) VOCs using USEPA Method 8260;
  - USEPA TCL semi-volatile organic compounds (SVOCs) using USEPA Method 8270;
  - Resource Conservation and Recovery Act (RCRA) Metals using USEPA Methods 6010;
  - Flashpoint using USEPA Method 1010 or 1030;
  - Corrosivity (pH) using USEPA Method 9045D; and
  - Reactivity using USEPA Method 7.3.

Urban Fill Material

Characterization requirements are dependent upon the type of fill material encountered. The following is general guidance for fill materials that may be encountered during subsurface work and require analytical laboratory testing as part of their characterization.

Ash/Cinders/Slag/Coal/Foundry Sand Fill: Fill material containing these materials in quantities that are not considered de minimis will require one (1) or more samples to be collected and subsequently tested by an ELAP-certified analytical laboratory.

Unknown Fill/Building Debris/Miscellaneous Debris: If unknown fill material is encountered, it will require one (1) or more samples to be collected and subsequently tested by an ELAP-certified analytical laboratory.

Representative samples of the stockpiled fill material consisting of ash fill or unknown fill will be collected and submitted to an NYSDOH ELAP-certified analytical laboratory for testing of the appropriate characterization parameters.

If the waste requires off-Site disposal, the proposed waste disposal company will identify the number of samples and the test parameters required. However, based on the disposal facility requirements in the Greater Rochester area, it is anticipated that the waste characterization sampling and analysis program required may include, but not be limited to, one (1) or more of the following:

- Collect one (1) sample for the first 500-tons of fill, and one (1) sample for each 1,000-tons thereafter.

- Test each sample at a NYSDOH ELAP-certified analytical laboratory for one (1) or more of the following parameters:
  - USEPA TCL VOCs using USEPA Method 8260.
  - USEPA TCL SVOCs using USEPA Method 8270.
  - Total RCRA metals using USEPA Methods 6010 and 7471.
  - Toxicity Characteristic Leaching Procedure (TCLP) metals using USEPA Methods 13110, 6010 and 7470 (only if exceedances noted on initial total analyses).
  - Pesticides and Herbicides using USEPA Methods 8081 and 8151
  - Flashpoint using USEPA Method 1010 or 1030.
  - Corrosivity (pH) using USEPA Method 9045D.
  - Reactive sulfide and reactive cyanide using USEPA Method 7.3.
  - Polychlorinated Biphenyls using USEPA Method 8082.

Petroleum and/or Unknown VOC-Impacted Liquids

Representative samples of each type of liquid (i.e., water, free product) will be collected and the samples will be submitted to an NYSDOH ELAP-certified analytical laboratory for testing of appropriate waste characterization parameters. The proposed waste disposal company or wastewater treatment facility will identify the number of samples and the test parameters required. However, it is anticipated that the waste characterization sampling and analysis program that is required for petroleum and/or chlorinated solvent-impacted water and free product may include, but not be limited to, one (1) or more of the following:

- Collect one (1) sample for each type of liquid media (i.e., water, free product).
- Test each sample at an NYSDOH ELAP-certified analytical laboratory for one (1) or more of the following:
  - Purgeable organic VOCs using USEPA Method 624;
  - SVOCs using USEPA Method 625;
  - Total lead using USEPA Method 200.7; and
  - Flashpoint using USEPA Method 1010 or 1030.

3.1.4 Disposal Options

This section addresses disposal for fill materials and petroleum- and/or unknown VOC-impacted soil, fill and liquids. The City WCO will be responsible for providing approval of proposed disposal facilities and waste transporters, reviewing and signing waste profiles, reviewing and signing waste shipping papers, waste characterization sampling and coordinating waste characterization and disposal.

The Contractor will be responsible for waste loading, transport and disposal and providing documentation to the PM/RPR. ***[Note: Environmentally impacted material must not be taken off-Site without City DEQ approval.]***

Petroleum and/or Unknown VOC-Impacted Soil or Fill

The petroleum and/or unknown VOC-impacted soil or fill is to be disposed of at a permitted disposal facility. A waste profile will be prepared by the RPR or QEP based on discussions with

the City WCO and/or NYSDEC, submitted in draft to the City DEQ for review and approval prior to any submission to the selected disposal facility. Subsequently, the draft profile will be submitted to the waste disposal company to obtain approval for disposal.

Once approved, the petroleum- and/or otherwise impacted media, including any polyethylene sheeting or drums, shall be loaded onto NYSDEC Part 364 permitted trucks or trailers and transported to the approved waste disposal facility for disposal by the contractor.

For areas with known contamination, waste characterization samples can be collected and analyzed, and waste profiling can be approved for a designated waste disposal facility (i.e., regulated landfill) prior to excavation so that the material can be direct loaded onto 6 NYCRR Part 364 permitted trucks and transported to the designated waste disposal facility for disposal.

