NYC Office of Environmental Remediation

"E" Designation Program
Hazardous Materials
Voluntary Cleanup Program

Phase II Work Plan
(Short Form)

For

808 Metropolitan Avenue Development
808 Metropolitan Avenue, Brooklyn, NY
Block 2916, Lot 8
OER Project Number 22TMP1030K

E-Designation E-618
CEQR Number 20DCP110K
824 Metropolitan Avenue Rezoning Action

Prepared for:

808 Metropolitan Realty LLC
40 Oser Avenue, Suite 4
Hauppauge, NY 11788
kohnjacob@gmail.com

Prepared by:

Haley & Aldrich of New York
237 West 35th Street, Floor 16
New York, NY 10001
JBellew@haleyaldrich.com
(646) 277-5686

February 2022

Introduction

This Phase II Investigation Work Plan has been developed for the above referenced site. The site is located within the East Williamsburg neighborhood of Brooklyn, New York. The following work scope has been developed in response to the proposed development project and as per the meeting with the New York City Office of Environmental Remediation (NYCOER) on 9 February 2022.

Site Location, Current Use, and Proposed Development Plan

The site is located in the East Williamsburg neighborhood of Brooklyn and is identified as Block 2916 and Lot 8. Currently, the site is utilized as an active Speedway gasoline filling station and contains a one-story retail kiosk, pump island with overhead canopy, underground storage tank (UST) field, and an electrical and water supply utility structure. The site is approximately 12,625-square-feet and is listed with an environmental E-Designation (E-618) for hazardous materials, noise (window wall attenuation and alternative means of ventilation), and air quality (HVAC exhaust stack location limitations) resulting from a City Environmental Quality Review (CEQR) effective May 2021 (CEQR # 20DCP110K). Satisfaction of the E-Designation requirements is subject to review and approval by the NYCOER prior to redevelopment. A site location map is provided as Figure 1.

The development project consists of demolition of the existing on-site structures, closure and removal of the on-site USTs, and construction of a new mixed-use building. Although the future development plans are in preliminary design phases, the proposed development will include a new mixed-use (residential and commercial), mixed-income building that will provide affordable residential rental units pursuant to 421a. The new development is anticipated to include one cellar level requiring remedial excavations extending up to approximately 14 feet below ground surface (ft bgs). The water table is expected at approximately 11 to 20 feet bgs.

The site is about 39 feet above mean sea level.

Phase I ESA Summary

A Phase I Environmental Site Assessment (ESA) was prepared for the site by Haley & Aldrich in February 2022. The following on-site and primary off-site recognized environmental conditions (RECs) and historical RECs (HRECs) were identified:

- REC #1: Current and Former Use of Site as a Petroleum Filling Station/Auto-Related Facility

  Historic records indicate current and former use of the site as a used car sales facility, petroleum filling station/auto-related facility since the late-1960s. The current and historical use is considered a REC as potential or undocumented releases of petroleum products, solvents, and/or other hazardous materials may have adversely affected groundwater, soil and/or soil vapor at the site.

- REC #2: Open Spill Case at North-Adjoining and Down-Gradient Property to Subject Site

  An open spill (spill No. 1811154) was reported on 5 February 2019 due to petroleum vapor impacts to the sewer line at the north-adjoining property. After further investigation by NYSDEC, it was determined that soil vapor, soil and groundwater sampling should be conducted at this property to further investigate these odors. The spill case remains open. The open spill case is considered a REC as documented releases of petroleum products may have adversely affected soil vapor at the site.

- REC #3: Documented Petroleum Contamination and Former Petroleum Releases at Petroleum Filling Station Located West-Adjacent and Up/Cross-Gradient to the Site

  According to regulatory records, known petroleum contamination is present at a property located west adjacent and cross/up-gradient to the site (2 Bushwick Avenue, former Shell Station), which operated as a gasoline filling station since at least the late 1980s. Spill #0330060 was reported in 1999 due to the petroleum releases. Elevated concentrations of volatile organic compounds (VOCs) above regulatory criteria in groundwater and free-phase product were identified in groundwater monitoring wells in the vicinity of former USTs. In addition, grossly contaminated soils were observed on this property during subsurface investigations. Quarterly groundwater monitoring and product recovery events were performed between 2004 and 2008, and additional remediation including enhanced fluid recovery (EFR) and ORC were implemented between 2013 and 2014 to address the spill. Remedial activities were restricted due to the subway tunnel located 13 feet away from the property boundary. In 2019, a second spill case (Spill #1811154) was opened to address the petroleum contamination identified in soil and groundwater on this property during a tank removal project. According to the spill database, NYSDEC expressed concerns for future use of the property and recommended appropriate remedial and vapor mitigation efforts should subsurface contamination be encountered during construction of a new building. Spill #1811154 achieved regulatory closure on 6 May 2021. The closed spill cases are considered a REC as documented releases of petroleum products may have adversely affected soil, soil vapor, and groundwater at the site.

- HREC #1: Closed Spill Cases Associated with Potential Petroleum Releases at the Site

  Regulatory records and previous reports identify several spills at the site that were reported between 1988 and 1995 and have received regulatory closure. These spills were associated with tank test failures, tank removal activities, gasoline affecting subsurface site soils and/or human error. The regulatory database report indicates that cleanup activities for each spill have ceased.

A copy of the Phase I ESA will be provided to NYCOER under separate cover.

Phase II Investigation Work Scope

Geophysical Survey

A geophysical survey will be performed across the entire site to investigate for the presence of USTs, drums, etc. that were identified in historic Sanborn maps, during site reconnaissance, etc. Results of the geophysical survey will be presented in the Remedial Investigation Report (RIR) submitted to NYCOER.

Soil, Groundwater and Soil Vapor Summary

An investigation of soil, soil vapor and groundwater will be performed to properly characterize the site for potential environmental impacts from historic on-site/off-site uses, operations, etc. The proposed sampling event will address both RECs and historic fill, as well as to provide general horizontal/vertical characterization across the site for development purposes. The sampling procedures of this investigation will be performed in accordance with the NYSDEC Technical Guidance for Site Investigation and Remediation DER-10 as well as NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS), October 2020 (revised June 2021).

Seven test borings and five soil vapor points will be completed at the site. Please see attached site plan (Figure 2) depicting sample point locations, where soil, groundwater, and soil vapor samples will be collected. At a minimum, a total of 14 discrete soil samples will be collected from the seven test borings. Four of the test borings will be converted into temporary groundwater monitoring wells and a minimum of four groundwater samples will be collected. A total of five soil vapor samples will be collected. The depth of groundwater is expected to be encountered at approximately 11 to 20 feet bgs and general groundwater flow direction is expected to be to the northwest. Each sample point location at the site will be accurately measured to fixed benchmarks (i.e., select properly lines, adjacent structures, etc.) or by a precision GPS that is capable of coordinating a fixed point with within +/- 1 foot.

Soil Sampling

A geologist/engineer/QEP will screen the soil samples during borehole advancement for organic vapors with a photo-ionization detector (PID) and evaluated for visual and olfactory impacts prior to collecting environmental samples. All field work will be recorded in a field log. A direct push GeoProbe drill rig will be used and if necessary, more advanced drilling technology will be used to complete the site investigation. At a minimum, two soil samples will be collected from each test borings (for a total of 14 soil samples) for laboratory analysis. A surface soil sample (from the 0-2 feet bgs interval) and subsurface soil sample (from the 14-16 feet bgs interval) will be collected from the proposed maximum excavation depth.

Discrete (grab) samples will be taken from the aforementioned sampling intervals. The subsurface soil samples may also serve as in-situ post-excavation soil samples for the remedial plan. A third soil sample may be collected from each or several test boring(s) if 1) elevated PID readings and/or visual and olfactory observations are noted during borehole advancement and/or 2) field observations identify an upper fill layer underlain by native material the additional soil sample from the upper zone of the native layer will help delineate the vertical migration of impacts (if any), as well as determine a more detailed remedy and potentially provide a cost savings for disposal options.

Monitoring Well Installation and Groundwater Sampling

Four of the proposed soil borings will be converted into 1-inch-diameter temporary groundwater monitoring wells. Representative groundwater samples will be collected using low-flow sampling techniques. Properly sized screen and silica sand packs will be used for noted site conditions. A representative groundwater sample will be collected from each temporary well with a peristaltic pump and dedicated tubing. Sampling will be conducted in accordance with NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation, dated May 2010, and Sampling Guidelines and Protocols, dated March 1991. Temporary groundwater wells will be gauged with a water level meter to record a depth to groundwater reading (1/100 foot), and if necessary, an interface meter to determine the thickness of LNAPL or DNAPL. The water level information collected during temporary well gauging activities will be used to prepare a rough groundwater contour map.

Soil Vapor Sampling

Soil vapor samples will be collected in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006). Conditions in the field may require adjustment of sampling locations. Groundwater is expected to be encountered at a depth of 11 to 20 feet bgs.

Five soil vapor samples will be collected. Soil vapor implants will be set at a depth of approximately 14 feet bgs (proposed development depth). The vapor implants will be installed with a direct-push GeoProbe drill rig to the planned depth. The sample collection point will consist of a polyethylene probe and inert sampling tubing (i.e., polyethylene or Teflon). The opening around the probe will be backfilled with coarse sand to approximately six inches above the top of the probe. A three-foot hydrated bentonite seal will be installed above the sampling zone. The annulus around the inert sampling tube will be filled with sand or hydrated bentonite up to a cement-bentonite surface seal. Sampling will occur for the duration of 2 hours.

Samples will be collected in appropriate sized Summa canisters that have been certified clean by the laboratory and samples will be analyzed by using USEPA Method TO-15. Flow rate for both purging and sampling will not exceed 0.2 L/min. 24-hours following soil vapor probe installation, one to three implant volumes shall be purged prior to the collection of any soil-gas samples. A sample log sheet will be maintained summarizing sample identification, date and time of sample collection, sampling depth, identity of samplers, sampling methods and devices, soil vapor purge volumes, volume of the soil vapor extracted, vacuum of canisters before and after the samples are collected, apparent moisture content of the sampling zone, and chain of custody protocols.

As part of the vapor intrusion evaluation, a tracer gas will be used in accordance with NYSDOH protocols to serve as a quality assurance/quality control (QA/QC) device to verify the integrity of the soil vapor probe seal. A container (box, plastic pail, etc.) will serve to keep the tracer gas in contact with the probe during testing. A portable monitoring device will be used to analyze a sample of soil vapor for the tracer gas prior to sampling. If the tracer sample results show a significant presence of the tracer, the probe seals will be adjusted to prevent infiltration. At the conclusion of the sampling round, tracer monitoring will be performed a second time to confirm the integrity of the probe seals.

Sample Analysis

Soil, groundwater, and soil vapor samples will be submitted to a NYSDOH Environmental Laboratory Accreditation Program (ELAP)-certified laboratory for Full analysis:

- Volatile Organic Compounds by EPA Method 8260;
- Semi-volatile organic compounds by EPA Method 8270;
- Pesticides/PCBs by EPA Method 8081/8082; and
- Target Analyte List metals by EPA Method 6010 and 7471;
- Soil vapor samples will be analyzed for VOCs by using USEPA Method TO-15.

All groundwater samples will be analyzed for both filtered (dissolved) and unfiltered (total) metals.

In addition, one soil and three groundwater samples will also be analyzed for PFAS (NYSDEC Analyte List) by LC-MS/MS via EPA 537.1 and 1,4-dioxane via EPA Method 8270 SIM. Sampling will be performed in accordance with *NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS),* dated October 2020 (revised June 2021).

The analytical methods above should include all compounds included in NYSDEC Part 375-6.8 and CP-51 for soil, NYSDEC Part 703 Groundwater Quality Standards (class GA) or Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS) for groundwater, and NYSDOH October 2006 Final Guidance for Evaluating Soil Vapor Intrusion Matrices for soil vapor.

If either LNAPL and/or DNAPL are detected, appropriate samples will be collected for characterization and “finger print analysis” and required regulatory reporting (i.e. NYSDEC spills hotline) will be performed.

Quality Assurance/Quality Control Procedures

QA/QC procedures will be used to provide performance information with regard to accuracy, precision, sensitivity, representation, completeness, and comparability associated with the sampling and analysis for this investigation. Field QA/QC procedures will be used (1) to document that samples are representative of actual conditions at the Site and (2) identify possible cross-contamination from field activities or sample transit. Laboratory QA/QC procedures and analyses will be used to demonstrate whether analytical results have been biased either by interfering compounds in the sample matrix, or by laboratory techniques that may have introduced systematic or random errors to the analytical process. QA/QC samples (field and trip blanks, duplicates, etc.) will be collected and analyzed at an ELAP-certified laboratory.

Investigation Derived Waste

Cuttings may be disposed at the site within the borehole that generated them to within 24 inches of the surface unless:

- Free product or grossly contaminated soil, are present in the cuttings;
- The borehole has penetrated an aquitard, aquiclude or other confining layer; or extends significantly into bedrock;
- Backfilling the borehole with cuttings will create a significant path for vertical movement of contaminants. Soil additives (bentonite) may be added to the cuttings to reduce permeability;
- The soil cannot fit into the borehole.

Those soil cuttings needing to be managed on-site will be containerized in properly labeled DOT approved 55-gallon drums for future off-site disposal at a permitted facility. All boreholes which require drill cuttings disposal would ultimately be filled with bentonite chips (hydrated) and asphalt/concrete capping. Disposable sampling equipment including, spoons, gloves, bags, paper towels, etc. that came in contact with environmental media will be double bagged and disposed as municipal trash in a facility trash dumpster as non-hazardous trash.

