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REMEDIAL ACTION WORK PLAN
PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT
223-225, 227 WESTCHESTER AVENUE &
204, 206-208, 214-220 IRVING AVENUE
PORT CHESTER, NEW YORK
NYSDEC BCP SITE NO. C360253

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by
H & A of New York Engineering and Geology, LLP
New York, New York

for
Yorkland Partners, LLC, 227 Westchester Ave LLC, and 204 Irving Two LLC
New York, New York

File No. 0206816
July 2026

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List of Acronyms and Abbreviations

Acronym	Definition
#	
6 NYCRR	Title 6 of the New York Codes, Rules and Regulations
Symbol	
µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
A	
AOC	Area of Concern
AMSL	Above mean sea level
Applicants	Yorkland Partners, LLC, 227 Westchester Ave LLC, and 204 Irving Two LLC
ASP	Analytical Services Protocol
AST	Above ground storage tank
AWQS	Ambient Water Quality Standards
B	
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
Bgs	below ground surface
BMP	best management practices
BTEX	Benzene, toluene, ethylbenzene, xylenes
btoc	below top of casing
C	
CAMP	Community Air Monitoring Plan
CFR	Code of Federal Regulations
CHASP	Construction Health & Safety Plan
COC	Contaminant of Concern
CP-51	Commissioners Policy-51 *(specifically "October 2010 NYSDEC Commissioners Policy 51")*
CP	Commissioners Policy
CPP	Citizen Participation Plan
CQAP	Construction Quality Assurance Plan
CSM	Conceptual Site Model
Cu Yd	Cubic Yard
CVOC	Chlorinated Volatile Organic Compound
D	
DER	Division of Environmental Remediation
DER-10	Division of Environmental Remediation-10 *(specifically "May 2010 NYSDEC Technical Guidance for Site Investigation and Remediation")*
DOB	Department of Buildings, Port Chester
DUSR	Data Usability Summary Report

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List of Acronyms and Abbreviations (Continued)

Acronym	Definition
E	
EC	Engineering Controls
ECL	Environmental Conservation Law
EDD	Electronic Data Deliverable
EE	Environmental Easement
El.	elevation
ELAP	Environmental Laboratory Approval Program
ESA	Environmental Site Assessment
ESI	Environmental Site Investigation
F	
FER	Final Engineering Report
FSP	Field Sampling Plan
ft	feet/foot
FWRIA	Fish and Wildlife Resource Impact Analysis
G	
GV	Guidance Value
H	
Haley & Aldrich of New York	H & A of New York Engineering and Geology, LLP
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
I	
IC	Institutional Control
in.	inches
L	
L/min	liters per minute
Lakewood	Lakewood Environmental Services, Corp.
LNAPL	light non-aqueous phase liquid
LSDF	low-sulfur diesel fuel
M	
mg/kg	milligrams per kilogram
MTBE	methyl tert-butyl ether
MW	Monitoring Well

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List of Acronyms and Abbreviations (continued)

Acronym	Definition
N	
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
O	
OM&M	operation, maintenance, and monitoring
OSHA	Occupational Health and Safety Administration
P	
Pace	Pace Analytical Services, LLC
PAH	Polycyclic Aromatic Hydrocarbon
PBS	Petroleum Bulk Storage
PCB	Polychlorinated Biphenyl
PCE	Perchloroethylene/Tetrachloroethene
PFAS	Per- and polyfluoroalkyl substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
PGWSCOs	Protection of Groundwater Soil Cleanup Objectives
PID	Photoionization Detector
PM-10	Particles with diameters generally less than 10 micrometers and smaller
PPE	Personal Protective Equipment
ppm	parts per million
ppt	parts per trillion
PVC	Polyvinyl Chloride
Q	
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QEP	Qualified Environmental Professional
QHHEA	Qualitative Human Health Exposure Assessment
R	
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCA	Recycled Concrete Aggregate
RCRA	Resource Conservation and Recovery Act
RE	Remedial Engineer
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
RRSCO	Restricted Residential Soil Cleanup Objective

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List of Acronyms and Abbreviations (continued)

Acronym	Definition
S	
SCG	Standards, Criteria, and Guidelines
SCO	Soil Cleanup Objective
SDS	Safety Data Sheet
Site	223-225, 227 Westchester Avenue & 204, 206-208, 214-220 Irving Avenue, Port Chester, New York
S/MMP	Soil/Materials Management Plan
SMP	Site Management Plan
SOE	Support-of-Excavation
SPDES	State Pollutant Discharge Elimination System
sq ft	square feet
SRI	Supplemental Remedial Investigation
SRIR	Supplemental Remedial Investigation Report
SVI	Soil Vapor Intrusion
SVOC	Semi-Volatile Organic Compound
SWPPP	Stormwater Pollution Prevention Plan
T	
TAL	Total Analyte List
TCE	Trichloroethylene
TCL	Target Compound List
TIC	Tentatively identified compounds
TOGS 1.1.1	Technical and Operational Guidance Series 1.1.1 *(Specifically "June 1998 NYSDEC Division of Water Technical and Operational Guidance Series 1.1.1 Ambient Water Quality Standards and Guidance Values, Class GA for the protection of a source of drinking water modified per the April 2000 addendum")*
U	
USEPA	United States Environmental Protection Agency
USGS	U.S. Geological Survey
UST	Underground Storage Tank
UUSCO	Unrestricted Use Soil Cleanup Objective
V	
VOC	Volatile Organic Compound
W	
WCDOH	Westchester County Department of Health
WCDOT	Westchester County Department of Transportation
WCDEF	Westchester County Department of Environmental Facilities

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Certification

I, Suzanne M. Bell, certify that I am currently a New York State-registered professional engineer and that this Remedial Action Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and Green Remediation (DER-31).