Fill Material Disposal

Options for disposal of ash fill or unknown fill material may include, but not limited to, the following:

Ash/Cinders/Slag/Coal/Foundry Sand Fill: Due to its tendency to contain elevated levels of heavy metals, its poor geotechnical quality, and it being considered a regulated waste, fill material that contains greater than de minimis quantities of ash shall be disposed at an appropriate waste disposal facility (i.e., regulated landfill).

Unknown Fill/Building Debris/Miscellaneous Debris: Unknown/Miscellaneous fill that is determined to be a regulated solid waste shall be disposed at an appropriate waste disposal facility (i.e., regulated landfill).

Petroleum- and/or Unknown VOC-Impacted Liquids

Options for addressing petroleum and/or chlorinated solvent-impacted liquids (i.e., groundwater, stormwater, snowmelt) may include:

- Obtain a permit to discharge to a Publicly Owned Treatment Works (POTW) sanitary or combined sewer system in Monroe County, NY. If the water contains free product, a sheen or exceeds Monroe County sewer use limits or other criteria, it will require pre-treatment and re-testing prior to discharge under a sewer use permit.
- Off-Site transport and treatment or disposal, in accordance with applicable regulations.

Options for addressing free product may include off-Site transport and recycling or disposal, in accordance with applicable regulations. As discussed in Section 3.1.2, prevention and mitigation of the generation of impacted groundwater must be considered during all excavation-related activities.

4.0 Health and Safety

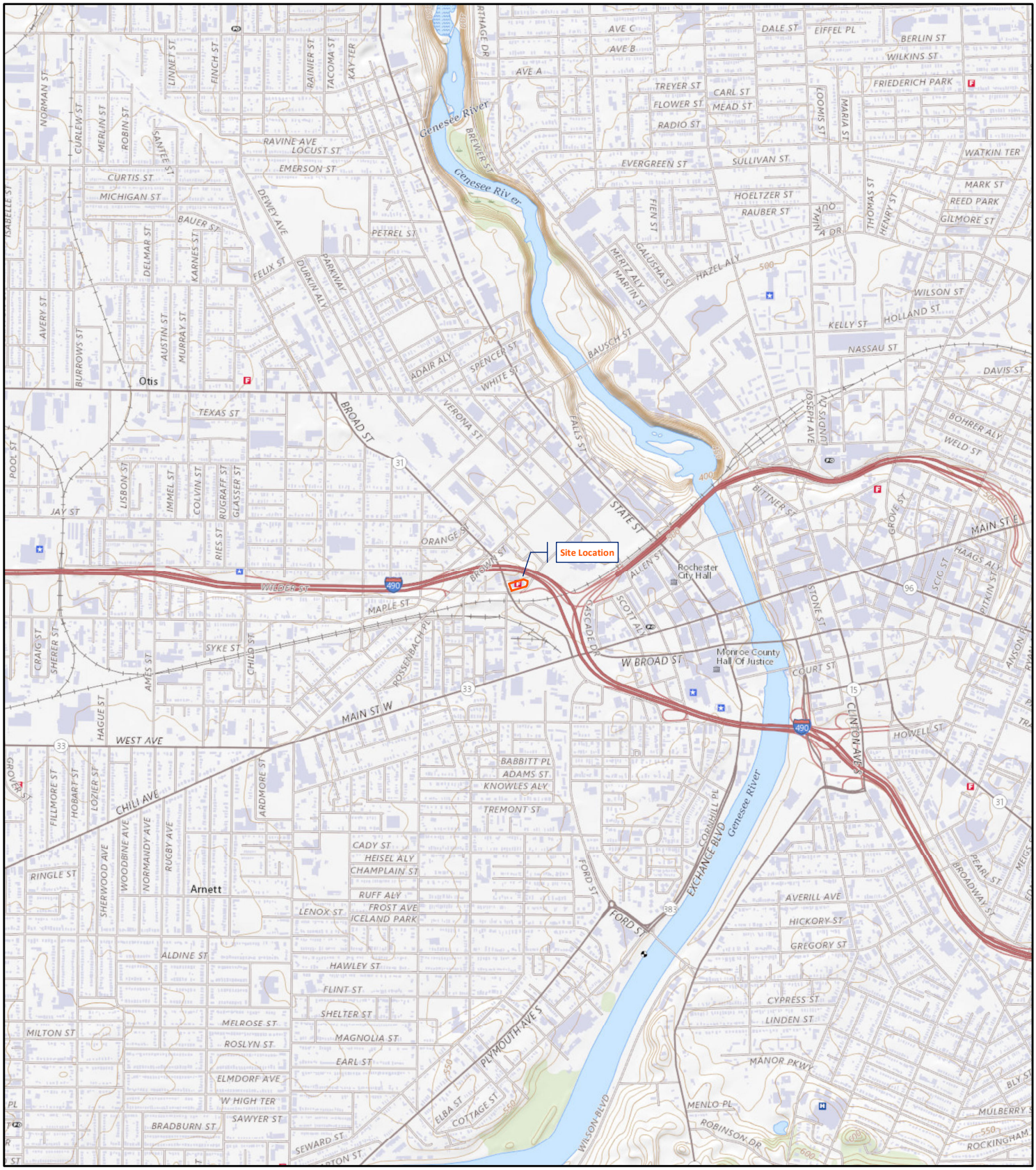
The City is responsible for making Site workers involved with intrusive activities (i.e., excavation, dewatering, etc.) aware of the potential harmful exposures that may be present in subsurface media at the Site. This SGMP should be provided to Site workers for their review. The City will discuss with the Site workers the proper identification, handling and disposal methods described herein, and will caution the Site workers to avoid or minimize disturbance of impacted material in order to reduce or eliminate