Reporting

A Remedial Investigation Report (RIR) will be prepared following completion of the field activities and receipt of the laboratory data. The report will provide detailed summaries of the investigative findings. Soil analytical results will be compared to the NYSDEC Part 375-6.8(a) Unrestricted Used Soil Cleanup Objectives, appropriate Part 375-6.8(b) Restricted Soil Cleanup Objectives and supplemental cleanup objectives in NYSDEC CP-51 Soil Cleanup Guidance. Groundwater analytical results will be compared to NYSDEC Part 703 Groundwater Quality Standards (GQS) (class GA) or Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS). Soil vapor analytical results will be compared to NYSDOH October 2006 Final Guidance for Evaluating Soil Vapor Intrusion Matrices, updated May 2017.

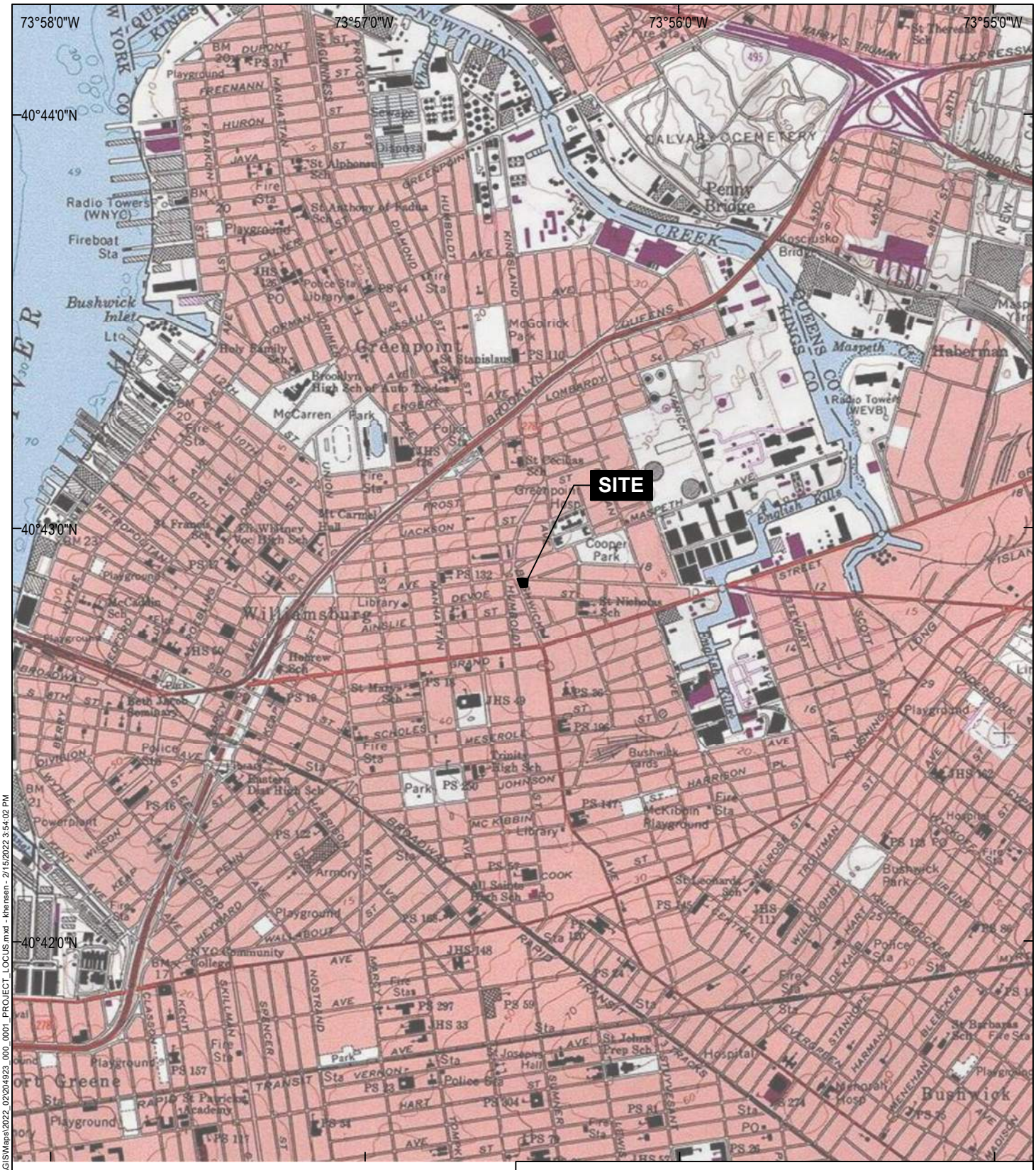
The report will include an updated sampling plan, spider diagrams, analytical data tables for all reported constituent compounds (including non-detectable concentrations) and remedial recommendations, as warranted. In the RIR, all applicable documentation (site map, conceptual building plans, soil boring and groundwater monitoring well construction logs, and sampling intervals) will be prepared from a single grade reference point as well as in terms of elevation.

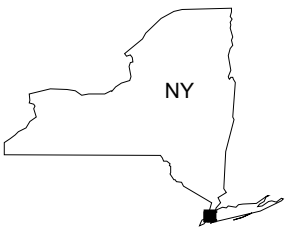
The report will also include all sampling logs and photos taken during the investigation.

Investigation HASP

An OSHA compliant Health and Safety Plan (HASP) that meets all OSHA HAZWOPER requirements will be implemented during the site work to protect worker safety. The Site Safety Coordinator will ensure full compliance of the HASP in accordance with applicable health and safety laws and regulations. All field personnel involved in investigation activities will participate in training required under OSHA HAZWOPER 29 CFR 1910.120, including 40-hour hazardous waste operator training and annual 8-hour refresher training. Emergency telephone numbers will be posted at the site location before any work begins. A safety meeting will be conducted before each shift begins. Topics to be discussed include task hazards and protective measures (physical, chemical, environmental); emergency procedures; PPE levels and other relevant safety topics including a highlighted route map to the nearest hospital/emergency room. Meetings will be documented in a log book or specific form. Potential on-site chemicals of concern include VOCs, SVOCs, Pesticides/PCBs, and metals (specifically arsenic, lead, and mercury at a minimum). Information fact sheets and/or summary tables for each contaminant group are included in the HASP, provided as Attachment 1. A copy of this HASP will be on-site during each sampling event.

Figure 1:
Site Location Map





MAP SOURCE: USGS
SITE COORDINATES: 40°42'52"N, 73°56'29"W

HALEY ALDRICH

PHASE I ENVIRONMENTAL SITE ASSESSMENT
808 METROPOLITAN AVENUE
BROOKLYN, NEW YORK

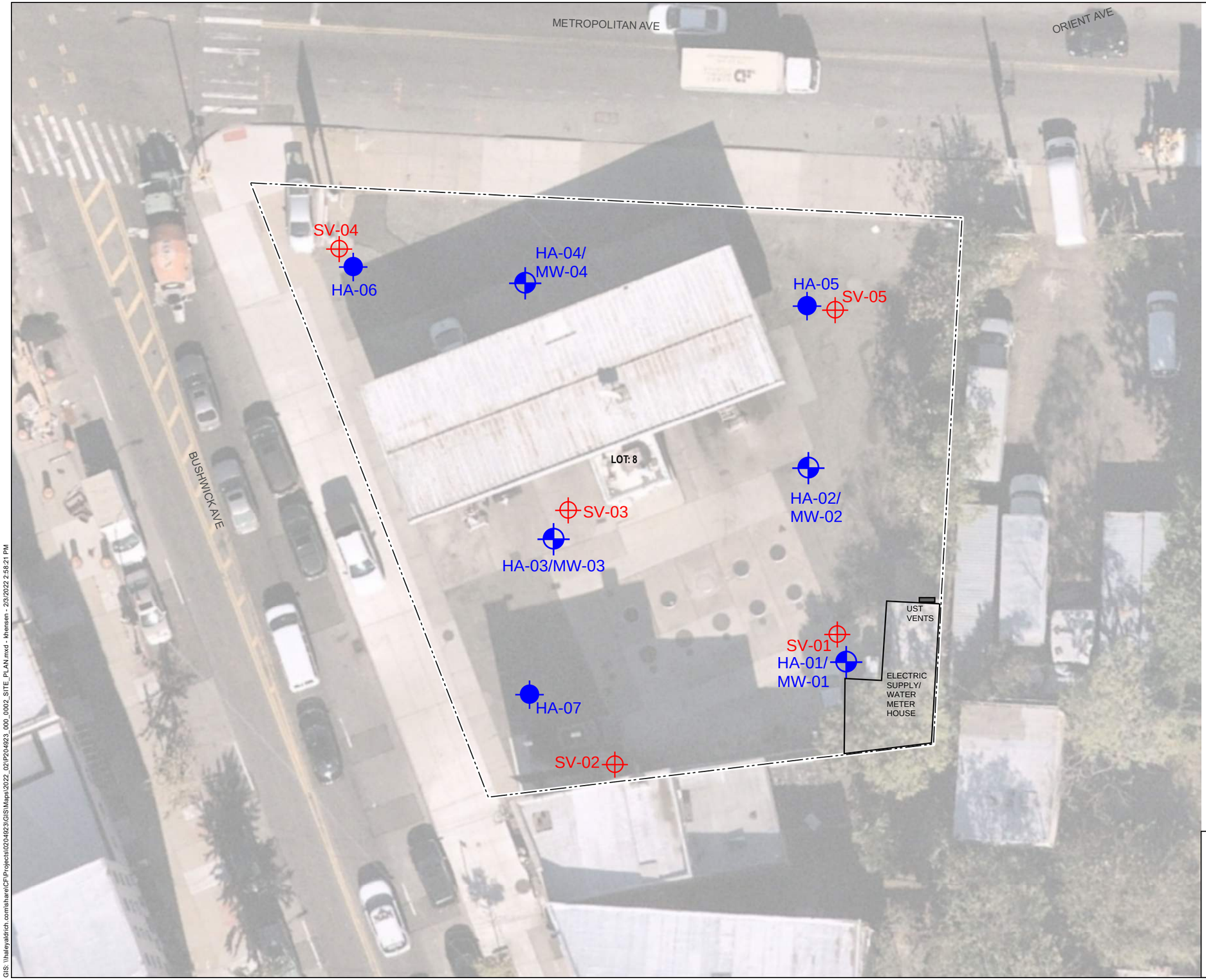
PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
FEBRUARY 2022

FIGURE 1

GIS: \\haleyaldrich.com\share\CF\Projects\0204923\GIS\Maps\2022_02\204923_000_0001_PROJECT_LOCUS.mxd - khensen - 2/15/2022 3:54:02 PM

Figure 2:
Site Plan



LEGEND

- BLOCK 2916 SITE BOUNDARY
- PROPOSED SOIL BORING LOCATION
- PROPOSED SOIL BORING/TEMPORARY MONITORING WELL LOCATION
- PROPOSED SOIL VAPOR SAMPLE LOCATION

NOTES

1. ASSESSOR PARCEL DATA SOURCE: KINGS COUNTY
2. AERIAL IMAGERY SOURCE: NEARMAP, 19 OCTOBER 2021

N

0 20 40

SCALE IN FEET

HALEY ALDRICH

PHASE IIENVIRONMENTAL SITE ASSESSMENT
808 METROPOLITAN AVENUE
BROOKLYN, NEW YORK

PROPOSED SAMPLE LOCATION PLAN

FEBRUARY 2022

FIGURE 2

GIS: \\haleyaldrich.com\share\CF\Projects\020482\GIS\Maps\2022_02\P204823_000_0002_SITE_PLAN.mxd - khensen - 2/3/2022 2:58:21 PM

Table 1:
Sample Collection Summary

HALEY ALDRICH

Table 1: Soil Sample Collection Summary
808 Metropolitan Avenue Development Brooklyn, NY
Phase II Environmental Site Investigation Report
Project No. 0204923