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

NYS Professional Engineer No. 106301	Date	Signature

It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State-licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

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EXECUTIVE SUMMARY

This Remedial Action Work Plan (RAWP) was developed by H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) on behalf of Yorkland Partners, LLC, 227 Westchester Ave LLC, and 204 Irving Two LLC (the Applicants) for the Proposed 227 Westchester Avenue Development Site, located at 223-225, 227 Westchester Avenue & 204, 206-208, 214-220 Irving Avenue, Port Chester, New York (the Site). The Applicants applied to and were accepted into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP). A Brownfield Cleanup Agreement (BCA) was executed by the NYSDEC on January 13, 2025, with the Applicants (BCP Site No. C360253).

This RAWP summarizes the nature and extent of contamination on the Site as determined from data gathered during the Remedial Investigation (RI) performed by Haley & Aldrich of New York in October and November 2025. It provides an evaluation of a Track 1 cleanup and other applicable remedial action alternatives, their associated costs, and the recommended and preferred remedy. The remedies described in this document are consistent with the procedures defined in the NYSDEC Division of Environmental Remediation (DER) Program Policy: Technical Guidance for Site Investigation and Remediation (DER-10) and comply with applicable federal, state, and local laws, regulations, and requirements.

Site Description and Site History

The Site is located in Port Chester, New York, and is identified as Block 1, Lots 24, 25, 30, 31, 32, and 33 on the Westchester County tax map. The approximately 0.89-acre (38,768-square-foot [sq-ft]) Site is bounded by Irving Avenue, followed by mixed-use commercial and residential buildings to the north; Westchester Avenue, followed by mixed-use commercial buildings to the south; mixed-use commercial buildings and the Port Chester Fire Department to the east; and a parking lot, followed by mixed-use commercial buildings to the west. The Project Locus is shown on Figure 1, and existing Site features are displayed on the Site Plan provided as Figure 2. Site survey maps are provided in Appendix A.

According to the Port Chester Zoning Map, the Site is located within an urban core character district (CD-6) characterized by low-rise commercial and residential buildings. A copy of the zoning map is included in Appendix B.

The Site is currently composed of six lots (pending lot merger), four of which are developed and two are undeveloped. The Site features include a one-story commercial building occupied by a restaurant and a three-story residential building with a partial basement and an adjoining paved alleyway (Lot 24); a three- to four-story mixed-use building with a full basement and rear yard occupied by office/retail spaces on the upper floors and a restaurant and tap room on the first floor (Lot 25); a one-story commercial building occupied by offices and a carpentry workshop/warehouse (Lot 30); and a three-story mixed-use building occupied by an auto parts retail shop and auto-maintenance garage on the first floor and residential spaces on upper floors (Lot 31). Lots 32 and 33 are undeveloped.

Based on a March 2023 Phase I Environmental Site Assessment (ESA) completed by Haley & Aldrich of New York, the Site was partially developed with dwellings, commercial storefronts, and a church as early as 1890. By the 1930s, the Site was entirely developed with commercial and residential buildings. Former operations at Lot 30 include a garage, warehouse, and Empire Oil Service operating from the

1930s through the 1980s. Former operations such as these have the potential to impact the subsurface conditions with petroleum-related compounds. Several current and former uses at the Site are also known to frequently involve the use of chlorinated solvents. Operations such as these include a former bowling alley at Lot 25, operating from the 1930s through the 1950s, and a former dry cleaner at Lot 24, operating from the 1970s through the 1980s. Site structures have remained unchanged since at least 1950.

There are four sensitive receptors that are within a 500-foot (ft) radius of the Site:

1. Port Chester Head Start school, 17 Spring Street, Port Chester, New York 10573.
2. Sunny Side Daycare Center, 27 Smith Street, Port Chester, New York 10573.
3. Port Chester-Rye Brook Public Library, 1 Haseco Avenue, Port Chester, New York 10573.
4. Saavedra Healthcare Center medical clinic, 216 Westchester Avenue, Port Chester, New York 10573.

Properties immediately surrounding the Site consist of residential and commercial uses.

Summary of the Remedial Investigation

The RI was completed in accordance with Title 6 of the New York Codes, Rules, and Regulations (6 NYCRR) Part 375, DER-10, the New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006 and subsequent updates), and the August 2025 Remedial Investigation Work Plan (RIWP), prepared by Haley & Aldrich of New York. The RI was performed from October 20, 2025, to November 5, 2025. RI sample locations are provided on Figure 3.