exposure to contaminants. Areas that have been disturbed (i.e., excavated, etc.) that contain petroleum-contaminated material should be restored (i.e., backfilled/covered with clean soil/fill cover, paved, etc.).

The entity conducting intrusive activities (i.e., excavation, dewatering, etc.) that have the potential to disturb petroleum-contaminated media must conduct its work in accordance with an NYSDEC-accepted Health and Safety Plan (HASP). An NYSDEC-accepted HASP should contain on-Site air monitoring requirements and a Community Air Monitoring Plan (CAMP). The entity can implement this HASP during intrusive project activities. Appendix B includes a HASP, which could be used as a basis for a Site-specific HASP by the contractor and others involved in Site work.

5.0 Institutional Controls

Institutional controls ensure that environmental conditions at the Site are evaluated prior to new construction. If a permit is approved that has the potential to result in encountering impacted material, the City DEQ will provide a copy of this SGMP to the involved parties, notify the involved parties of the environmental conditions at the site and require the work to be completed in accordance with the SGMP.



Scale 1: 24,000

Contour Interval: 10-feet

1,000 0 1,000 2,000 4,000

Feet

N

Lu Engineers
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Figure 1. Site Location Map
RFD Broad-Allen Fire House
272 Allen Street
City of Rochester

DATE: October 2023
PROJECT #: 4272
DRAWN/CHECKED: BGS/JB
DATA SOURCE: ESRI Online Basemap

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Figure 2.
Site Plan

Project:
City of Rochester
RFD Broad-Allen Fire House

Location:
272 Allen Street
City of Rochester, Monroe County, NY

Legend

Subject Property

1 inch = 25 feet

0	12.5	25	Feet
			50

N

Drawn/Checked By: BGS/JB
Lu Project Number: 4272
Date: October 2023
Notes: 1. Coordinate System: NAD 1983 State Plane NY West FIPS 3103 Feet 2. Orthoimagery (April 2021) downloaded from Pictometry 3. Scale: 1:300 (original document size 11"x17")

CONSTRUCTION SITE MATERIALS REUSE UNDER NYSDEC PART 360: QUICK REFERENCE GUIDE

What is the material?	Am I required to sample it?		Where can I use it?					Regulatory References
Excavated or demolition material description	Sampling Required?[a]	Lab Results Meet These Criteria	Highway Rights-of-Way	Farm, Cropland	Farm, Other	Residential Development	Under Pavement[d]	
Undisturbed native soil or sand and rock (except in NYC)	No	N/A	Yes	Yes	Yes	Yes	Yes	1, 4
Soil, Sand and Rock from Suspect location	Yes	General Fill	Yes	No	Yes	Yes	Yes	2, 3, 4
Soil, Sand and Rock from Suspect location	Yes	Restricted-Use Fill (RUF)	Yes	No	No	No	Yes	2, 3, 4
Soil, Sand and Rock from Suspect location	Yes	Limited-Use Fill (LUF)	No	No	No	No	Yes	2, 3, 4
Mixed "RU-CARBS" [b]	No	N/A	Yes, no volume limit	No	Yes, up to 5000 CY	Yes, up to 5000 CY	Yes, up to 5000 CY	5, 6
Mixed "RU-CARB" - only incidental soil (except in NYC Watershed, Nassau or Suffolk Counties)	No	N/A	Yes	No	Yes	Yes	Yes	7
Mixed soil and unrecognizable excavated material (concrete, asphalt, ash, slag, etc.)	Yes	RUF	Yes	No	No	No	Yes	2, 3, 4
Mixed soil and unrecognizable excavated material (concrete, asphalt, ash, slag, etc.)	Yes	LUF	No	No	No	No	Yes	2, 3, 4
Asphalt millings	No	N/A	Yes	No	No, except as pavement[c]	No, except as pavement[c]	Yes	8

[a] Sampling and laboratory analysis according to 6 NYCRR 360.13(e).

Version 4/28/21

[b] "Recognizable, uncontaminated concrete and concrete products, asphalt pavement, rock, brick and soil"

[c] A three- to six-inch layer of millings can be placed and compacted as a light-duty pavement over a prepared subgrade.

[d] Materials allowed "under pavement" can be used in any land-use setting under pavement or foundation and above the seasonal high water table.