Sample Location	Sample ID (B-#_Depth)	Sample Rationale	Sample Type	Sample Depth (feet bgs)	Sample Date	Analytical Parameters
SOIL SAMPLES						
HA-01	HA-01_0-2	Shallow Urban Fill (0-2')	Grab	0-2		NYSDEC Part 375/ TCL VOCs, SVOCs, TAL metals, PCBs, and Pesticides
	HA-01_12-14	Near water table/ development depth	Grab	12-14		
HA-02	HA-02_0-2	Shallow Urban Fill (0-2')	Grab	0-2		NYSDEC Part 375/ TCL VOCs, SVOCs, TAL metals, PCBs, and Pesticides
	HA-02_12-14	Near water table/ development depth	Grab	12-14		
HA-03	HA-03_0-2	Shallow Urban Fill (0-2')	Grab	0-2		NYSDEC Part 375/ TCL VOCs, SVOCs, TAL metals, PCBs, and Pesticides
	HA-03_12-14	Near water table/ development depth	Grab	12-14		
HA-04	HA-04_0-2	Shallow Urban Fill (0-2')	Grab	0-2		NYSDEC Part 375/ TCL VOCs, SVOCs, TAL metals, PCBs, and Pesticides. PLUS **1,4-dioxane and PFAS (537.1 SIM)**
	HA-04_12-14	Near water table/ development depth	Grab	12-14		NYSDEC Part 375/ TCL VOCs, SVOCs, TAL metals, PCBs, and Pesticides
HA-05	HA-05_0-2	Shallow Urban Fill (0-2')	Grab	0-2		NYSDEC Part 375/ TCL VOCs, SVOCs, TAL metals, PCBs, and Pesticides
	HA-05_12-14	Near water table/ development depth	Grab	12-14		
HA-06	HA-06_0-2	Shallow Urban Fill (0-2')	Grab	0-2		NYSDEC Part 375/ TCL VOCs, SVOCs, TAL metals, PCBs, and Pesticides
	HA-06_12-14	Near water table/ development depth	Grab	12-14		
HA-07	HA-07_0-1	Shallow Urban Fill (0-2')	Grab	0-2		NYSDEC Part 375/ TCL VOCs, SVOCs, TAL metals, PCBs, and Pesticides
	HA-07_12-14	Near water table/ development depth	Grab	12-14		
GROUNDWATER SAMPLES						
TW-01	TW-01_DATE	Straddle Water Table	Grab	-		NYSDEC Part 375 VOCs, SVOCs, PCBs, TAL Metals (filtered and unfiltered), **1,4-dioxane and PFAS (537.1 SIM)**
TW-02	TW-02_DATE	Straddle Water Table	Grab	-		NYSDEC Part 375 VOCs, SVOCs, PCBs, TAL Metals (filtered and unfiltered), **1,4-dioxane and PFAS (537.1 SIM)**
TW-03	TW-03_DATE	Straddle Water Table	Grab	-		NYSDEC Part 375 VOCs, SVOCs, PCBs, TAL Metals (filtered and unfiltered)
TW-04	TW-04_DATE	Straddle Water Table	Grab	-		NYSDEC Part 375 VOCs, SVOCs, PCBs, TAL Metals (filtered and unfiltered), **1,4-dioxane and PFAS (537.1 SIM)**
SUB-SLAB SOIL VAPOR AND AMBIENT AIR SAMPLES						
SV-01	SV-01_DATE		Soil Vapor	12' or 2' above water table, whichever shallower		TO-15 VOCs
SV-02	SV-02_DATE		Soil Vapor	12' or 2' above water table, whichever shallower		TO-15 VOCs
SV-03	SV-03_DATE		Soil Vapor	12' or 2' above water table, whichever shallower		TO-15 VOCs
SV-04	SV-04_DATE		Soil Vapor	12' or 2' above water table, whichever shallower		TO-15 VOCs
SV-05	SV-05_DATE		Soil Vapor	12' or 2' above water table, whichever shallower		TO-15 VOCs
QA/QC SAMPLES						
TW-03	DUP_GW	Straddle Water Table	Grab Duplicate	-		NYSDEC Part 375 VOCs, SVOCs, PCBs, TAL Metals (filtered and
HA-05	DUP_SOIL	Near water table/ development depth	Grab Duplicate	12-14		NYSDEC Part 375/ TCL VOCs, SVOCs, TAL metals, PCBs, and Pesticides
TB01	TB01_DATE	Trip Blank (1 per day of sampling GW with VOCs)	QA/QC	-		TCL/NYSDEC Part 375 VOCs

Notes:
1. NYSDEC Part 375 - New York State Department of Environmental Conservation (NYSDEC) Title 6 of the New York Codes, Rules, and Regulations (6 NYCRR) Part 375 analyze list
3. VOC = Volatile Organic Compound
4. SVOC - Semivolatile Organic Compound
5. PCB = Polychlorinated Biphenyl
6. TCL - Target Compound List
7. TAL = Target Analyze List
8. TCLP - Toxicity Characteristic Leaching Procedure
9. EPH = Extractable Petroleum Hydrocarbons
10. RCRA - Resource Cons ervation and Recovery Act
11. QA/QC = Quality Assurance/Quality Control
12. feet bgs - below grade surface; approximate depth below the concrete slab
13. N/A - Not Applicable

Attachment 1:
Health & Safety Plan

HALEY ALDRICH

HALEY & ALDRICH, INC.
SITE-SPECIFIC SAFETY PLAN

FOR

808 Metropolitan Avenue

Brooklyn, New York

Project/File No. 0204923

Gensuite EZ Scan®

BI - Developers

Prepared By: Emily Snead	**Date: 2/11/2022**
Approvals: The following signatures constitute approval of this Health & Safety Plan.	
Field Safety Manager: Brian Ferguson	**Date: 2/14/2022**
Insert Project Manager's electronic signature.	
Project Manager: Emily Snead	**Date: 2/11/2022**
HASP Valid Through: 12-31-2022	

Table of Contents

Attachments

STOP WORK AUTHORITY

In accordance with Haley & Aldrich (Haley & Aldrich) Stop Work Authority Operating Procedure (OP1035), any individual has the right to refuse to perform work that he or she believes to be unsafe without fear of retaliation. He or she also has the authority, obligation, and responsibility to stop others from working in an unsafe manner.

STOP Work Authority is the stop work policy for all personnel and subcontractors on the Site. When work has been stopped due to an unsafe condition, Haley & Aldrich site management (e.g., Project Manager [PM], Site Health & Safety Officer [SHSO], etc.) and the Haley & Aldrich Senior Project Manager (SPM) will be notified immediately.

Reasons for issuing a stop work order include, but are not limited to:

- The belief/perception that injury to personnel or accident causing significant damage to property or equipment is imminent.
- A Haley & Aldrich subcontractor is in breach of site safety requirements and/or their own site HASP.
- Identifying a substandard condition (e.g., severe weather) or activity that creates an unacceptable safety risk as determined by a qualified person.

Work will not resume until the unsafe act has been stopped OR sufficient safety precautions have been taken to remove or mitigate the risk to an acceptable degree. Stop work orders will be documented as part of an on-site stop work log, on daily field reports to include the activity/activities stopped, the duration, person stopping work, person in-charge of stopped activity/activities, and the corrective action agreed to and/or taken. Once work has been stopped, only the Haley & Aldrich SPM or SHSO can give the order to resume work. Haley & Aldrich senior management is committed to support anyone who exercises his or her “Stop Work” authority.

ISSUANCE AND COMPLIANCE

This HASP has been prepared in accordance with Occupational Safety and Health Administration (OSHA) regulations (CFR 29, Parts 1904, 1910, and 1926) if such are applicable.

The specific requirements of this HASP include precautions for hazards that exist during this project and may be revised as new information is received or as site conditions change.

- This HASP must be signed by all Haley & Aldrich personnel involved in implementation of the SOW (Section 2 of this HASP).
- This HASP, or a current signed copy, must be retained at all times when Haley & Aldrich staff are present.
- Revisions to this HASP must be outlined within the contents of the HASP. If immediate or minor changes are necessary, the Field Safety Manager (FSM), Haley & Aldrich, SSO and/or Project Manager (PM) may use Attachment 1 (HASP Amendment Form), presented at the end of this HASP. Any revision to the HASP requires employees and subcontractors to be informed of the changes so that they understand the requirements of the change.
- Deviations from this HASP are permitted with approval from the Haley & Aldrich FSM, PM, or Senior Health & Safety Manager (SHSM). Unauthorized deviations may constitute a violation of Haley & Aldrich company procedures/policies and may result in disciplinary action.
- This HASP will be relied upon by Haley & Aldrich's subcontractors and visitors to the site. Haley & Aldrich's subcontractors must have their own HASP which will address hazards specific to their trade that is not included in this HASP. This HASP will be made available for review to Haley & Aldrich's subcontractors and other interested parties (e.g. Facility personnel and regulatory agencies) to ensure that Haley & Aldrich has properly informed our subcontractors and others of the potential hazards associated with the implementation of the SOW to the extent that Haley &Aldrich is aware.

This site-specific HASP provides only site-specific descriptions and work procedures. General safety and health compliance programs in support of this HASP (e.g., injury reporting, medical surveillance, personal protective equipment (PPE) selection, etc.) are described in detail in the Haley &Aldrich Corporate Health and Safety Program Manual and within Haley & Aldrich's Standard Operating Procedures Both the manual and SOPs can be located on the Haley & Aldrich's Company Intranet. When appropriate, users of this HASP should always refer to these resources and incorporate to the extent possible. The manual and SOPs are available to clients and regulators upon request.

EMERGENCY EVENT PROCEDURES

1 - ASSESS THE SCENE

- **STOP WORK**
- Review the situation and ascertain if it's safe to enter the area.
- Evacuate the site if the conditions are unsafe.

2 - EVALUATE THE EMERGENCY

- **Call 911, or designated emergency number, if required.**
- **Provide first aid for the victim if qualified and safe to do so.**
  - First aid will be addressed using the onsite first aid kit. *
    - If providing first aid, remember to use proper first aid universal precautions if blood or bodily fluids are present.
- **If exposure to hazardous substance is suspected, immediately vacate the contaminated area.**
  - Remove any contaminated clothing and/or equipment.
  - Wash any affected dermal/ocular area(s) with water for at least 15 minutes.
  - Seek immediate medical assistance if any exposure symptoms are present.

** Note: Haley & Aldrich employees are not required or expected to administer first aid / CPR to any Haley & Aldrich staff member, Contractor, or Civilian personnel at any time; it is Haley & Aldrich´s position that those who do are doing so on their own behalf and not as a function of their job.*

3 - SECURE THE AREA

- **Cordon off the incident area, if possible.**
  - Notify any security personnel, if required.
  - Escort all non-essential personnel out of the area, if able.

4 - REPORT ON-SITE ACCIDENTS / INCIDENTS TO PM / SSO

- **Notify the PM and SSO as soon as it is safe to do so.**
  - Assist PM and SSO in completing any additional tasks, as required.

5 - INVESTIGATE / REPORT THE INCIDENT

- **Record details of the incident for input to the Gensuite.**
  - Complete any additional forms as requested by the PM and SSO.

6 - TAKE CORRECTIVE ACTION

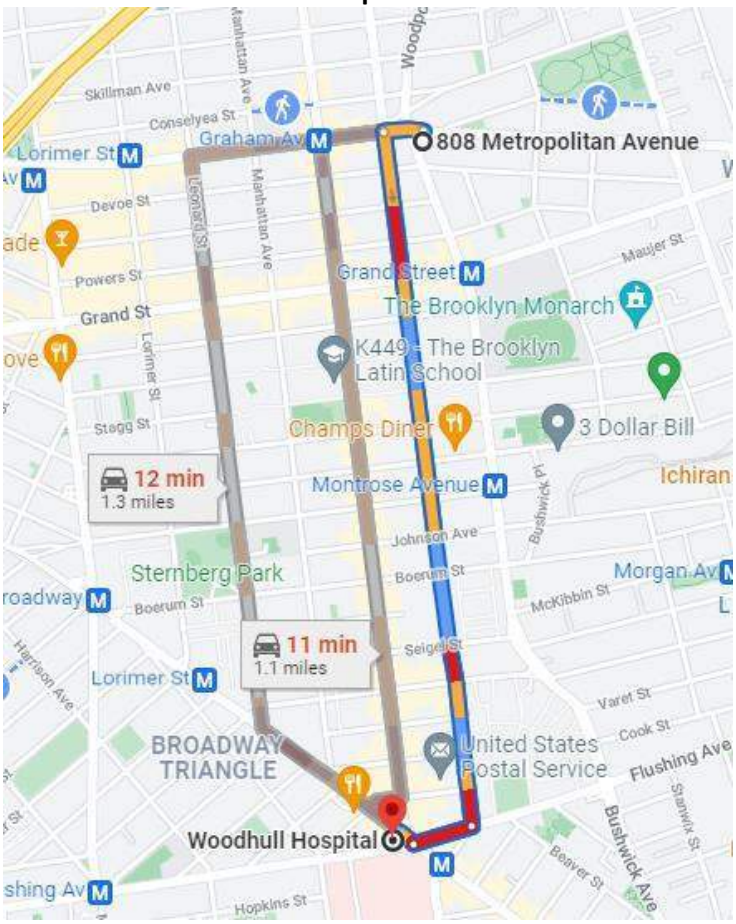
- **Implement corrective actions per the PM following root cause analysis.**
  - Complete Lessons Learned form.