The RI consisted of the following:

- Advancement of 17 soil borings to various depths ranging from 15 to 25 ft below ground surface (bgs). Three to five samples were collected at each boring, including from the surface at 0 to 0.5 ft bgs; from the deepest interval of urban fill observed (ranging from approximately 1 to 14 ft bgs); from the 2-ft interval at the groundwater interface; and from the approximate development depth at 23 to 25 ft bgs, or the 2-ft interval above bedrock refusal if encountered prior to reaching development depth. Where the sampling interval depths coincided (when the surface soil interval, the deepest interval of urban fill, and/or the 2-ft interval at the groundwater interface were observed at the same depth interval), only one sample was collected. To assess immediate potential human exposure via direct contact, shallow soil sampling at soil boring locations where vegetative cover and/or exposed soil were present included a 0 to 2-inch (in.) sample for all analytes except volatile organic compounds (VOCs), and a 2- to 6-in. sample for VOC analysis. A total of 67 soil samples were collected (plus quality assurance/quality control [QA/QC] samples) for laboratory analysis.

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- Installation of seven 2-in.-diameter permanent groundwater monitoring wells to approximately 15 ft bgs[1], and collection of seven groundwater samples (plus QA/QC samples) for laboratory analysis.
- Installation of 13 soil vapor probes to variable depths between approximately 5 and 9 ft bgs for soil vapor probes installed outside of the existing building cellars and to approximately 0.5 to 1 ft bgs for soil vapor probes installed in the existing building cellars, or approximately 1 to 2 ft above the observed groundwater interface.
- A Supplemental Remedial Investigation (SRI) was conducted on Lot 31 from May 28 through June 4, 2026, which included installation of four soil borings and four permanent monitoring wells to depths of 13 to 15 ft bgs and installation of three soil vapor probes to a depth of approximately 6 ft bgs.

A summary of environmental findings of the RI includes the following:

- The Site is underlain by a layer of urban fill consisting of black to brown medium sand with varying amounts of gravel and brick. Analytical data identified contaminants associated with fill extending to between approximately 10 and 25 ft bgs. The fill is underlain by a potential native layer consisting of black to brown clay and silty clay, underlain by brown coarse sand up to the terminus depth in each boring of approximately 15 to 25 ft bgs. Weathered bedrock was encountered at variable depths between approximately 15 and 25 ft bgs. A geologic cross-section is provided as Figure 4.
- Groundwater was encountered at depths ranging from approximately 6.0 to 11.25 ft below top of casing (btoc) in monitoring wells installed at sidewalk grade, and approximately 0.5 to 2.23 ft btoc in monitoring wells installed within the existing building cellars (approximately 37.34 to 40.10 ft AMSL). Groundwater beneath the Site generally flows from southwest to northeast as shown on Figure 5.
- In general, Site contaminants of concern (COCs) include metals (including heavy metals such as arsenic, copper, lead, and mercury) and semi-volatile organic compounds (SVOCs; specifically polycyclic aromatic hydrocarbons [PAHs]) in soil; VOCs (specifically petroleum-related VOCs), SVOCs (specifically PAHs), and per- and polyfluoroalkyl substances (PFAS) in groundwater; and VOCs in soil vapor.
- The source of contamination in soil, groundwater, and soil vapor can be attributed to several potential sources, including the aboveground storage tank (AST) on Lot 31, associated with NYSDEC Spill No. 2506900, the current uses of the Site (including an auto repair and parts store), and historical Site uses (including a dry cleaner).
- Impacts are contained within the Site and do not migrate off-Site as evidenced by a lack of VOC and SVOC contamination observed in the downgradient monitoring wells (MW01 and MW03).
- Groundwater contamination, specifically relating to PFAS, may also be associated with off-Site sources, including the adjacent fire station and county-wide PFAS impacts.

[1] Wells installed within building cellars were installed to approximately 10 ft bgs, which is approximately 18 ft below sidewalk grade (approximately 32.33 ft above mean sea level [AMSL] on Lot 25 and 27.97 ft AMSL on Lot 31).

Qualitative Human Health Exposure Assessment

Current Use Scenario

Site contamination includes metals (including heavy metals such as arsenic, copper, lead, and mercury), VOCs (specifically acetone), and PFAS, and in some areas, petroleum-related VOCs, SVOCs (specifically PAHs), and pesticides in soil related to fill and historical Site operations. Under current conditions, the likelihood of exposure to soil or groundwater is limited, as the majority of the Site has a concrete or asphalt cover in place. Potable water for Westchester County will continue to be sourced from reservoirs in the Catskill and Delaware watersheds. All intrusive work on the Site is done in accordance with a Site-Specific Health and Safety Plan (HASP) and the donning of personal protective equipment (PPE).

Construction/Remediation Scenario

The exposure element exists for all elements during this phase. The overall risk will be minimized by the implementation of a Site-Specific Construction Health and Safety Plan (CHASP), localized monitoring of organic vapors, community air monitoring on the Site perimeter for particulates and VOCs, vapor and dust suppression techniques, installation of a stabilized entrance, cleaning truck tires and undercarriages, and donning of appropriate PPE. Additionally, the Site will be under a RAWP that will include a Soil Materials Management Plan (S/MMP) that will highlight measures for PPE, covering of stockpiles, housekeeping, suppression techniques (for particulates and vapors), and measures to prevent off-Site migration of contaminants. In addition, the Site will be secured and inaccessible to the public during remedial construction.

Future Use Scenario

Under the proposed future conditions (after construction/remediation), residual contaminants may remain on the Site depending on the remedy achieved. The remaining contaminants would include those listed in the current conditions. If contaminants remain on the Site after construction/remediation, the route of exposure will be mitigated by proper installation of engineering controls, such as a Site capping system foundation, implementation of institutional controls, such as land use and groundwater use restrictions, and implementation of a Site Management Plan (SMP) to manage referenced controls.