REGULATORY REFERENCES

1. 6 NYCRR 360.12(c)(1)(ii)
2. 6 NYCRR 360.13(d) and (e)
3. 6 NYCRR 360.13(f)
4. February 12, 2021 Enforcement Discretion Letter (EDL), Subheading IV
5. 6 NYCRR 363-2.1(h)
6. 6 NYCRR 363-2.1(i)
7. Feb.12, 2021 EDL, Subheading VI
8. 6 NYCRR 360.12(c)(3)(ix)

NEW YORK STATE | Department of Environmental Conservation

City of Rochester Fire Department
Allen Street Firehouse- Engine 13/Truck 10
272 Allen Street
City of Rochester
Monroe County, New York

Health and Safety Plan

Prepared For:
City of Rochester
City Hall, Rm. 300B
Rochester, New York 14614

Prepared By:

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

280 East Broad Street, Suite 170
Rochester, New York 14604

November 2023

Project No. 4258-36

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A. General Information

Project Title: Allen Street Firehouse **Project No.** _____

Project Manager: TBD

Location: 272 Allen Street
Rochester, Monroe County, New York

Prepared By: _____ **Date:** 11/20/2023
Date Revised: _____

Approved By: _____ **Date Approved:** _____

Site Safety Officer Review: _____ **Date Reviewed:** _____

Scope/Objective of Work:

Proposed Date of Field Activities:

Background Information:
[ ] Complete [X] Preliminary (no data available)

Overall Chemical Hazard:
[ ] Serious [ ] Moderate
[X] Low [ ] Unknown

Overall Physical Hazard:
[ ] Serious [ ] Moderate
[X] Low [ ] Unknown

B. Site/Waste Characteristics

Waste Type(s):
[X] Liquid [X] Solid [ ] Sludge [ ] Gas/Vapor

Characteristic(s):
[ ] Flammable/Ignitable [X] Volatile [ ] Corrosive [ ] Acutely Toxic
[ ] Explosive [ ] Reactive [ ] Carcinogen [ ] Radioactive
[ ] Other: _____

Physical Hazard(s):

[X]	Overhead	[ ]	Confined Space	[X]	Below Grade	[X]	Trip/Fall
[X]	Puncture	[ ]	Burn	[X]	Cut	[ ]	Splash
[X]	Noise	[X]	Other:	Heat/Cold stress			

Site Description/Unusual Features:
City of Rochester Fire Department – Engine 13/Truck 10 is located at 272 Allen Street in Rochester, Monroe County, New York.

Site Currently in Operation:
[X] Yes [ ] No [ ] Not Applicable

C. Hazard Evaluation

Physical Hazard Evaluation

TASK	HAZARD(S)	HAZARD PREVENTION
All	Contact with or inhalation of contaminants, potentially in high concentration in sampling media and/or fire and explosion	To minimize exposure to chemical contaminants, a thorough review of suspected contaminants should be completed and implementation of an adequate protection program.
	Back strain and muscle fatigue due to lifting	Use proper lifting techniques to prevent back strain.
	Heat stress/cold stress exposure	Implement heat stress management techniques such as shifting work hours, increasing fluid intake, and monitoring employees**.** See Appendix A**.**
	Slip/ tripping/ overhead/ fall	Observe terrain and drilling equipment while walking to minimize slips and falls. Steel-toed boots provide additional support and stability. Use adequate lighting. Wear hard hat. Inspect all lifting equipment prior to use.
	Utility Lines	Identify location(s) prior to work, maintain 25-foot minimum distance to overhead utilities.
	Weather Extremes	Establish Site-specific contingencies for severe weather situations. Discontinue work in severe weather.
	Native wildlife presents the possibility of insect bites and associated diseases.	Avoid wildlife when possible. Use insect repellant.

Basic health and safety protection (steel-toed boots, work clothes and safety glasses or goggles) will be worn by all personnel at all times. Snakes, insects and other endemic wildlife should be avoided at all times. Any encounters that result in bites or scratches should be reported to the Site Safety Officer immediately. All allergies should be reported to the Site Safety Officer prior to the start of the project.