PROJECT INFORMATION AND CONTACTS	
Project Name: 808 Metropolitan Avenue	**Haley & Aldrich File No.:** 0204923
Location: 91 Bruckner Boulevard, Bronx, New York	
Client/Site Contact: Phone Number:	808 Metropolitan Realty LLC 718-963-0536
Haley & Aldrich Field Representative: Phone Number: Emergency Phone Number:	Nick Manzione (516) 353-9882 (917) 765-7035
Haley & Aldrich Project Manager: Phone Number: Emergency Phone Number:	**Emily Snead** (917) 765-7145 (508) 918-8558
Field Safety Manager: Phone Number: Emergency Phone Number:	**Brian Ferguson** (617) 886-7439 (617) 908-2761
Subcontractor Project Manager: Phone Number:	Lorraine Kelly, Lakewood Environmental 631-257-5321
Nearest Hospital: Address: (see map on next page) Phone Number:	Woodhull Hospital 760 Broadway Brooklyn, NY 11206 (718) 963-8000
Nearest Occ. Health Clinic: http://www.talispoint.com/liberty/ext/ Address: (see map on next page) Phone Number:	Statcare Urgent & Walk-In Medical Care (Bushwick-Williamsburg) 308 Graham Avenue Brooklyn, NY 11211 (917) 310-3371
Liberty Mutual Claim Policy	**WC6-Z11-254100-032**
Emergency Response Number:	**911**
Other Local Emergency Response Number:	N/A
Other Ambulance, Fire, Police, or Environmental Emergency Resources:	911 FDNY Engine 229 Ladder 146 75 Richardson Street, Brooklyn, NY 11211

DIRECTIONS TO THE NEAREST HOSPITAL

Liberty Mutual Medical Location Directory

Directions to the Nearest Hospital:



10 min (1.1 miles)
via Humboldt St
Fastest route, despite the usual traffic

808 Metropolitan Ave
Brooklyn, NY 11211

- Head west on Metropolitan Ave toward Bushwick Ave
  289 ft
- Turn left onto Humboldt St
  0.9 mi
- Turn right onto Flushing Ave
  436 ft
- Turn right after Taco Bell (on the right)
  Destination will be on the left
  135 ft

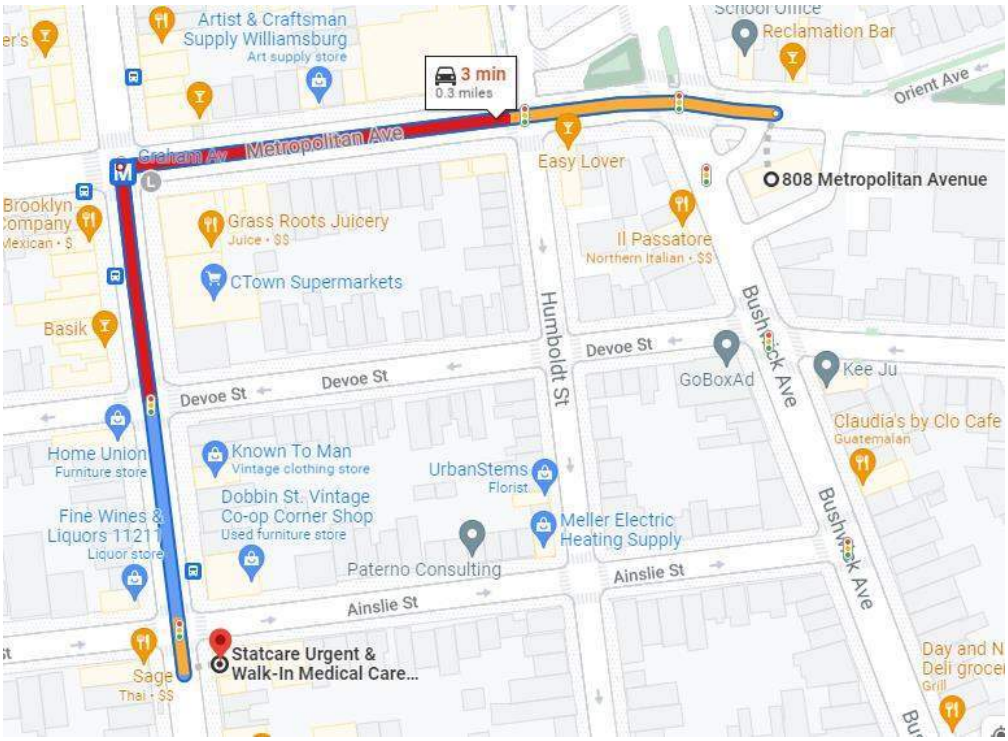
Woodhull Hospital
760 Broadway, Brooklyn, NY 11206

DIRECTIONS TO THE NEAREST URGENT CARE

Liberty Mutual Medical Location Directory

Directions to the Nearest Occupational Clinic:

Paste map and directions showing route to nearest hospital here.



3 min (0.3 mile)

via Metropolitan Ave and Graham Ave/Via Vespucci

Fastest route, despite the usual traffic

808 Metropolitan Ave
Brooklyn, NY 11211

↑ Head west on Metropolitan Ave toward Bushwick Ave

0.1 mi

↰ Turn left onto Graham Ave/Via Vespucci
Destination will be on the left

0.1 mi

Statcare Urgent & Walk-In Medical Care (Bushwick-Williamsburg)
308 Graham Ave, Brooklyn, NY 11211

1. WORK SCOPE

This Site-Specific Health and Safety Plan addresses the health and safety practices and procedures that will be exercised by all Haley & Aldrich employees participating in all work on the Project Site. This plan is based on an assessment of the site-specific health and safety risks available to Haley & Aldrich and Haley & Aldrich's experience with other similar project sites. The scope of work includes the following:

Work task will include: 1.) Drilling; .2) Soil, soil vapor and groundwater sampling, and 3) Geophysical Survey.

Project Task Breakdown

Task No.	Task Description	Employee(s) Assigned	Work Date(s) or Duration
1	Drilling & Pre-Clearing	Nick Manzione	4 Days Anticipated
2	Soil, soil vapor and groundwater sampling	Nick Manzione	4 Days Anticipated
3	Geophysical Survey	Nick Manzione	1 Day Anticipated

Subcontractor(s) Tasks

Firm Name	Work Activity	Work Date(s) or Duration
Lakewood Environmental (Drilling and Pre-Clearing)	Drilling & Pre-Clearing	4 Days Total Anticipated
GPRS Inc. (Geophysical Survey)	Geophysical Survey	1 Day Total Anticipated

Projected Start Date: 2/15/2022

Projected Completion Date: 2/28/2022

2. SITE OVERVIEW / DESCRIPTION

Site Classification

Active Speedway gasoline station and 7-Eleven retail

Site Description

The site, identified as Block 2916 Lot 8 on the New York City tax map in a R7A residential and C2-4 commercial zoning area, is currently occupied by a Speedway Gas Station. The Site is approximately 12,625 square feet and is listed with an environmental E-Designation (E-618) for hazardous materials, noise (window wall attenuation and alternative means of ventilation), and air quality (HVAC exhaust stack location limitations) resulting from a City Environmental Quality Review (CEQR) effective May 2021 (CEQR # 20DCP110K). Satisfaction of the E-Designation requirements is subject to review and approval by the New York City Mayor's Office of Environmental Remediation (NYCOER) prior to redevelopment.

Background and Historic Site Usage

- The site has been occupied by a gasoline service station for several decades and includes underground storage of diesel fuel and gasoline. A historic spill and subsequent remediation was reported/ took place at the site and is further described below:
- Historic spill reported at site in 1995 (Spill No. 95-02757) during removal of gasoline and diesel USTs
    - 897 tons impacted soil removed
    - Post excavation samples collected
    - 1996 – 2012 – groundwater monitoring performed for VOCs
    - 2006 AS/SVE well installation of oxygen releasing material (ORM) socks in on-site monitoring wells – 3 short-term remediation events in 2006
    - 2008 & 2009 – soil investigation performed on site
    - 2012 – additional monitoring wells installed on site – low-level VOCs or non-detect, below standards
    - NYSDEC closed the spill on 5/6/2013.

Site Status

Indicate current activity status and describe operations at the site:

Active gasoline station

Site Plan

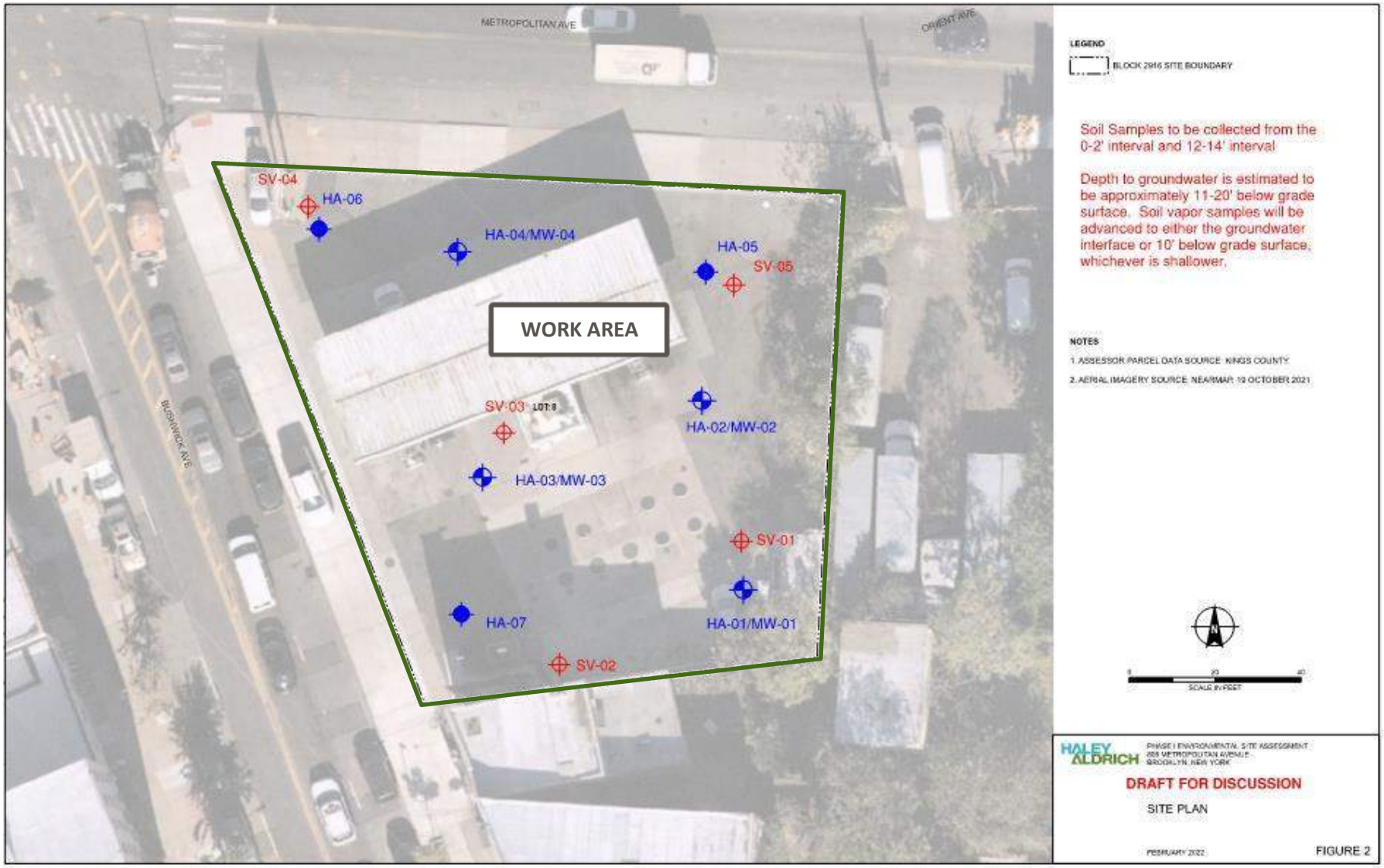
Is a site plan or sketch available? Yes

Work Areas

List and identify each specific work areas(s) on the job site and indicate its location(s) on the site plan:

The entire Site will be utilized as an active work area

Site Plan



3. HAZARD ASSESSMENT

Indicate all hazards that may be present at the site and for each task. If any of these potential hazards are checked, it is the Project Manager's responsibility to determine how to eliminate / minimize the hazard to protect onsite personnel.

Site Chemical Hazards

Is this Site impacted with chemical contamination? Yes

Source of information about contaminants: Previous Investigation

Contaminant of Concern	Location/Media	Concentration	Units
Benzene	**Groundwater**	**3.7**	**ug/L**
Ethylbenzene	**Groundwater**	**3.4**	**ug/L**
Xylenes	**Groundwater**	**12.2**	**ug/kg**
Choose an item.	Select Media.		Select Units
Choose an item.	Select Media.		Select Units
Choose an item.			
Choose an item.			
Choose an item.			
Choose an item.			

Benzene: Benzene is a colorless liquid with a sweet odor. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities

Breathing very high levels of benzene can result in death, while high levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. Eating or drinking foods containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and death. The major effect of benzene from long-term (365 days or longer) exposure is on the blood. Benzene causes harmful effects on the bone marrow and can cause a decrease in red blood cells leading to anemia. It can also cause excessive bleeding and can affect the immune system, increasing the chance for infection. Some women who breathed high levels of benzene for many months had irregular menstrual periods and a decrease in the size of their ovaries. It is not known whether benzene exposure affects the developing fetus in pregnant women or fertility in men. Animal studies have shown low birth weights, delayed bone formation, and bone marrow damage when pregnant animals breathed benzene.

BTEX/VOCs: BTEX is an acronym for benzene, toluene, ethylbenzene and xylenes. These compounds are VOCs, are common in petroleum-related products (e.g., oil, gasoline, coal-tar DNAPL, etc.), and frequently co-occur at hazardous waste sites. Benzene, toluene, ethylbenzene, and xylenes have acute and chronic harmful effects on the central nervous system. Benzene is classified as a carcinogen. Short-term health effects of low-level BTEX exposure include drowsiness, dizziness, accelerated heart rate, headaches, tremors, confusion, and unconsciousness.

Xylenes: are colorless liquids with a faint, sweet odor. There are three forms of xylene (meta-, ortho-, and para-), which are referred to as isomers. They are chemically classified as hydrocarbons, meaning they contain hydrogen and carbon atoms. These are chemicals of serious flammability and will easily ignite with heat, sparks or flames. Their flash point range is between 85-115 degrees F. The PEL is 10 ppm averaged over an 8 hour shift.

Typically, these are solvents in making paint, adhesives, and other chemicals. Their odor threshold varies greatly, and this should not be the sole indicator in exposures. Their vapors are heavier than air, but less dense than water, therefore they float. Can be inhaled or absorbed through the skin. Inhalation can irritate throat and nose and cause coughing, headache or dizziness. Absorption can cause skin rash, dryness or redness. Repeated exposures may affect concentration, memory, vision, and muscle coordination.