Summary of the Remedy

Alternative I, a Track 1 remedy, will include the following tasks:

1. Development and implementation of a CHASP for the protection of on-Site workers.
2. Development and implementation of a Community Air Monitoring Plan (CAMP) for the protection of the community, residents, and the environment during remediation and construction activities.
3. Design and installation of a support-of-excavation (SOE) system to facilitate the Track 1 remediation.

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4. Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.
5. Demolition and abatement of remaining structures and removal of miscellaneous debris on Site.
6. Decommissioning of existing on-Site monitoring wells, as necessary, in accordance with NYSDEC Commissioner Policy (CP)-43.
7. Excavation, stockpiling, off-Site transport, and disposal of approximately 34,500 cubic yards (cu yd) of contaminated soils Site-wide that exceed UUSCOs as defined by 6 NYCRR Part 375-6.8. To ensure that all contaminated soils are uniformly removed from the Site in a safe and orderly manner, the excavation will extend to approximately 25 ft bgs (i.e., the bedrock interface).
8. Within the northeastern portion of the Site, approximately 30 linear ft of the existing Buckley Drain[2] will remain in place, as required by the Village of Port Chester. In this area, totaling approximately 150 square feet (sq ft), excavation will extend to the top of the Buckley Drain (estimated at approximately 10 ft bgs), and excavation beneath the drain will not be performed to avoid disturbing the existing drainage infrastructure.
9. Removal of one AST located on Lot 31 and associated appurtenances (e.g., fill lines, vent lines, and electrical conduits) in accordance with DER-10, 6 NYCRR Part 613.9, and NYSDEC CP-51. Excavation, characterization, and removal of impacted soil associated with the AST. Documentation sampling from the excavation area to confirm impacted material removal and provide confirmation for closure of Spill Case No. 2506900.
10. Removal, decommissioning, and off-Site disposal of the AST, and if encountered, any underground storage tanks (USTs), and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduits) in accordance with DER-10, 6 NYCRR Part 613.9, NYSDEC CP-51, and other applicable NYSDEC AST/UST closure requirements.
11. Implementation of a preliminary waste characterization to facilitate off-Site disposal of excavated soil/fill.
12. Screening of excavated material for indication of contamination (by visual means, odors, and monitoring with photoionization detectors [PIDs]) during intrusive Site work.
13. Dewatering, characterization, and treatment of water accumulated in excavations prior to discharge to a NYSDEC-approved sewer/sanitary line (pending permits), or localized dewatering with containerization, classification, and disposal at an approved receiving facility.
14. Appropriate off-Site disposal of material removed from the Site in accordance with federal, state, and local rules and regulations for handling, transport, and disposal.
15. Backfilling of excavated areas [to development depth] with certified-clean material (i.e., meeting Unrestricted Use Soil Cleanup Objectives [UUSCOs]), recycled concrete aggregate (RCA), or virgin, native crushed stone.

[2] The Buckley Drain is a major 4-ft by 7-ft box culvert and stormwater channel that manages runoff for a large watershed in Port Chester, New York.

16. Collection and analysis of confirmation soil samples and/or photo documentation of cleared bedrock surface from the excavation base in accordance with DER-10, to document post-excavation conditions to confirm a Track 1 remedy was achieved.
17. Completion of a desktop soil vapor intrusion (SVI) evaluation in accordance with DER-10 and the NYSDOH Final Guidance on Soil Vapor Intrusion following remedial excavation activities and prior to occupancy.
18. If Track 1 Unrestricted Use is not achieved, the development of an SMP for long-term management of residual contamination as required by an Environmental Easement (EE) will be required.
19. Additionally, as part of the remedial program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as U.S. Environmental Protection Agency (USEPA) Spreadsheets for Environmental Footprint Analysis (SEFA), SiteWiseTM (available in the Sustainable Remediation Forum [SURF] library), or a similar Department-accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial program, as appropriate. The project will include detailed requirements to achieve the green and sustainable remediation goals.

    Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the FER, including a comparison to the goals established during the remedial program. Additionally, the remedial program will include a climate change vulnerability assessment to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress, and drought), flooding, and sea level rise will be identified, and the remedial program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

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1. Introduction

This Remedial Action Work Plan (RAWP) was developed by H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) on behalf of Yorkland Partners, LLC, 227 Westchester Ave LLC, and 204 Irving Two LLC (the Applicants) for the proposed development of the property located at 223-225, 227 Westchester Avenue (Lots 24 and 25, respectively) and 204, 206-208, 214-220 Irving Avenue (Lots 30, 31, 32 and 33, respectively), in Port Chester, New York (the Site).

In January 2025, the project (Brownfield Cleanup Program [BCP] Site No. C360253) was accepted into the New York State Department of Environmental Conservation (NYSDEC) BCP, and a countersigned Brownfield Cleanup Agreement (BCA) was issued to the Applicants. The Applicants propose to remediate and redevelop the Site for commercial and residential use. A Track 1 Unrestricted Use remedy is proposed for the property.