CHEMICAL HAZARD EVALUATION									
Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	PID	
	PEL	REL	TLV					Correction Factor**	Ioniz. Poten. (eV)
Acetone	1000 ppm	250 ppm	500 ppm	Y	Inh, Ing, Con	Irritation to eyes, nose, or throat, skin, skin burns, loss of coordination and equilibrium	Sharp penetrating odor, mint like	1.1	9.69
Arsenic*	0.01 mg/m^3	---	0.01 mg/m^3	Y	Inh, Ing, Abs, Con	Coughing, irritation to eyes, nose, throat, respiratory tract, inflammation of mucous membranes, dyspnea (labored breathing), cyanosis, and rales (rattle breathing), vomiting, bloody diarrhea, cold clammy skin, low blood pressure, weakness, headache cramps, convulsions, coma, redness, burns to skin	Odorless/silver gray or tin white brittle (metal, inorganic), also can be in solution (clear & odorless)	---	---
Barium	0.5 mg/m^3	---	0.5 mg/m^3	N	Inh, Ing, Con	Irritation to eyes, nose, throat, or skin; stomach pains, slow pulse, irregular heartbeat	Odorless	---	---
Benzene*	1 ppm	---	10 ppm	Y	Inh, Abs, Ing, Con	Irritation to eyes, skin, nose, respiratory system; headache, nausea, dizziness, drowsiness, unconsciousness, harmful, fatal if aspirated into lungs	Colorless to light yellow liquid, sweet aromatic odor	0.5	9.25
Cadmium*	0.005 mg/m^3	LFC	0.01 mg/m^3	N	Inh, Ing, Con	Irritation to eyes, nose, throat, cough, tight chest/pain, dyspnea, pulmonary edema, sweating, chills, slow pulse, muscle aches, weakness, death	Silvery/white (blue tinged) lustrous solid, odorless	---	N/A
Chromium (metal)	1.0 mg/m3	0.5 mg/m3	0.5 mg/m3	N	Inh, Ing, Con	Irritation to eyes, skin and respiratory tract (lungs), ulceration of skin and mucous membranes, rash, electrolyte disturbances	Blue-white to steel gray lustrous brittle hard odorless solid	---	N/A
Ethylbenzene	100 ppm	---	100 ppm	Y	Inh, Ing, Con	Irritation to eyes, skin, mucous membranes; dermatitis, narcosis, trouble breathing, paralysis, headache, nausea, headache, dizziness, coma	Colorless liquid, aromatic odor	0.5	8.77
Lead	0.05 mg/m^3	0.05 mg/m^3	0.05 mg/m^3	Y	Inh, Ing, Con	Poison, abdominal pain, spasms, nausea, vomiting, headache, irritation to eyes; skin, weakness, metallic taste, anorexia/loss of appetite, insomnia, facial pallor, colic, anemia, tremor, “lead line” in gums, constipation, abdominal pain, paralysis in wrists and ankles, encephalopathy (inflammation of brain)	Odorless	---	---

CHEMICAL HAZARD EVALUATION									
Compound	**Exposure Limits (TWA)**			**Dermal Hazard (Y/N)**	**Route(s) of Exposure**	**Acute Symptoms**	**Odor Threshold/ Description**	**PID**	
	PEL	**REL**	**TLV**					**Correction Factor****	**Ioniz. Poten. (eV)**
2-Butanone (Methyl Ethyl Ketone-MEK)	200 ppm	200 ppm	200 ppm	Y	Inh, Ing, Con	Irritation to eyes, nose; skin, dizziness, nausea, drowsiness, CNS depression, unconsciousness	Mint or acetone-like	0.9	9.51
Toluene	200 ppm	100 ppm	20 ppm	Y	Inh, Abs, Ing, Con	Irritation to eyes, skin, nose; upper respiratory tract, fatigue, weak, confusion, dizziness, headache, drowsiness, abdominal spasms, dilated pupils, euphoria	Colorless liquid, sweet pungent, benzene like odor	0.5	8.82
Xylenes	100 ppm	100 ppm	100 ppm	Y	Inh, Abs, Ing, Con	Irritation to eyes, nose, throat, skin; nausea, vomiting, headache, ringing in ears, severe breathing difficulties (that may be delayed in onset), substernal pain, coughing hoarseness, dizziness, excited, burning in mouth, stomach, dermatitis (removes oils from skin), corneal burns	Colorless liquid, aromatic odor	0.5	8.44

* = Chemical is a known or suspected carcinogen

KEY:

PEL = Permissible Exposure Limit
REL = Recommended Exposure Limit
--- = Information not available
TLV = Threshold Limit Value(ACGIH)

Inh = Inhalation
Ing = Ingestion
mg/m^3 = Milligrams per cubic meter
* = Chemical is a known or suspected carcinogen

Abs = Skin Absorption
Con = Skin and/or eye Contact
ppm = Parts per million
sk = Skin notation

D. Site Safety Work Plan

Site Control:

	Yes	No		Yes	No
Perimeter Identified:	[X]	[ ]	Site Secured:	[X]	[ ]
Work Areas Designated:	[X]	[ ]	Zones of Contamination Identified:	[ ]	[X]

Anticipated Level of PPE:

Level A	Level B	Level C	Level D
--	--	(Available)	[X]

All Site work will be performed at Level D (steel-toed boots, work clothes, eye protection, gloves and hard hats) unless monitoring indicates otherwise. Gloves will be worn if contact with Site soil, sludge or water is anticipated.

Decontamination Solutions and Procedures for Equipment, Sampling Gear, etc.:
Disposable sampling equipment will be used where possible. If decontamination is necessary, distilled or deionized water and Alconox® will be used. A 10% nitric acid rinse will be added if metals sampling is to be conducted.