VOCs: include all organic compounds (substances made up of predominantly carbon and hydrogen) with boiling temperatures in the range of 50-260 degrees C, excluding pesticides. This means that they are likely to be present as a vapor or gas in normal ambient temperatures. Substances which are included in the VOC category include aliphatic hydrocarbons (such as hexane), aldehydes, aromatic hydrocarbons (such as benzene, toluene, and the xylenes or BTEX), and oxygenated compounds (such as acetone and similar ketones). The term VOC often is used in a legal or regulatory context and in such cases the precise definition is a matter of law.

VOCs are released from oil and gasoline refining, storage and combustion as well as from a wide range of industrial processes. Processes involving fuels, solvents, paints or the use of chemicals are the most significant sources. VOCs may also be emitted from cleaning products, degreasing products, fabrics, carpets, plastic products, glues, printed material, varnishes, wax, disinfectants, and cosmetics.

Typically, VOCs are present in gas or vapor and will enter the body by breathing contaminated air. Higher concentrations of VOCs may occur in areas of poor ventilation.

Click + Add Additional Chemical Language
Click + Add Additional Chemical Language
Click + Add Additional Chemical Language

Site Hazards Checklist			
Weather			
Cold Temperatures	High Winds	Select Hazard	Select Hazard

Cold Temperatures

Cold stress may occur at any time work is being performed at low ambient temperatures and high velocity winds. Because cold stress is common and has potentially serious illnesses associated with outdoor work during cold seasons, regular monitoring and other preventative measures are vital.

Refer to OP1003-Cold Stress for additional information and mitigation controls.

High Winds

While high winds are commonly associated with severe thunderstorms and hurricanes they may also occur as a result of differences in air pressures, such as when a cold front passes across the area. They can cause downed trees and power lines, and flying debris (such as dust or larger debris), which adds additional risks and could lead to power outages, transportation disruptions, damage to buildings and vehicles, and serious injury.

Wind Advisory are issued for sustained winds 25 to 39 mph and/or gusts to 57 mph. High Wind warnings are issued by the National Weather Service when high wind speeds may pose a hazard or is life threatening. The criteria for this warning will varies by state. The Beaufort Wind Scale is a helpful tool to when dealing with high winds.

Biological			
Mosquitoes	Stinging Insects	Choose an item.	Choose an item.

Mosquitos

Work outdoors with temperatures above freezing will likely bring staff into contact with mosquitos. There are a variety of mosquito species that can transmit a range of diseases. Birds act as reservoirs for the viruses that can be collected by the mosquito and transmitted to a person. Majority of mosquitos are mainly a nuisance but staff need to take appropriate precautions to minimize the potential transmission of a virus that can result in one of the following diseases: West Nile, Eastern Equine Encephalitides and Western Encephalitides. Knowing some key steps that can minimize the risk of mosquito bites is, therefore, important in reducing the risks. Workers working outdoors should be aware that the use of PPE techniques is essential to preventing mosquito bites especially when working at sites where mosquitoes may be active and biting.

Use repellents containing DEET, picaridin, IR3535, and some oil of lemon eucalyptus and para-menthane-diol products provide longer-lasting protection. To optimize safety and effectiveness, repellents should be used according to the label instructions. Cover as much of your skin as possible by wearing shirts with long-sleeves, long pants, and socks whenever possible. Avoid use of perfumes and colognes when working outdoors during peak times when mosquitoes may be active; mosquitoes may be more attracted to individuals wearing perfumes and colognes.

Stinging Insects

Stinging Insects fall into two major groups: Apidae (honeybees and bumblebees) and vespids (wasps, yellow jackets, and hornets). Apidae are docile and usually do not sting unless provoked. The stinger of the honeybee has multiple barbs, which usually detach after a sting. Vespids have few barbs and can inflict multiple stings.

There are several kinds of stinging insects that might be encountered on the project site. Most stings will only result in a temporary injury. However, sometimes the effects can be more severe, even life-

threatening depending on where you are stung and what allergies you have. Being stung in the throat area of the neck may cause edema (swelling caused by fluid build-up in the tissues) around the throat and may make breathing difficult.

In rare cases, a severe allergic reaction can occur. This can cause "anaphylaxis" or anaphylactic shock with symptoms appearing immediately or up to 30 minutes later. Symptoms include; Hives, itching and swelling in areas other than the sting site, swollen eyes/eyelids, wheezing, chest tightness, difficulty breathing, hoarse voice, swelling of the tongue, dizziness or sharp drop in blood pressure, shock, unconsciousness or cardiac arrest. Reactions can occur the first time you are stung or with subsequent stings. If you see any signs of reaction, or are unsure, call or have a co-worker call emergency medical services (e.g., 911) right away. Get medical help for stings near the eyes, nose or throat. Stay with the person who has been stung to monitor their reaction.

Staff who are allergic to bee stings are encouraged to inform their staff/project manager. If staff member carries an Epi-pen (i.e., epinephrine autoinjector) they are encouraged to inform their colleagues in case they are stung and are incapable of administering the injection. Examine site for any signs of activity or a hive/nest. If you see several insects flying around, see if they are entering/exiting from the same place. Most will not sting unless startled or attacked. Do not swat, let insects fly away on their own. If you must, walk away slowly or gently "blow" them away. If a nest is disturbed and you hear "wild" buzzing, protect your face with your hands and run from the area immediately. Wear long sleeves, long pants, and closed-toed boots. Wear light colored clothes such as khakis. Avoid brightly colored, patterned, or black clothing. Tie back long hair to avoid bees or wasps from entanglement. Do not wear perfumes, colognes or scented soaps as they contain fragrances that are attractive. If bee or wasp is found in your car, stop and leave windows open.

Location/Terrain			
Slip/Trip/Falls	Choose an item.	Choose an item.	Choose an item.

Slips, Trips & Falls

Slip and trip injuries are the most frequent injuries to workers. Statistics show most falls happen on the same level resulting from slips and trips. Both slips and trips result from unintended or unexpected change in the contact between the feet and the ground or walking surface. Good housekeeping, quality of walking surfaces (flooring), awareness of surroundings, selection of proper footwear, and appropriate pace of walking are critical for preventing fall accidents.

Site workers will be walking on a variety of irregular surfaces, that may affect their balance. Extra care must be taken to walk cautiously near rivers because the bottom of the riverbed maybe slick and may not be visible. Rocks, gradient changes, sandy bottoms, and debris may be present but not observable.

Take your time and pay attention to where you are going. Adjust your stride to a pace that is suitable for the walking surface and the tasks you are doing. Check the work area to identify hazards - beware of trip hazards such as wet floors, slippery floors, and uneven surfaces or terrain. Establish and utilize a pathway free of slip and trip hazards. Choose a safer walking route. Carry loads you can see over. Keep work areas clean and free of clutter. Communicate hazards to on-site personnel and remove hazards as appropriate.

Miscellaneous			
Choose an item.	Choose an item.	Choose an item.	Choose an item.
Click + to Add Additional Hazard Language			

Task Hazard Summary

Task 1 – Drilling

Drilling is conducted for a range of services that can include but are not limited to: soil characterization, environmental investigation, well installation, and ore exploration. Familiarity with basic drilling safety is an essential component of all drilling projects. Potential hazards related to drilling operations include, but are not limited to encountering underground or overhead utilities, traffic and heavy equipment, hoisting heavy tools, steel impacts, open rotation entanglement, and the planned or unexpected encountering of toxic or hazardous substances. While staff members do not operate drilling equipment, they may work in close proximity to operating drilling equipment and may be exposed to many of the same hazards as the drilling subcontractor. It is imperative that staff are aware of emergency stops and establish communication protocols with the drillers prior to the start of work.

See OP 1002 Drilling Safety for more information.

Task 2A – Soil Sampling

Soil sampling by H&A staff on active construction sites can be conducted in conjunction with a wide range activities such as building construction, earthwork and soil management related activities. These activities can include, but are not limited to: drill spoil characterization and management during building foundation element installation, characterization of excavated soils for management/disposal/reuse during earthwork activities, and as part of environmental remedial activities such as delineation and confirmation sampling. Familiarity with basic heavy construction safety, site conditions (geotechnical and environmental), and potential soil contaminants are essential components of soil sampling performed on active sites. Potential hazards related to soil sampling at construction sites include, but are not limited to: encountering site vehicle traffic and heavy equipment operations, manual lifting, generated waste, contact or exposure to impacted soil, and encountering unknown toxic or hazardous substances. Although soil sampling is commonly performed within active excavations, from stockpiles, or within trench excavations, sampling locations and situations will vary depending on site conditions. Care should be taken while entering and exiting excavations or trenches, and when accessing (climbing up or down) soil stockpiles, ensuring that the sampling area is not being actively accessed by construction equipment. Care should also be taken with handling of potentially environmentally impacted soil during sampling, with appropriate PPE identified and used. At no time during classification activities are personnel to reach for debris near machinery that is in operation, place any samples in their mouth, or come in contact with the soils without the use of gloves. Staff will have to carry and use a variety of sampling tools, equipment, containers, and potentially heavy sample bags. It is imperative that staff are aware of emergency / communication protocols with the Contractor prior to the start of work.

Task 2B – Water Sampling

Environmental water sampling could include activities such as groundwater sampling from permanent or temporary wells, or surface water sampling from streams, rivers, lakes, ponds, lagoons, and surface impoundments.

Sampling tasks could involve uncapping, purging (pumping water out of the well), and sampling, and/or monitoring, new or existing monitoring wells. A mechanical pump may be used to purge the wells and can be hand-, gas-, or electric-operated. Water samples taken from the wells are then placed in containers and shipped to an analytical laboratory for analysis. The physical hazards of these operations are primarily associated with the collection methods and procedures used.

When sampling bodies of water containing known or suspected hazardous substances, adequate precautions must be taken to ensure the safety of sampling personnel. The sampling team member collecting the sample should not get too close to the edge, where ground failure or slips, trips or falls may cause him/her to lose his/her balance. The person performing the sampling should have fall restraint or protection for the task. When conducting sampling from a boat in an impoundment or flowing waters, appropriate vessel safety procedures should be followed. Avoid lifting heavy coolers with back muscles; instead, use ergonomic lifting techniques, team lift or mechanical lifts. Wear proper gloves, such as when handling sample containers to avoid contacting any materials that may have spilled out of the sample containers.

Inhalation and absorption of COCs are the primary routes of entry associated with water sampling, due to the manipulation of sample media and equipment, manual transfer of media into sample containers, and proximity of operations to the breathing zone. During this project, several different groundwater sampling methodologies may be used based on equipment accessibility and the types of materials to be sampled. These sampling methods may include hand or mechanical bailing. The primary hazards associated with these specific sampling procedures are not potentially serious; however, other operations in the area or the conditions under which samples must be collected may present chemical and physical hazards. The hazards directly associated with groundwater sampling procedures are generally limited to strains or sprains from hand bailing, and potential eye hazards. Exposure to water containing COCs is also possible. All tools and equipment that will be used at the site must be intrinsically safe (electronics and electrical equipment) and non-sparking or explosion-proof (hand tools).

Task 2C – Soil Vapor

Soil gas sampling is employed as an indirect indicator of contamination in soil or groundwater particularly over and around landfill waste sites, or groundwater plumes. Soil gas sampling points can be installed manually using a slam bar or power driven mechanical devices (e.g., demolition hammer or Geoprobe) may be used based on site conditions (i.e., pavement, frozen ground, very dense clays, etc.). Soil gas samples can be drawn through the probe itself, or through Teflon tubing inserted through the probe and attached to the probe point. Samples are collected and analyzed as described below. Other field air monitoring devices, such as the Combustible Gas Indicator (CGI) and the Organic Vapor Analyzer (OVA), can also be used, depending on specific site conditions.

Because the sample is being drawn from underground, and no contamination is introduced into the breathing zone, soil gas sampling usually occurs in Level D. Nevertheless, ambient air should be constantly monitored to obtain background and breathing zone readings during the sampling procedure in the event the seal around the sampling point is breached. As long as the levels in ambient air do not rise above background, no upgrade of the level of protection is needed. Also, an underground utility search must be performed prior to sampling.

Task 2D – Hand Augering

A hand auger is used to collect surficial soil samples up to eight (8) feet in depth. There are a variety of hand augers such as bucket and bit augers, continuous flight (screw) and post-hole augers. This equipment can be used in a wide variety of soil conditions. The presence of rock layers and collapsing of the borehole usually prohibit sampling at depths greater than 3 to 6 feet.

When using a hand auger the area in which the bore holes are located needs to be cleared of any underground utilities prior to initiating work. Check boring locations for potential hazards such as poison ivy, evidence of underground piping, rubble, rebar or old foundations. Stretch prior to initiating work. Stand upwind to avoid exposure whenever possible. Use proper tools for hand augering (augers with non-conductive handles) and use proper lifting techniques. Proceed slowly and use caution. The diameter of the boring should be equal to or greater than the diameter of drill augers or geoprobe rods. ONLY remove the auger flights one at a time, as they were put on; do NOT pull the entire auger out of the hole at once.

Avoid twisting and straining with the hand auger. Use a posthole digger to pull and remove debris that cannot be removed with the hand auger. Proceed slowly and use caution. An offset handle (outward closing) style posthole digger should be used. If post hole digger does not work, use a steel spud bar to pry and dislodge debris. Do not attempt to remove objects or debris that are too large to recover with a post hole digger. If you suspect you have encountered a buried metallic object, stop work and immediately and notify the site manager.