This RAWP summarizes the nature and extent of contamination as determined from data gathered during the Remedial Investigation (RI) completed by Haley & Aldrich of New York at the Site between October 20, 2025, and November 5, 2025. This RAWP provides an evaluation of a Track 1 cleanup and other applicable remedial ction alternatives, their associated costs, and the recommended and preferred remedy. The remedy described in this document is consistent with the procedures defined by the Division of Environmental Remediation (specifically, the “May 2010 NYSDEC Technical Guidance for Site Investigation and Remediation”) (DER-10), DER “Green Remediation” (DER-31), and complies with all applicable federal, state, and local laws, regulations, and requirements. The NYSDEC and New York State Department of Health (NYSDOH) have not yet determined if the Site poses a significant threat to human health and the environment. The RI for this Site did not identify fish and wildlife resources.

1.1 SITE LOCATION AND DESCRIPTION

The Site is located in the county of Westchester, Port Chester, New York, and is identified as Block 1, Lots 24, 25, 30, 31, 32, and 33 on the Westchester County tax map. The approximately 0.893-acre (38,768-square-foot [sq-ft]) Site is bounded by Irving Avenue, followed by mixed-use commercial and residential buildings to the north; Westchester Avenue, followed by mixed-use commercial buildings to the south; mixed-use commercial buildings and the Port Chester Fire Department to the east; and a parking lot, followed by mixed-use commercial buildings to the west. An existing culvert, the Buckley Drain, traverses a small portion of the northeastern corner of the Site. Approximately 30 linear feet (ft) of the Buckley Drain are located within the Site boundary and will remain in place as part of the redevelopment. The Buckley Drain is a major 4-ft by 7-ft culvert that manages runoff in Port Chester that is required to remain operational following redevelopment. The Project Locus is shown on Figure 1, and the Site Plan is provided as Figure 2. A Site survey map is provided in Appendix A.

According to the Port Chester Zoning Map, the Site is located within an urban core character district (CD-6) characterized by low-rise commercial and residential buildings, with the intended post-development use as mixed-use commercial and residential. A copy of the zoning map is included in Appendix B.

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1.2 REDEVELOPMENT PLAN

The Remedial Action to be performed under this RAWP is intended to make the Site protective of human health and the environment consistent with the contemplated end use. The proposed redevelopment plan and end use are described here to provide the basis for this assessment. However, the Remedial Action contemplated under this RAWP may be implemented independent of the proposed redevelopment plan.

The project will consist of a new 12-story residential building with 410 units, including 10 percent, or 41, affordable units, sub-grade and at-grade parking with 365 parking spaces, and approximately 2,140 sq ft of retail space at street level. The new development is anticipated to encompass the entire Site footprint and generally require Site-wide excavation to approximately 25 ft below ground surface (bgs) to accommodate construction. Approximately 30 linear ft of the existing Buckley Drain located within the northeastern portion of the Site will remain in place as required by the Village of Port Chester. The entrance to the subgrade parking will be located at the northeast portion of the Site. A copy of the proposed development plans is included in Appendix C.

1.3 DESCRIPTION OF SURROUNDING PROPERTY

The Site is located on Westchester Avenue and Irving Avenue in Port Chester. The Site is located within a disadvantaged community based on the criteria defined by the Climate Justice Working Group and is also 100 percent within an En-zone.

There are four sensitive receptors within a 500-ft radius of the Site:

1) Port Chester Head Start School, 17 Spring Street, Port Chester, New York 10573.
2) Sunny Side Daycare Center, 27 Smith Street, Port Chester, New York 10573.
3) Port Chester-Rye Brook Public Library, 1 Haseco Avenue, Port Chester, New York 10573.
4) Saavedra Healthcare Center Medical Clinic, 216 Westchester Avenue, Port Chester, New York 10573.

Properties immediately surrounding the Site consist of residential and commercial uses.

Direction	Adjoining Properties	Surrounding Properties
North	Irving Avenue, followed by mixed-use commercial and residential buildings.	Residential and commercial buildings.
South	Westchester Avenue, followed by mixed-use commercial buildings.	Residential and commercial buildings.
East	Mixed-use commercial buildings and the Port Chester Fire Department.	Residential and commercial buildings.
West	A parking lot, followed by mixed-use commercial buildings.	Residential and commercial buildings.

1.4 SITE HISTORY

Based on a March 2023 Phase I Environmental Site Assessment (ESA) completed by Haley & Aldrich of New York, the Site was partially developed with dwellings, commercial storefronts, and a church as early

as 1890. By the 1930s, the Site was entirely developed with commercial and residential buildings. Former operations at Lot 30 include a garage, a warehouse, and Empire Oil Service (oil delivery) operating from the 1930s through the 1980s. Former operations such as these have the potential to impact the subsurface conditions with petroleum-related compounds. Several current and former uses at the Site are also known to frequently involve the use of chlorinated solvents. Operations such as these include a former bowling alley at Lot 25 operating from the 1930s through the 1950s, and a former dry cleaner at Lot 24, operating from the 1970s through the 1980s. Site structures have remained unchanged since at least 1950.

Contaminants of concern (COCs) identified in the Remedial Investigation Report (RIR) are believed to have resulted from previous operations, including dry cleaning and an oil service station, relating to auto repair and an observed aboveground storage tank (AST).