Personnel Decontamination Protocol:
Soap, water and paper towels will be available for all personnel and will be used before eating, drinking or leaving the Site. Disposable PPE will be double bagged and disposed of as non-hazardous waste unless PCBs are detected.

Decontamination Solution Monitoring Procedures, if Applicable:
Decontamination solution will be disposed of on-Site with owner's permission.

Special Site Equipment, Facilities or Procedures
A portable toilet and potable water will be available on Site. (Sanitary Facilities and Lighting Must Meet 29 CFR 1910.120).

Site Entry Procedures and Special Considerations:
Lu Engineers Technical Staff will be required to adhere to this HASP. Special requirements by the Construction Contractor will be addressed during project commencement at an on-Site briefing, which will identify the roles of each organization's personnel and will integrate emergency procedures for all Site participants.

Work Limitations (time of day, weather conditions, etc.) and Heat/Cold Stress Requirements:
All work will be completed during daylight hours. Heavy equipment will not be used during electrical storms.

General Spill Control, if Applicable:
N/A

Investigation Derived Material (i.e., Expendables, Decon Waste, Cuttings) Disposal: N/A
N/A

Sampling Handling Procedures Including Protective Wear:
N/A

Team Member*	Responsibility
TBD	TBD

* All entries into the work zone require "Buddy System" use. All Lu Engineers field staff participate in a medical monitoring program and have completed applicable training per 29 CFR 1910.120. Respiratory protection program meets requirements of 29 CFR 1910.134.

E. Emergency Information

Local Resources:

Ambulance	911
Hospital Emergency Room:	585-275-4551
Strong Memorial Hospital	
601 Elmwood Avenue, Rochester, NY	
Poison Control Center	911
Police – Rochester Police Department	911
Fire Department – Rochester Fire Department	911

Site Resources:

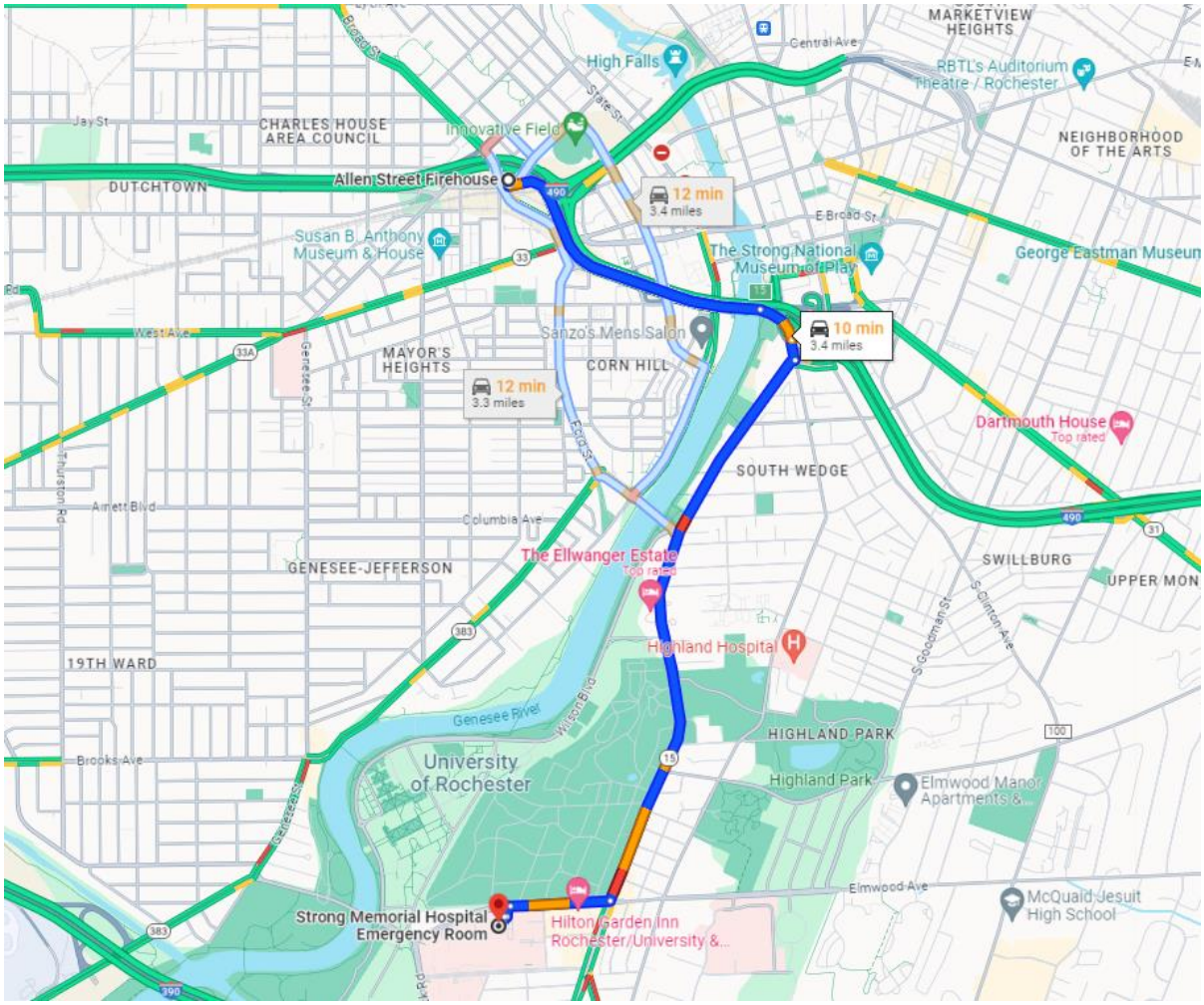
Site Emergency Evaluation Alarm Method	Sound vehicle horn
Water Supply Source:	Gallons of water will be available in vehicles.
Telephone Location, Number:	None available
Cellular Phone, if Available:	None available
Radio:	TBD
Other:	TBD