Task 3 - Survey

Surveying presents many challenges regarding safety given that the survey location is typically dynamic and can be at large construction sites, roadways, or in the woods. Before beginning a survey, determine potential hazards that might arise from the natural environment, the public, and the contractor's operations and plan the survey accordingly.

Work on a construction site will expose staff to heavy equipment, SIMOPs, and the hazards associated with the type of construction being conducted. Coordination with the site GC is critical. Work on a road way will expose staff to vehicular traffic and potentially foot traffic. The safety measures employed must be consistent with the MUTCD or equivalent state requirements. Staff need to maintain at least six feet of space between moving traffic and the work area. This includes work on shoulders as well as on the traveled way. Survey at the maximum space possible between moving traffic and the work area. Whenever feasible, each staff member must face moving traffic at all times. If it is not possible to face traffic, a lookout should be used. Work in remote areas may expose staff to wildlife, insects and poor communication. Equipment shall be carried properly so that pinch points are avoided and staff are not overloaded when moving from one location to another.

Use of proper PPE (e.g., High Visibility Vests) is an important component of conducting the work safely. Suspend survey operations when uncontrollable hazards develop. Resume work only when safe working conditions have been restored.

Task Physical Hazards Checklist				
Potential Task Hazards	**Task 1** **Drilling**	**Task 2** **Soil, Soil Vapor, Groundwater Sampling**	**Task 3** **Geophysical Survey**	Task Name
Noise	☒	☐	☐	☐
Heavy Equipment	☒	☐	☒	☐
Hot Work	☒	☒	☐	☐
Slippery Surfaces	☒	☒	☒	☐
Ergonomics	☒	☒	☒	☐
Congested Area	☒	☒	☒	☐
Ground Disturbance	☒	☒	☐	☐
Line of Fire	☒	☐	☐	☐
Manual Lifting	☒	☒	☐	☐
Sharp Objects	☒	☒	☐	☐
Underground Utilities	☒	☒	☐	☐
Other: Specify	☐	☐	☐	☐

Summary of Physical Hazards & Controls

Noise

Working around heavy equipment (drill rigs, excavators, etc.) often creates excessive noise. The effects of noise include physical damage to the ear, pain, and temporary and/or permanent hearing loss. Workers can also be startled, annoyed, or distracted by noise during critical activities. Noise monitoring data that indicates that working within 25 feet of operating heavy equipment result in exposure to hazardous levels of noise (levels greater than 85 dBA).

See OP 1031 Hearing Conservation for additional information.

Controls

- Personnel are required to use hearing protection (earplugs or earmuffs) within 25 feet of any operating piece of heavy equipment.
- Limit the amount of time spent at a noise source.
- Move to a quiet area to gain relief from hazardous noise sources.
- Increase the distance from the noise source to reduce exposure.

Heavy Equipment

Staff must be careful and alert when working around heavy equipment, failure or breakage and limited visibility can lead to accidents and worker injury. Heavy equipment such as cranes, drills, haul trucks, or other can fail during operation increasing chances of worker injury. Equipment of this nature shall be visually inspected and checked for proper working order prior to commencement of field work. Those operating heavy equipment must meet all requirements to operate the equipment. Haley & Aldrich, Inc. staff that supervise projects or are associated with high risk projects that involve digging or drilling should use due diligence when working with a construction firm.

See OP1052 Heavy Equipment for additional information.

Controls

- Only approach equipment once you have confirmed contact with the operator (e.g., operator places the bucket on the ground).
- Always maintain visual contact with operators and keep out of the strike zone whenever possible.
- Always be alert to the position of the equipment around you.
- Always approach heavy equipment with an awareness of the swing radius and traffic routes of all equipment and never go beneath a hoisted load.
- Avoid fumes created by heavy equipment exhaust.

Hot Work

Hot work is any work that could produce a source of ignition or temperature high enough to cause the ignition of flammable gases and combustible materials. Hot work activities include burning, welding, grinding, braising, soldering, using fire or spark-producing tools. The main hazards associated with hot work are getting burned directly by the hot work activity or by fires or explosions that result from an accumulation of combustible materials in the work area.

Performing hot work in Classified and Non-Classified areas are considered a hazardous activity, and a Permit to Work may be required. In general, the Hot Work Permit has five purposes:

- To serve as written permission to do the work;
- To provide a minimum checklist prior to the commencement of hot work;
- To outline the steps necessary for making the work site safe for conducting hot work;
- To alert operating personnel to the hot work in progress; and
- To provide a record of safe work practices performed during the permitted activity.

Work shall be conducted in accordance with OP1034 Hot Work.

Controls

- Hot Work Permit must be completed.
- Conduct a risk assessment of the proposed work area to identify combustible or flammable material.
- If potential for flammable gases exists in the work area they must be monitored with a gas detector prior to starting any hot work.
- The hot work equipment shall be in satisfactory operating condition and in good repair.
- All combustible and flammable materials shall be relocated at least 35' in all directions from the work site.

If relocating these materials is impractical, the following precautions shall be taken:

- Materials shall be shielded with fire-retardant covers or metal or fire-retardant guards or curtains.
- The edges of covers at the floor shall be tight to prevent the entrance of sparks, including at the point where several covers overlap when a large pile is being protected.
- A fire watch may be required.
- A fully charged and operable fire extinguisher appropriate for the type of potential fire shall be available for use in the work area (20lbs minimum).
- A nonflammable, impervious material shall seal sewer openings, ducts and drains. Where sealing is insecure or impractical, water spray or stream should be directed across openings.
- The location of the hot work relative to combustible and flammable materials and classified areas shall determine the need for a fire watch
- Personnel within the vicinity of the hot work shall be suitably protected against such dangers as heat, sparks, flash and slag.

Slippery Surfaces

Both slips and trips result from unintended or unexpected change in the contact between the feet and ground or walking surface. Good housekeeping, quality of walking surfaces, selection of proper footwear, and appropriate pace of walking are critical for preventing fall accidents. Slips happen where there is too little friction or traction between the footwear and walking surface.

Common causes of slips are wet or oily surfaces, spills, weather hazards, loose unanchored rugs or mats and flooring or other walking surfaces that do not have same degree of traction in all areas.

Weather-related slips and falls become a serious hazard as winter conditions often make for wet or icy surfaces outdoors. Even wet organic material or mud can create hazardous walking conditions. Spills and leaks can also lead to slips and falls.

Controls

- Evaluate the work area to identify any conditions that may pose a slip hazard.

- Address any spills, drips or leaks immediately.
- Mark areas where slippery conditions exist.
- Select proper footwear or enhance traction with additional PPE.
- Where conditions are uncertain or environmental conditions result in slippery surfaces walk slowly, take small steps, and slide feet on wet or slippery surfaces.

Ergonomics

Most Work-related Musculoskeletal Disorders (WMSDs) are caused by Ergonomic Stressors. Ergonomic Stressors are caused by poor workplace practices and/or insufficient design, which may present ergonomic risk factors. These stressors include, but not limited to, repetition, force, extreme postures, static postures, quick motions, contact pressure, vibration, and cold temperatures.
WMSDs are injuries to the musculoskeletal system, which involves bones, muscles, tendons, ligaments, and other tissues in the system. Symptoms may include numbness, tightness, tingling, swelling, pain, stiffness, fatigue, and/or redness. WMSD are usually caused by one or more Ergonomic Stressors. There may be individual differences in susceptibility and symptoms among employees performing similar tasks. Any symptoms are to be taken seriously and reported immediately.

See OP1053 Ergonomics for more information.

Controls

- Ensure workstations are ergonomically correct so bad posture is not required to complete tasks.
- Take periodic breaks over the course of the day.
- Stretch during break times.
- Break up tasks that require repetitive motion.
- Contact Corporate H&S with any ergonomic concerns

Congested Areas

Working in congested areas can expose both workers and the public to a wide range of hazards depending upon the specific activities taking place. Staff Members need to understand the work scope, work areas, equipment on-site, and internal traffic patterns to minimize or eliminate exposure potential.

Controls

- Provide barricades, fencing, warning signs/signals and adequate lighting to protect people while working in or around congested areas.
- Vehicles and heavy equipment with restricted views to the rear should have functioning back-up alarms that are audible above the surrounding noise levels. Whenever possible, use a signaler to assist heavy equipment operators and/or drivers in backing up or maneuvering in congested areas.
- Lay out traffic control patterns to eliminate excessive congestion.
- Workers in congested areas should always wear high visibility clothing.
- Be aware of Line of Fire hazards when performing work activities in congested areas.
- Hazards associated with SIMOPs should be discussed daily at Tailgate Safety Meetings.

Ground Disturbance

Ground disturbance is defined as any activity disturbing the ground. Ground disturbance activities include, but are not limited to, excavating, trenching, drilling (either mechanically or by hand), digging, plowing, grading, tunneling and pounding posts or stakes.

Because of the potential hazards associated with striking an underground utility or structure, the operating procedure for underground utility clearance shall be followed prior to performing any ground disturbance activities.

See OP1020 Working Near Utilities

Controls
Prior to performing ground disturbance activities, the following requirements should be applied:

- Confirm all approvals and agreements (as applicable) either verbal or written have been obtained.
- Request for line location has been registered with the applicable One-Call or Dial Before You Dig organization, when applicable.
    - Whenever possible, ground disturbance areas should be adequately marked or staked prior to the utility locators site visit.
- Notification to underground facility operator/owner(s) that may not be associated with any known public notification systems such as the One-Call Program regarding the intent to cause ground disturbance within the search zone.
- Notifications to landowners and/or tenant, where deemed reasonable and practicable.
- Proximity and Common Right of Way Agreements shall be checked if the line locator information is inconclusive.

Line of Fire

Line of fire refers to the path an object will travel. Examples of line of fire situations typically observed on project sites include lifting/hoisting, lines under tension, objects that can fall or roll, pressurized objects or lines, springs or stored energy, work overhead, vehicles and heavy equipment.

Controls

- Never walk under a suspended load.
- Be aware and stay clear of tensioned lines such as cable, chain and rope.
- Be cautious of torque stresses that drilling equipment and truck augers can generate. Equipment can rotate unexpectedly long after applied torque force has been stopped.
- Springs and other items can release tremendous energy if compressed and suddenly released
- Items under tension and pressure can release tremendous energy if it is suddenly released.
- Not all objects may be overhead; be especially mindful of top-heavy items and items being transported by forklift or flatbed.
- Secure objects that can roll such as tools, cylinders, and pipes.
- Stay clear of soil cuttings or soil stockpiles generated during drilling operations and excavations, be aware that chunks of soil, rocks, and debris can fall or roll.

Manual Lifting/Moving

Most materials associated with investigation, remedial, or construction-related activities are moved by hand. The human body is subject to damage in the forms of back injury, muscle strains, and hernia if caution is not observed in the handling process.

Controls

- Under no circumstances should any one person lift more than 49 pounds unassisted.
- Always push, not pull, the object when possible.

- Size up the load before lifting. If it is heavy or clumsy, get a mechanical aid or help from a worker.
- Bend the knees; it is the single most important aspect of lifting.
- When performing the lift:
    - Place your feet close to the object and center yourself over the load.
    - Get a good handhold.
    - Lift straight up, smoothly and let your legs do the work, not your back!
    - Avoid overreaching or stretching to pick up or set down a load.
    - Do not twist or turn your body once you have made the lift.
    - Make sure beforehand that you have a clear path to carry the load.
    - Set the load down properly.

Sharp Objects

Workers who handle sharp edged objects like sheets of steel or glass are at risk of cuts. Workers who handle sharp edged objects are also at risk of cuts. Injuries may occur to hands, fingers, or legs when they are in the way of the blade, when the blade slips, or if an open blade is handled unexpectedly. Other hazards at job sites include stepping on sharp objects (e.g. wooden boards with protruding nails, sharp work-tools, chisels, etc.) and colliding with sharp and/or protruding objects.

Controls

Always be alert when handling sharps. Never look away or become distracted while handling sharp objects. Use caution when working with tools; use right tool for the job. Keep tools sharp, dull blades are a safety hazard, requiring more force to make cuts which can lead to tool slippage. Wear appropriate PPE and do not handle sharp objects (i.e., broken glass) with bare hands. Use mechanical devices, when possible. Stay away from building debris; avoid handling site debris or placing your hand where you cannot see. Watch out for barbed wire and electrical fences; cover with a car mat or equivalent to cross or walk around; use the buddy system to avoid entanglement; wear gloves. Do not leave unprotected sharps unattended. Use protective shields, cases, styrofoam blocks, etc. Pass a sharp by handing it over carefully by the handle with the blade down or retracted. Fixed open blades are prohibited. Always cut away from the body, making several passes when cutting thicker materials. Make sure blades are fitted properly into the knife. Never cut items with a blade or other sharp object on your lap. Never try to catch a blade or cutting tool that is falling.

Underground Utilities

Various forms of underground/overhead utility lines or conveyance pipes may be encountered during site activities. Prior to the start of intrusive operations, utility clearance is mandated, as well as obtaining authorization from all concerned public utility department offices. Should intrusive operations cause equipment to come into contact with utility lines, the SHSO, Project Manager, and Regional H&S Manager shall be notified immediately. Work will be suspended until the client and applicable utility agency is contacted and the appropriate actions for the situation can be addressed.
See OP1020 Work Near Utilities for complete information.