There are two historic Spill Cases associated with the Site, both of which have received regulatory closure. Historic Spill Cases are detailed below:

- Spill Case No. 0314125, located on the northeast corner of Lot 25, was reported in 2004 when one 5,000-gallon fuel oil underground storage tank (UST) and one 1,000-gallon fuel oil UST were removed from Lot 25. Reportedly, the spill resulted from tank failure, and petroleum-impacted soil was encountered during subsequent excavation. The environmental database report indicates that the Westchester County Department of Health (WCDOH) recommended No Further Action, and the case received regulatory closure on May 3, 2004. A Subsurface Investigation was performed in October 2013 to investigate the soil in the former UST area. Five soil samples, collected between 5 and 8 ft bgs, were submitted to a laboratory for volatile organic compound (VOC) and semi-volatile organic compound (SVOC) analysis. Analytical results were compared to Soil Cleanup Levels for Fuel Oil-Contaminated Soil provided in the NYSDEC Commissioner Policy (CP)-51 Soil Cleanup Guidance. No exceedances of these criteria were noted.
- Spill Case No. 9803446, located on Lot 24, was reported on June 17, 1998, when petroleum-impacted soils were noted during removal of a No. 2 fuel oil UST. The Site was observed on June 22, 1998, but the excavation where impacted soils were observed had already been filled and paved over. Spill Case No. 9803446 received regulatory closure on December 11, 1998. No further information is provided in the environmental database report.

While the Spill Cases above resulted in petroleum-based contamination, the petroleum impacts identified on Lot 31 during the February 2024 Limited Phase II Environmental Site Investigation (ESI) are approximately 100 ft to the west of the impacts associated with these Spill Cases, and appear to be unrelated to impacts associated with Spill Case Nos. 0314125 and 9803446. Further, as observed in the Limited Phase II, the assumed source of this contamination was independent of the USTs noted above and appears to be the result of an AST and auto-related operations observed at Lot 31. An additional spill case was opened with NYSDEC on November 5, 2025, and assigned Spill Case No. 2506900, which is further discussed in Section 4.4 of the RIR. This spill case is listed as closed in the NYSDEC regulatory database as of November 18, 2025.

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1.5 PREVIOUS ENVIRONMENTAL REPORTS

The following reports were prepared for the Site prior to submission of the 2026 RIR:

- September 2013 Phase I ESA, 223-225 Westchester Avenue, prepared by GO Environmental (included as appendix to March 2023 Phase I ESA prepared by Haley & Aldrich of New York).
- October 2013 Subsurface Investigation Report, 223-225 Westchester Avenue, prepared by GO Environmental (included as appendix to March 2023 Phase I ESA prepared by Haley & Aldrich of New York).
- November 2021 Phase I ESA, 227 Westchester Avenue, prepared by Property Solutions Inc. (included as appendix to March 2023 Phase I ESA prepared by Haley & Aldrich of New York).
- September 2022 Phase I ESA, 206-208 and 214-220 Irving Avenue, prepared by Property Solutions Inc. (included as appendix to March 2023 Phase I ESA prepared by Haley & Aldrich of New York).
- March 2023 Phase I ESA, 223-225 and 227 Westchester Avenue and 204, 206-208, 214-220 Irving Avenue, prepared by Haley & Aldrich of New York.
- February 2024 Limited Phase II ESI, 223-225, 227 Westchester Avenue, 204, 206-208, and 214-220 Irving Avenue, prepared by Haley & Aldrich of New York.

Previous investigation findings are included in Section 3 of the RIR dated February 2026, prepared by Haley & Aldrich of New York.

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2. Description of Remedial Investigation Findings

The RI was conducted from October 20, 2025 through November 5, 2025 in accordance with the NYSDEC-approved Remedial Investigation Work Plan (RIWP) dated August 2025. The RIR was submitted to NYSDEC on February 4, 2026.

At the request of NYSDEC per phone correspondence on March 19, 2026, a Supplemental Remedial Investigation (SRI) was conducted from May 28, 2026 through June 4, 2026, and involved additional soil, groundwater, and soil vapor sampling on Lot 31. The SRI was conducted in accordance with the NYSDEC-approved Supplemental Remedial Investigation Work Plan (SRIWP) dated May 12, 2026. The SRI Report (SRIR) was submitted to NYSDEC on July 9, 2026.

2.1 SUMMARY OF REMEDIAL INVESTIGATIONS PERFORMED

The RI consisted of the following:

- Advancement of 17 soil borings to various depths ranging from 15 to 25 ft bgs. Three to five samples were collected at each boring, including from the surface at 0 to 0.5 ft bgs; from the deepest interval of urban fill observed (ranging from approximately 1 to 14 ft bgs); from the 2-ft interval at the groundwater interface; and from the approximate development depth at 23 to 25 ft bgs, or the 2-ft interval above bedrock refusal if encountered prior to reaching development depth. Where the sampling interval depths coincided (when the surface soil interval, the deepest interval of urban fill, and/or the 2-ft interval at the groundwater interface were observed at the same depth interval), only one sample was collected. To assess immediate potential human exposure via direct contact, shallow soil sampling at soil boring locations where vegetative cover and/or exposed soil were present included a 0 to 2-inch (in.) sample for all analytes except VOCs, and a 2- to 6-in. sample for VOC analysis. A total of 67 soil samples were collected (plus quality assurance/quality control [QA/QC] samples) for laboratory analysis.
- Installation of seven 2-in.-diameter permanent groundwater monitoring wells to approximately 15 ft bgs[3], and collection of seven groundwater samples (plus QA/QC samples) for laboratory analysis.
- Installation of 13 soil vapor probes to variable depths between approximately 5 and 9 ft bgs for soil vapor probes installed outside of the existing building cellars and to approximately 0.5 to 1 ft bgs for soil vapor probes installed in the existing building cellars, or approximately 1 to 2 ft above the observed groundwater interface.