Emergency Contacts:

Police – Rochester Police Department	911
Fire Department – Rochester Fire Department	911
Safety Director:	_____

Emergency Routes

Field team must know route(s) prior to start of work.



Directions from the Site to the Strong Hospital Emergency Room:

Head east on Allen St toward Platt St. Use the right lane to take the ramp onto I-490E. Take exit 15 toward NY-15 and merge onto South Ave. Turn right onto NY-15 S/Mt Hope Ave. Turn right onto Elmwood Ave. Turn left onto Thomas H Jackson Drive and follow the signs to the destination.

On-Site Assembly Area: At Site entry point

Off-Site Assembly Area: N/A

Emergency Egress Routes to get off-Site: N/A

APPENDIX A

HEAT STRESS AND COLD EXPOSURE

APPENDIX B

ADDITIONAL POTENTIAL PHYSICAL AND CHEMICAL HAZARDS

ADDITIONAL POTENTIAL PHYSICAL AND CHEMICAL HAZARDS	
POTENTIAL PHYSICAL HAZARDS	**CONTROL METHODS**
Overhead Hazards/Falling Objects	Overhead hazards will be identified prior to each task (i.e., inspecting drill rig mast, building structure). Hard hats will be required for each task that poses an overhead hazard.
Contact with Utilities	Prior to initiating Site activities, all utilities will be located by the appropriate utility company and will be marked and/or barricaded to minimize the potential of accidental contact. A minimum distance of 25 feet between the derrick and overhead power lines must be maintained at all times.
Noise Exposure	Areas of potentially high sound pressure levels (>85 dBA) will be restricted to authorized personnel only. Engineering controls will be used to the extent possible. Hearing protection will be made available to all workers on-Site. Exposure to time-weighted average levels in excess of 85 dBA is not anticipated.
POTENTIAL CHEMICAL HAZARDS	**GENERAL CONTROL METHODS**
Contaminant Inhalation	Direct reading instruments will be used to monitor airborne contaminants. Established Lu Engineers' action levels will limit exposure to safe levels. Respiratory protection will be used as appropriate.
Contaminant Ingestion	Standard safety procedures such as restricting eating, drinking, and smoking to the support zone and utilizing proper personal decontamination procedures will minimize ingestion as a potential route of exposure.
Dermal Contaminant Contact	The proper selection and use of personal protective clothing and decontamination procedures will minimize dermal contaminant contact.
Potential contact with lower concentration waste and naturally occurring contaminants (i.e., methane)	Dermal contact with contaminants will be minimized by proper use of the following PPE: • Tyvex coveralls • Neoprene gloves • Booties (latex) or over-boots.
Contact with or inhalation of decontamination solutions.	Material Safety Data Sheets for all decon solutions. First aid equipment available. See Appendix C.

APPENDIX C

EQUIPMENT CHECKLIST

EQUIPMENT CHECKLIST

PROTECTIVE GEAR			
LEVEL A	**N/A**	**LEVEL B**	**N/A**
SCBA		SCBA	
SPARE AIR TANKS		SPARE AIR TANKS	
ENCAPSULATING SUITE (Type)		PROTECTIVE COVERALL (Type)	
SURGICAL GLOVES		RAIN SUIT	
NEOPRENE SAFETY BOOTS		BUTYL APRON	
BOOTIES		SURGICAL GLOVES	
GLOVES (Type)		GLOVES (Type)	
OUTER WORK GLOVES		OUTER WORK GLOVES	
HARD HAT		NEOPRENE SAFETY BOOTS	
CASCADE SYSTEM		BOOTIES	
5-MINUTE COOLING VEST		HARD HAT WITH FACE SHIELD	
		CASCADE SYSTEM	
		MANIFOLD SYSTEM	
LEVEL C		**LEVEL D**	
ULTRA-TWIN RESPIRATOR		HALF-FACE RESPIRATOR (available)	X
POWER AIR PURIFYING RESPIRATOR		CARTRIDGES (Type GMC-H)(available)	X
CARTRIDGES (Type GMC-H)		5-MINUTE ESCAPE MASK (available)	
5-MINUTE ESCAPE MASK		PROTECTIVE COVERALL (Type Tyvek/Saranax)	
PROTECTIVE COVERALL (Type Tyvek/Saranax)		RAIN SUIT (available)	X
RAIN SUIT		NEOPRENE SAFETY BOOTS	
BUTYL APRON		BOOTIES (available)	
SURGICAL GLOVES		NITRILE GLOVES	
GLOVES (Type: Nitrite/Neoprene)		HARD HAT WITH FACE SHIELD (available)	
OUTER WORK GLOVES		SAFETY GLASSES	X
NEOPRENE SAFETY BOOTS		GLOVES (Type: Surgical)	X
HARD HAT WITH FACE SHIELD		WORK GLOVES (Type: Neoprene/Nitrile)(available)	X
BOOTIES		SAFETY BOOTS	X
HARD HAT		BLAZE ORANGE VEST	
		TICK/CHIGGER GATORS	