Controls

- Obtain as-built drawings for the areas being investigated from the property owner;
- Visually review each proposed soil boring locations with the property owner or knowledgeable site representative;
- Perform a geophysical survey to locate utilities;
- Hire a private line locating firm to determine location of utility lines that are present at the property;

- Identifying a no-drill or dig zone;

Hand dig or use vacuum excavation in the proposed ground disturbance locations if insufficient data is unavailable to accurately determine the location of the utility lines.

Generated Waste

Activities on environmental sites may generate waste that requires regulated handling and disposal. Excess sample solids, decontamination materials, poly sheeting, used PPE, etc. that are determined to be free of contamination through field or laboratory screening can usually be disposed into client-approved, on-site trash receptacles. Uncontaminated wash water may be discarded onto the ground surface away from surface water bodies in areas where infiltration can occur. Contaminated materials must be segregated into liquids or solids and drummed separately for off-site disposal.

Controls

- Manage waste properly through good work practices.
- Collect, store, containerize waste, and dispose of it properly.
- All wastes generated shall be containerized in an appropriate container (i.e. open or closed top 55-gallon drum, roll-off container, poly tote, cardboard box, etc.) as directed by the PM.
- Containers should be inspected for damages or defects
- Waste containers should be appropriately labeled indicating the contents, date the container was filled, owner of the material (including address) and any unique identification number, if necessary.
- Upon completion of filling the waste container, the container should be inspected for leaks and an appropriate seal.

4. PROTECTIVE MEASURES

The personal protective equipment and safety equipment (if listed) is specific to the associated task. The required PPE and equipment listed must be onsite during the task being performed. Work shall not commence unless the required PPE or Safety Equipment is present.

Required Safety & Personal Protective Equipment

Required Personal Protective Equipment (PPE)	**Task 1**	**Task 2**	**Task 3**	
	Drilling	Soil, Soil Vapor, And Groundwater Sampling	Geophysical Survey	Enter task description.
Sampling Glasses	☒	☒	☒	☐
Safety Toed Shoes	☒	☒	☒	☐
Hearing Protection	☒	☒	☒	☐
Class 2 Safety Vest	☒	☒	☒	☐
Face Shield	☒	☒	☒	☐
Level of protection required	D	D	D	Select
Required Safety Equipment				
First Aid Kit	☒	☒	☒	☐

5. TRAINING REQUIREMENTS

The table below lists the training requirements staff must have respective to their assigned tasks and that are required to access the Site.

Site Specific Training Requirements
HAZWOPER - 40 Hour (Initial)
HAZWOPER - 8 Hour (Annual Refresher)

Task Specific Training Requirements				
Required Training Type	**Task 1**	**Task 2**	**Task 3**	**Task 4**
	Drilling	Soil, Soil Vapor, And Groundwater Sampling	Geophysical Survey	Enter task description.
HAZWOPER - 40 Hour (Initial); HAZPOWER -8 Hour (Annual Refresher); and Site - Specific Orientation	☒	☒	☒	☐

6. AIR MONITORING PLAN AND EQUIPMENT

Exposures to airborne substances shall be fully characterized throughout project operations to ensure that exposure controls are effectively selected and modified as needed.

Is air/exposure monitoring required at this work site for personal protection? No

Is perimeter monitoring required for community protection? No

Air monitoring plan not applicable? No

7. DECONTAMINATION & DISPOSAL METHODS

All possible and necessary steps shall be taken to reduce or minimize contact with chemicals and contaminated/impacted materials while performing field activities (e.g., avoid sitting or leaning on, walking through, dragging equipment through or over, tracking, or splashing potential or known contaminated/impacted materials.)

Personal Hygiene Safeguards

The following minimum personal hygiene safeguards shall be adhered to:

1. No smoking or tobacco products in any project work areas.
2. No eating or drinking in the exclusion zone.
3. It is required that personnel present on site wash hands before eating, smoking, taking medication, chewing gum/tobacco, using the restroom, or applying cosmetics and before leaving the site for the day.

It is recommended that personnel present on site shower or bathe at home at the end of each day of working on the site.

Decontamination Supplies

All decontamination should be conducted at the project site in designated zones or as dictated by Client requirements. Decontamination should not be performed on Haley & Aldrich owned or leased premises.

☐ Acetone	☒ Distilled Water	☐ Polyethylene Sheeting
☒ Alconox Soap	☐ Drums	☐ Pressure/Steam Cleaner
☒ Brushes	☐ Hexane	☒ Tap Water
☒ Disposal Bags	☐ Methanol	☐ Wash tubs
☒ 5 Gallon Buckets	☒ Paper Towels	☐ Other: Specify

Location of Decontamination Station

Decontamination will take place prior to leaving the Site at the exit.

Standard Personal Decontamination Procedures

Outer gloves and boots should be decontaminated periodically as necessary and at the end of the day. Brush off solids with a hard brush and clean with soap and water or other appropriate cleaner whenever possible. Remove inner gloves carefully by turning them inside out during removal. Wash hands and forearms frequently. It is good practice to wear work-designated clothing while on-site which can be removed as soon as possible. Non-disposable overalls and outer work clothing should be bagged onsite prior to laundering. If gross contamination is encountered on-site contact the Project Manager and Field Safety Manager to discuss proper decontamination procedures.

The steps required for decontamination will depend upon the degree and type of contamination but will generally follow the sequence below.

1. Remove and wipe clean hard hat
2. Rinse boots and gloves of gross contamination
3. Scrub boots and gloves clean
4. Rinse boots and gloves
5. Remove outer boots (if applicable)
6. Remove outer gloves (if applicable)
7. Remove Tyvek coverall (if applicable)
8. Remove respirator, wipe clean and store (if applicable)
9. Remove inner gloves (if outer gloves were used)

PPE that is not grossly contaminated can be bagged and disposed in regular trash receptacles.

Small Equipment Decontamination

Pretreatment of heavily contaminated equipment may be conducted as necessary:

1. Remove gross contamination using a brush or wiping with a paper towel
2. Soak in a solution of Alconox and water (if possible)
3. Wipe off excess contamination with a paper towel

Standard decontamination procedure:

4. Wash using a solution of Alconox and water
5. Rinse with potable water
6. Rinse with methanol (or equivalent)
7. Rinse with distilled/deionized water

Inspect the equipment for any remaining contamination and repeat as necessary.

Disposal Methods

Procedures for disposal of contaminated materials, decontamination waste, and single use personal protective equipment shall meet applicable client, locate, State, and Federal requirements.

Disposal of Single Use Personal Protective Equipment

PPE that is not grossly contaminated can be bagged and disposed in regular trash receptacles. PPE that is grossly contaminated must be bagged (sealed and field personnel should communicate with the Project Manager to determine proper disposal.

- Contaminated soil cuttings and spoils must be containerized for disposal off-site unless otherwise specifically directed.
- Soil cuttings and spoils determined to be free of contamination through field screening can usually be returned to the boreholes or excavations from which they came.

8. SITE CONTROL

The overall purpose of site control is to minimize potential contamination of workers, protect the public from the site's hazards, and prevent vandalism. Site control is especially important in emergency situations. The degree of site control necessary depends on site characteristics, site size, and the surrounding community. The following information identifies the elements used to control the activities and movements of people and equipment at the project site.

Communication
Internal Haley & Aldrich site personnel will communicate with other Haley & Aldrich staff member and/or subcontractors or contractors with: Face to Face Communication
External H&S site personnel will use the following means to communicate with off-site personnel or emergency services. Cellular Phones
Visitors
Project Site Will visitors be required to check-in prior to accessing the project site? Yes
Visitor Access Authorized visitors that require access to the project site need to be provided with known information with respect to the site operations and hazards as applicable to the purpose of their site visit. Authorized visitors must have the required PPE and appropriate training to access the project site. Zachary Simmer is responsible for facilitating authorized visitor access.
Zoning
Work Zone The work zone will be clearly delineated to ensure that the general public or unauthorized worker access is prevented. The following will be used: Cones, locked doors/gates

9. SITE SPECIFIC EMERGENCY RESPONSE PLAN

The Emergency Response Plan addresses potential emergencies at this site, procedures for responding to these emergencies, roles, responsibilities during emergency response, and training. This section also describes the provisions this project has made to coordinate its emergency response with other contractors onsite and with offsite emergency response organizations (as applicable).

During the development of this emergency response plan, local, state, and federal agency disaster, fire, and emergency response organizations were consulted (if required) to ensure that this plan is compatible and integrated with plans of those organizations. Documentation of the dates of these consultations are the names of individuals contacted is kept on file and available upon request.

The site has been evaluated for potential emergency occurrences, based on site hazards, and the major categories of emergencies that could occur during project work are:

- Fire(s)/Combustion
- Hazardous Material Event
- Medical Emergency
- Natural Disaster

A detailed list of emergency types and response actions are summarized in Table X below. Prior to the start of work, the SSO will update the table with any additional site-specific information regarding evacuations, muster points, or additional emergency procedures. The SSO will establish evacuation routes and assembly areas for the Site. All personnel entering the Site will be informed of these routes and assembly areas.

Pre-Emergency Planning

Before the start of field activities, the Project Manager will ensure preparation has been made in anticipation of emergencies. Preparatory actions include the following:

Meeting with the subcontractor/and or client concerning the emergency procedures in the event a person is injured. Appropriate actions for specific scenarios will be reviewed. These scenarios will be discussed, and responses determined before the sampling event commences. A form of emergency communication (i.e.; Cell phone, Air horn, etc.) between the Project Manager and subcontractor and/or client will be agreed on before the work commences.

A training session (i.e., “safety meeting”) given by the Project Manager or their designee informing all field personnel of emergency procedures, locations of emergency equipment and their use, and proper evacuation procedures.

Ensuring field personnel are aware of the existence of the emergency response HASP and ensuring a copy of the HASP accompanies the field team(s).

Onsite Emergency Response Equipment

Emergency procedures may require specialized equipment to facilitate work rescue, contamination control and reduction or post-emergency cleanup. Emergency response equipment stocked

Table 9.1 Emergency Equipment and Emergency PPE			
Emergency Equipment	**Specific Type**	**Quantity Stocked**	**Location Stored**
First Aid Kit	General First Aid Kit	1	With H&A personnel
Emergency PPE	**Specific Type**	**Quantity Stocked**	**Location Stored**
Gloves - "Nitrile"	General Nitrile Gloves	1 Box	With H&A personnel

EVACUATION ALARM
Verbal Communication (Site Personnel are adjacent in work zone)
EVACUATION ROUTES
Will be given a map after site specific training
EVACUATION MUSTER POINT(S)/ SHELTER AREA(S)
Will be given location after site specific training
EVACUTION RESPONSE DRILLS
The Site relies on outside emergency responders and a drill is not required.

Table 9-2 – Emergency Planning

Emergency Type	Notification	Response Action	Evacuation Plan/Route
Chemical Exposure	Report event to SSO immediately	Refer to Safety Data Sheet for required actions	Remove personnel from work zone
Fire - Small	Notify SSO and contact 911	Use fire extinguisher if safe and qualified to do so	Mobilize to *Muster Point*
Fire – Large/Explosion	Notify SSO and contact 911	Evacuate immediately	Mobilize to *Muster Point*
Hazardous Material – Spill/Release	Notify SSO; SSO will contact PM to determine if additional agency notification is	If practicable don PPE and use spill kit and applicable procedures to contain the release	See Evacuation Map for route, move at least 100 ft upwind of spill location
Medical – Bloodborne Pathogen	Notify SSO	If qualified dispose in container or call client or city to notify for further instruction.	None Anticipated
Medical – First Aid	Notify SSO	If qualified perform first aid duties	None Anticipated
Medical – Trauma	If life threatening or transport is required call 911, immediately	Wait at site entrance for ambulance	Noe Anticipated
Security Threat	Notify SSO who will call 911 as warranted	Keep all valuables out of site and work zones delineated.	None Anticipated
Weather – Earthquake/Tsunami's	STOP WORK and evacuate Site upon any earthquake	Turn off equipment and evacuate as soon as is safe to do so	Mobilize to *Shelter Location*
Weather – Lightning Storm	STOP WORK	Work may resume 30 minutes after the last observed lightning.	None Anticipated
Weather – Tornadoes/Hurricanes	Monitor weather conditions STOP WORK and evacuate the site	Evacuate to shelter location or shelter in place immediately	Mobilize to *Shelter Location*
MUSTER POINT Site walk along Bruckner Avenue		*SHELTER LOCATION* Personal vehicle	
In case of site emergencies, site personnel shall be evacuated per this table and will not participate in emergency response activities. Site emergencies shall be reported to local, state, and federal governmental agencies as required.			

10. HASP ACKNOWLEDGEMENT FORM

All Haley & Aldrich employees onsite must sign this form prior to entering the site.

I hereby acknowledge receipt of, and briefing on, this HASP prior to the start of on-site work. I declare that I understand and agree to follow the provisions, processes, and procedures set forth herein at all times while working on this site.

Printed Name	Signature	Date

ATTACHMENT A
HASP AMENDMENT FORM

HASP AMENDMENT FORM

This form is to be used whenever there is an immediate change in the project scope that will require an amendment to the HASP. For project scope changes associated with "add-on" tasks, the changes must be made in the body of the HASP. Before changes can be made, a review of the potential hazards must be initiated by the Haley & Aldrich Project Manager.

This original form must remain on site with the original HASP. If additional copies of this HASP have been distributed, it is the Project Manager's responsibility to forward a signed copy of this amendment to those who have copies.