[3] Wells installed within building cellars were installed to approximately 10 ft bgs, which is approximately 18 ft below sidewalk grade (approximately 32.33 ft above mean sea level [AMSL] on Lot 25 and 27.97 ft AMSL on Lot 31).

The SRI consisted of the following:

- Advancement of four soil borings to a depth of 15 ft bgs. One sample was collected from each boring at a depth of 4 to 6 ft bgs, representing the 2-ft interval above the groundwater interface. A total of four soil samples were collected (plus one QA/QC sample) for laboratory analysis.
- Installation of four 2-in.-diameter permanent groundwater monitoring wells to approximately 15 ft bgs, and collection of four groundwater samples (plus one QA/QC sample) for laboratory analysis.
- Installation of three soil vapor probes to 6 ft bgs, and collection of four soil vapor samples.

Soil and groundwater samples were collected into laboratory-prepared sample bottles (pre-preserved when appropriate), placed in ice-packed coolers maintained at approximately 4 degrees Celsius under standard chain of custody procedures, and transported to Pace Analytical Services, LLC (Pace) of Westborough, Massachusetts (Certification No. 11148). Soil vapor samples were collected into laboratory-supplied batch certified-clean 2.7-liter Summa® canisters with two-hour flow controllers and transported under a standard chain of custody to Pace of Mansfield, Massachusetts (Certification No. 12191). Pace is a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory and was responsible for analyzing samples as per the analyses and methods identified in the approved RIWP and SRIWP and as described in the RIR and SRIR. Air monitoring was conducted during all ground-intrusive activities.

2.1.1 Soil Investigation

During the RI, 17 soil borings were advanced throughout the Site to a maximum depth of 25 ft bgs. During the SRI, four soil borings were advanced cross-gradient (west) and upgradient (south) of the AST and documented light non-aqueous phase liquid (LNAPL) in MW02 to a depth of 15 ft bgs. Soil borings were advanced using a Geoprobe® model 7822DT drill rig for soil borings located outdoors, and a limited access Geoprobe® model 420M drill rig or modified AMS PowerProbe 9100P drill rig for soil borings located indoors, operated by a licensed operator provided by Lakewood Environmental Services, Corp. (Lakewood), the drilling subcontractor. Soil samples were collected from dedicated acetate liners using a stainless-steel trowel or sampling spoon. VOC grab samples were collected using Terra Cores®.

Soils were logged continuously by field personnel using the Modified Burmister Soil Classification System. The presence of staining, odors, and photoionization detector (PID) responses was noted in soil boring logs. Soil boring logs are provided in Appendix C of the RIR and SRIR, respectively.

During the RI, soil samples representative of Site conditions were collected at 17 locations across the Site, as shown on Figure 3. Three to five samples were collected at each boring, including from the surface at 0 to 0.5 ft bgs; from the deepest interval of urban fill observed (ranging from approximately 1 to 14 ft bgs); from the 2-ft interval at the groundwater interface; and from the approximate development depth at 23 to 25 ft bgs, or the 2-ft interval above bedrock refusal if encountered prior to reaching development depth. Where the sampling interval depths coincided (when the surface soil interval, the deepest interval of urban fill, and/or the 2-ft interval at the groundwater interface were observed at the same depth interval), only one sample was collected. To assess immediate potential human exposure via direct contact, shallow soil sampling at soil boring locations where vegetative cover

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and/or exposed soil were present included a 0 to 2-in. sample for all analytes except VOCs, and a 2- to 6-in. sample for VOC analysis. Sample locations installed within the buildings on Lots 25 (MW07, SB07, SV07, and SB09) and 31 (MW03, SB03, and SV03) were advanced within the existing building cellars. The floors of the existing building cellars are located approximately 8 ft below sidewalk grade, with Lot 25's top of cellar slab at 42.57 ft AMSL and Lot 31's top of cellar slab at 38.22 ft AMSL. A geologic cross-section is provided on Figure 4.

During the SRI, soil samples were collected at four locations to further characterize soil conditions in the northeast portion of the Site near the AST and LNAPL impacts, as shown on Figure 3. One sample was collected from each boring at a depth of 4 to 6 ft bgs, representing the 2-ft interval above the groundwater interface.

2.1.2 Groundwater Investigation

During the RI, seven of the 17 soil borings were converted to 2-in. permanent groundwater monitoring wells. During the SRI, each of the four soil borings were converted into 2-in. permanent groundwater monitoring wells. Monitoring wells were installed to approximately 15 ft bgs[4] (between approximately 28.64 ft AMSL and 34.13 ft AMSL).