EQUIPMENT CHECKLIST

INSTRUMENTATION	NO.	FIRST AID EQUIPMENT	NO.
OVA		FIRST AID KIT	X
THERMAL DESORBER		OXYGEN ADMINISTRATOR	
O_2/EXPLOSIMETER W/CAL.KIT (Drilling)		STRETCHER	
PHOTOVAC TIP		PORTABLE EYE WASH	
HNu (Probe 10.2)		BLOOD PRESSURE MONITOR	
MAGNETOMETER		FIRE EXTINGUISHER	X
PIPE LOCATOR			
WEATHER STATION		**DECON EQUIPMENT**	
DRAEGER PUMP, TUBES ( )		WASH TUBS	
BRUNTON COMPASS		BUCKETS	X
MONITOX CYANIDE		SCRUB BRUSHES	X
HEAT STRESS MONITOR		PRESSURIZED SPRAYER	
NOISE EQUIPMENT		DETERGENT (Type: Alconox) = TSP	X
PERSONAL SAMPLING PUMPS		SOLVENT (HEXANE)	
MINI-RAM (Particulates) (Drilling)		PLASTIC SHEETING	
		TARPS AND POLES	
		TRASH BAGS	X
RADIATION EQUIPMENT		TRASH CANS	
DOCUMENTATION FORMS		MASKING TAPE	
PORTABLE RATEMETER		DUCT TAPE	X
SCALER/RATEMETER		PAPER TOWELS	X
NaI Probe		FACE MASK	
ZnS Probe		FACE MASK SANITIZER	
GM Pancake Probe		FOLDING CHAIRS	
GM Side Window Probe		STEP LADDERS	
MICRO R METER		DISTILLED WATER	X
ION CHAMBER			
ALERT DOSIMETER			
MINI-RAD			

EQUIPMENT CHECKLIST

SAMPLING EQUIPMENT	NO.	MISCELLANEOUS (cont.)	NO.
4-OZ BOTTLES	X	BUNG WRENCH	
1 LITER AMBER BOTTLES		SOIL AUGER	
VOA BOTTLES	X	PICK	
SOIL SAMPLING (CORING) TOOL		SHOVEL	X
SOIL VAPOR PROBE		CATALYTIC HEATER	
THIEVING RODS WITH BULBS		PROPANE GAS	
SPOONS		BANNER TAPE	X
GENERAL TOOL KIT		SURVEYING METER STICK	
FILTER PAPER		CHAINING PINS AND RING	
PERSONAL SAMPLING PUMP SUPPLIES		TABLES	
4-OZ JARS	X	WEATHER RADIO	
		BINOCULARS	
VEHICLE EQUIPMENT		MEGAPHONE	
TOOL KIT	X	PORTABLE RADIOS (4)	
HYDRAULIC JACK		CELL PHONE	X
LUG WRENCH		CAMERA	X
TOW CHAIN		HEARING PROTECTION	X
VAN CHECK OUT			
GAS	X	**SHIPPING EQUIPMENT**	
OIL	X	COOLERS	X
ANTIFREEZE		PAINT CANS WITH LIDS, 7 CMIPS EACH	
BATTERY		VERMICULITE	
WINDSHIELD WASH	X	SHIPPING LABELS	X
TIRE PRESSURE		DOT LABELS: “DANGER”, “UP”;	
		“INSIDE CONTAINER COMPLIES...”;	
MISCELLANEOUS		“HAZARD GROUP”	
PITCHER PUMP		STRAPPING TAPE	
SURVEYOR’S TAPE		BOTTLE LABELS	X
100 FIBERGLASS TAPE	X	BAGGIES	X
300 NYLON ROPE		CUSTODY SEALS	X
NYLON STRING		CHAIN-OF-CUSTODY FORMS	X
SURVEYING FLAGS		FEDERAL EXPRESS FORMS	X
FILM		CLEAR PACKING TAPE	X
WHEEL BARROW			