Amendment No.	
Site Name	
Work Assignment No.	
Date	
Type of Amendment	
Reason for Amendment	
Alternate Safeguard Procedures	
Required Changes in PPE	

Project Manager Name (Print)	Project Manager Signature	Date

Health & Safety Approver Name (Print)	Health & Safety Approver Signature	Date

ATTACHMENT B
TRAINING REQUIREMENTS

TRAINING REQUIREMENTS

Health and Safety Training Requirements

Personnel will not be permitted to supervise or participate in field activities until they have been trained to a level required by their job function and responsibility. Haley & Aldrich staff members, contractors, subcontractors, and consultants who have the potential to be exposed to contaminated materials or physical hazards must complete the training described in the following sections.

The Haley & Aldrich Project Manager/FSM will be responsible for maintaining and providing to the client/site manager documentation of Haley & Aldrich staff members' compliance with required training as requested. Records shall be maintained per OSHA requirements.

40-Hour Health and Safety Training

The 40-Hour Health and Safety Training course provides instruction on the nature of hazardous waste work, protective measures, proper use of personal protective equipment, recognition of signs and symptoms which might indicate exposure to hazardous substances, and decontamination procedures. It is required for all personnel working on-site, such as equipment operators, general laborers, and supervisors, who may be potentially exposed to hazardous substances, health hazards, or safety hazards consistent with 29 CFR 1910.120.

8-hour Annual Refresher Training

Personnel who complete the 40-hour health and safety training are subsequently required to attend an annual 8-hour refresher course to remain current in their training. When required, site personnel must be able to show proof of completion (i.e., certification) at an 8-hour refresher training course within the past 12 months.

8-Hour Supervisor Training

On-site managers and supervisors directly responsible for, or who supervise staff members engaged in hazardous waste operations, should have eight additional hours of Supervisor training in accordance with 29 CFR 1910.120. Supervisor Training includes, but is not limited to, accident reporting/investigation, regulatory compliance, work practice observations, auditing, and emergency response procedures.

Additional Training for Specific Projects

Haley & Aldrich personnel will ensure their personnel have received additional training on specific instrumentation, equipment, confined space entry, construction hazards, etc., as necessary to perform their duties. This specialized training will be provided to personnel before engaging in the specific work activities including:

- Client specific training or orientation
- Competent person excavations
- Confined space entry (entrant, supervisor, and attendant)
- Heavy equipment including aerial lifts and forklifts
- First aid/ CPR
- Use of fall protection
- Use of nuclear density gauges
- Asbestos awareness

ATTACHMENT C
ROLES AND RESPONSIBILITIES

SITE ROLES AND RESPONSIBILITIES

Haley & Aldrich Personnel

Field Safety Manager (FSM)

The Haley & Aldrich FSM is a full-time Haley & Aldrich staff member, trained as a safety and health professional, who is responsible for the interpretation and approval of this Safety Plan. Modifications to this Safety Plan cannot be undertaken by the PM or the SSO without the approval of the FSM.

Specific duties of the FSM include:

- Approving and amending the Safety Plan for this project
- Advising the PM and SHSOs on matter relating to health and safety
- Recommending appropriate personal protective equipment (PPE) and air monitoring instrumentation
- Maintaining regular contact with the PM and SSO to evaluate the conditions at the property and new information which might require modifications to the HASP and
- Reviewing and approving JSAs developed for the site-specific hazards.

Project Manager (PM)

The Haley & Aldrich PM is responsible for ensuring that the requirements of this HASP are implemented at that project location. Some of the PM´s specific responsibilities include:

- Assuring that all personnel to whom this HASP applies have received a copy of it;
- Providing the FSM with updated information regarding environmental conditions at the site and the scope of site work;
- Providing adequate authority and resources to the on-site SHSO to allow for the successful implementation of all necessary safety procedures;
- Supporting the decisions made by the SHSO;
- Maintaining regular communications with the SHSO and, if necessary, the FSM;
- Coordinating the activities of all subcontractors and ensuring that they are aware of the pertinent health and safety requirements for this project;
- Providing project scheduling and planning activities; and
- Providing guidance to field personnel in the development of appropriate Job Safety Analysis (JSA) relative to the site conditions and hazard assessment.

Site Health & Safety Officer (SHSO)

The SHSO is responsible for field implementation of this HASP and enforcement of safety rules and regulations. SHSO functions may include some or all of the following:

- Act as Haley & Aldrich´s liaison for health and safety issues with client, staff, subcontractors, and agencies.
- Verify that utility clearance has been performed by Haley & Aldrich subcontractors.
- Oversee day-to-day implementation of the Safety Plan by Haley & Aldrich personnel on site.
- Interact with subcontractor project personnel on health and safety matters.

- Verify use of required PPE as outlined in the safety plan.
- Inspect and maintain Haley & Aldrich safety equipment, including calibration of air monitoring instrumentation used by Haley & Aldrich.
- Perform changes to HASP and document in Appendix A of the HASP as needed and notify appropriate persons of changes.
- Investigate and report on-site accidents and incidents involving Haley & Aldrich and its subcontractors.
- Verify that site personnel are familiar with site safety requirements (e.g., the hospital route and emergency contact numbers).
- Report accidents, injuries, and near misses to the Haley & Aldrich PM and FSM as needed.

The SHSO will conduct initial site safety orientations with site personnel (including subcontractors) and conduct toolbox and safety meetings thereafter with Haley & Aldrich employees and Haley & Aldrich subcontractors at regular intervals and in accordance with Haley & Aldrich policy and contractual obligations. The SHSO will track the attendance of site personnel at Haley & Aldrich orientations, toolbox talks, and safety meetings.

Field Personnel

Haley & Aldrich personnel are responsible for following the health and safety procedures specified in this HASP and for performing their work in a safe and responsible manner. Some of the specific responsibilities of the field personnel are as follows:

- Reading the HASP in its entirety prior to the start of on-site work;
- Submitting a completed Safety Plan Acceptance Form and documentation of medical surveillance and training to the SHSO prior to the start of work;
- Attending the pre-entry briefing prior to beginning on-site work;
- Bringing forth any questions or concerns regarding the content of the Safety Plan to the PM or the SHSO prior to the start of work;
- Stopping work when it is not believed it can be performed safely;
- Reporting all accidents, injuries and illnesses, regardless of their severity, to the SHSO;
- Complying with the requirements of this safety plan and the requests of the SHSO; and
- Reviewing the established JSAs for the site-specific hazards on a daily basis and prior to each shift change, if applicable.

Visitors

Authorized visitors (e.g., Client Representatives, Regulators, Haley & Aldrich management staff, etc.) requiring entry to any work location on the site will be briefed by the Site Supervisor on the hazards present at that location. Visitors will be escorted at all times at the work location and will be responsible for compliance with their employer´s health and safety policies. In addition, this safety plan specifies the minimum acceptable qualifications, training and personal protective equipment which are required for entry to any controlled work area; visitors must comply with these requirements at all times. Unauthorized visitors, and visitors not meeting the specified qualifications, will not be permitted within established controlled work areas.

SUBCONTRACTOR PERSONNEL

Subcontractor Site Representative

Each contractor and subcontractor shall designate a Contractor Site Representative. The Contractor Site Representative will interface directly with Insert Staff Name Here, the Subcontractor Site Safety Manager, with regards to all areas that relate to this safety plan and safety performance of work conducted by the contractor and/or subcontractor workforce. Contractor Site Representatives for this site are listed in the Contact Summary Table at the beginning of the Safety Plan.

Subcontractor Site Safety Manager

Each contractor / subcontractor will provide a qualified representative who will act as their Site Safety Manager (Sub-SSM). This person will be responsible for the planning, coordination, and safe execution of subcontractor tasks, including preparation of job hazard analyses (JHA), performing daily safety planning, and coordinating directly with the Haley & Aldrich SHSO for other site safety activities. This person will play a lead role in safety planning for Subcontractor tasks, and in ensuring that all their employees and lower tier subcontractors are in adherence with applicable local, state, and/or federal regulations, and/or industry and project specific safety standards or best management practices.

General contractors / subcontractors are responsible for preparing a site-specific HASP and/or other task specific safety documents (e.g., JHAs), which are, at a minimum, in compliance with local, state, and/or federal other regulations, and/or industry and project specific safety standards or best management practices. The contractor(s)/subcontractor(s) safety documentation will be at least as stringent as the health and safety requirements of the Haley & Aldrich Project specific HASP.

Safety requirements include, but are not limited to: legal requirements, contractual obligations and industry best practices. Contractors/subcontractors will identify a site safety representative during times when contractor/subcontractor personnel are on the Site. All contractor/subcontractor personnel will undergo a field safety orientation conducted by the Haley & Aldrich SHSO and/or PM prior to commencing site work activities. All contractors / subcontractors will participate in Haley & Aldrich site safety meetings and their personnel will be subject to training and monitoring requirements identified in this Safety Plan. If the contractors / subcontractors means and methods deviate from the scope of work described in Section 1 of this Safety Plan, the alternate means and methods must be submitted, reviewed and approved by the Haley & Aldrich SHSO and/or PM prior to the commencement of the work task. Once approved by the Haley & Aldrich SHSO and/or PM, the alternate means and methods submittal will be attached to this Safety Plan as an Addendum.

ATTACHMENT D
JOB SAFETY ANALYSES

808 METROPOLITAN AVENUE

KEY TASK ENTER TASK NUMBER.**:** ENTER TASK NAME.

Subtask Category	Potential Hazards	Controls
Drilling	Slips, Trips, and Falls	• Keep work area clear
Drilling	Utility locators and underground hazards	• Utility mark out
Drilling	Noise reduction	• Wear appropriate noise reducing PPE
Drilling	Heavy equipment	• Avoid line of fire, wear PPE
Sampling	Slips, trips, and falls	• Keep work area clear
Sampling	Slips, trips, and falls	• Wear PPE
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.

ATTACHMENT E
SITE-SPECIFIC OPERATING PROCEDURES

ATTACHMENT F
COVID-19 DOCUMENTS

COVID-19 Policy
Working Safely on Project Sites

Safety
in everything we do

HEALTH & SAFETY FACTSHEET

Incorporate the following information to protect field staff, business partners, clients, and the general public at project sites:

All Staff:

- Must follow state/county/local mandates, Controlling Employer, or client requirements, when they are stricter. Where requirements are stricter, they will be included in the Office or Project HASP.
- Must stay home if they are sick.
- Must wear a face mask when working within 6', entering a shared indoor setting (e.g., job trailer), or anyone asks that staff wear a mask in an interaction.
- Maintain physical distancing when feasible and virtual meetings are encouraged as a best practice to reduce the risk of in-person contact and reduce our environmental footprint.
- Staff may eat together outdoors. Are still required to avoid dining with others in an indoor setting. This includes Haley & Aldrich meetings and client luncheons
- Are required to review, understand, and communicate the site's controlling employer's COVID-19 mitigation plan prior to mobilization. It is your duty to obtain a copy of the site COVID plan.

Staff members who have been notified of close contact, test positive, or have symptoms must:

- Immediately isolate from others and, go home if at work.
- Contact COVIDHelp@haleyaldrich.com if you experience COVID-19 symptoms, test positive or are notified that you are a close contact.
- Notify your Staff Manager and Project Manager.
- Notify COVID Help if there are site policies pertaining to COVID-19 that are more stringent
- Follow instructions per COVID Help, and refer to the "What to do if you have been exposed: guidance.
- Please use the CDC's COVID Symptom Checker or contact your physician if you have questions about your symptoms: https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html

The risk associated with potential exposure to COVID-19 will be considered as part of the project planning and HASP development cycle.

Have Health & Safety review the HASP.

Business partners for sites managed by Haley & Aldrich (H&A Controlling Employer) will have completed the Self-Declaration Form.

Approved and appropriate Personal Protective Equipment and supplies are used as indicated by the HASP.

HALEY ALDRICH

COVID-19 Policy
Working Safely on Project Sites

Safety in everything we do

HEALTH & SAFETY FACTSHEET

COVID-19 PROJECT SPECIFIC INFORMATION

Fit for Duty:

- All subcontractors (if subcontracted to Haley & Aldrich), and visitors (if H&A is Controlling Employer) will complete the Subcontractor Self-Declaration form to affirm staff report fit for duty and symptom free each day.
- All employees working on a site controlled by another employer will follow site expectations for self-certification.
- Sub-contractors who do not show proof of vaccination will be expected to follow the unvaccinated staff requirements.

Things you can do to limit potential exposure (best practices for vaccinated staff/required for unvaccinated staff):

- Consider job trailers or offices as part of this risk assessment and follow all site requirements.
- Maintain a minimum distance of 6' when feasible If you can maintain greater distances, please do so.
- Avoid eating in groups
- Continue regular handwashing or hand sanitizing. Sanitize surfaces as needed.
- Avoid touching the face area (eyes, nose, mouth).

Does the client or Controlling Employer (if H&A is not controlling employer) have specific requirements related to COVID-19?

If yes, please attach the requirements. Yes No

Do we have the necessary supplies on hand (If needed)? Yes No

(Supplies include masks, disinfectant, hand washing stations or sanitizer, and PPE.)

The following **must** be onsite(☑ to acknowledge):

- ❑ Has the Tailgate Meeting Form been provided?
- ❑ Has the What To Do if You Have Been Exposed policy been provided?
- ❑ Has the mask policy been provided?
- ❑ Has the Field Office/Trailer been reviewed to ensure it is safe?
- ❑ Subcontractor Self-Declaration form