Each monitoring well was constructed using a 2-in. diameter polyvinyl chloride (PVC) riser pipe with a 10-ft-long, 10-slot (0.01-in.) slotted PVC screen. Each monitoring well was backfilled with clean No. 2 silica sand to approximately 2 ft above the top of the screen. A bentonite seal (minimum 2 ft thick) was placed above the sand pack, and the remaining borehole was grouted to the surface using non-impacted soil cuttings and concrete. Each well was completed at grade with steel flush-mount protective covers equipped with secure lock mechanisms. During a monitoring well gauging event concurrent with the well survey on November 4, 2025, groundwater was encountered at depths ranging from approximately 6.0 to 11.25 ft below top of casing (btoc) in monitoring wells installed at sidewalk grade, and approximately 0.5 to 2.23 ft btoc in monitoring wells installed within the existing building cellars (approximately elevation [El.] 37.34 to 40.10 ft AMSL). Groundwater generally flows from southwest to northeast at the Site. Monitoring well construction diagrams are provided in Appendix D of the RIR. A groundwater contour map and groundwater elevation data are provided in Figure 5.

The AST located outside along the rear wall of the auto repair and parts store on Lot 31 was observed during the RI. On October 24, 2025, the AST was enclosed within newly installed secondary containment, with absorbent materials placed around the base as a spill prevention measure. On November 4, 2025, LNAPL was encountered between approximately 7.08 and 11.26 ft btoc in MW02, located within the vicinity of the AST. On November 5, 2025, a spill was called in to the NYSDEC Spill Hotline and was assigned Spill No. 2506900. Prior to collecting groundwater samples, LNAPL was bailed from MW02 and containerized in a sealed New York State Department of Transportation (NYSDOT)-approved 55-gallon drum pending characterization and off-Site disposal. A total of approximately 2 gallons of product were removed from MW02. During the SRI, LNAPL was observed in well MW02 between approximately 6.22 and 8.54 ft btoc (2.32 ft product thickness) on May 28, 2026, and between

[4] Wells installed within building cellars were installed to approximately 10 ft bgs, which is approximately 18 ft below sidewalk grade (approximately 32.33 ft AMSL on Lot 25 and 27.97 ft AMSL on Lot 31).

approximately 6.48 and 8.58 ft btoc (2.10 ft product thickness) on June 4, 2026. This spill was listed as closed on the NYSDEC regulatory database as of November 18, 2025.

2.1.3 Soil Vapor Investigation

Soil vapor samples were collected in accordance with the "Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (NYSDOH, 2006). During the RI, 13 soil vapor probes were installed at variable depths between approximately 5 and 9 ft bgs for soil vapor probes installed outside of the existing building cellars and to approximately 0.5 to 1 ft bgs for soil vapor probes installed in the existing building cellars, or approximately 1 to 2 ft above the observed groundwater interface. During the SRI, three soil vapor probes were installed in the south portion of the Site surrounding MW02 at a depth of approximately 6 ft bgs. Soil vapor implants were installed with a Geoprobe® drill rig to advance a stainless-steel probe to the desired sample depth.

To ensure the stainless-steel vapor probes were sealed completely to the surface using bentonite, a tracer gas was used in accordance with NYSDOH protocols to serve as a QA/QC device to verify the integrity of the soil vapor probe seal. In addition, one to three implant volumes were purged prior to the collection of the soil vapor samples. Sampling occurred for a duration of two hours. At the conclusion of the sampling round, tracer gas monitoring was performed a second time to confirm the continued integrity of the probe seals.

Samples were collected in appropriately sized Summa® canisters that were certified clean by the laboratory. Samples were analyzed for VOCs using United States Environmental Protection Agency (USEPA) Method TO-15. Flow rate for both purging and sampling did not exceed 0.2 liters per minute (L/min). Additional details regarding the sampling methods are described in the Field Sampling Plan (FSP) provided in the approved RIWP. The soil vapor sampling log is provided in Appendix G of the RIR and SRIR, respectively.

2.1.4 Best Management Practices

DER-31 provides examples of best practices and techniques that could be applied during all phases of remediation (Attachment 1 of the DER-31 policy). In addition, the techniques identified below were implemented at the Site during the RI and SRI:

Practice/Technique	Potential Benefits[1]	Applicable to the RI and SRI
Use renewable energy where possible or purchase Renewable Energy Credits	Reduce/supplement purchased energy use	
Use of remediation technologies with an intermittent energy supply (i.e., energy use during peak energy generation only)	Reduce energy use	X
Incorporate green building design	Reduce future use impacts	
Reuse existing buildings and infrastructure to reduce waste	Reduce waste and material use	
Reuse and recycle construction and demolition debris and other materials	Reduce waste and material use	

Practice/Technique	Potential Benefits[1]	Applicable to the RI and SRI
(i.e., grind waste wood and other organics for on-site use)		
Design cover systems to be usable (i.e., habitat or recreation)	Reduce construction impacts of future development	
Reduce vehicle idling	Reduce air emissions and fuel use	X
Use of Low-Sulfur Diesel Fuel (LSDF) or alternate fuels (i.e., biodiesel or E85) when possible	Reduce air emissions	X
Sequence work to minimize double handling of materials	Reduce construction impacts	X
Use energy-efficient systems and office equipment in the job trailer	Reduce energy use	
[1]*Potential benefits listed are not comprehensive and will vary depending upon the site and implementation of the practice or technique.*		

In order to comply with the requirements of DER-31, the following actions were taken during the RI and SRI:

1. All vehicles and fuel-consuming equipment on the Site were shut off when not in use for more than three minutes;
2. Work was sequenced, to the extent practicable, to limit unnecessary mobilizations to and throughout the Site; and
3. To the extent practicable, energy-efficient systems and office equipment were utilized.

2.2 SAMPLES COLLECTED

During the RI, a total of 67 soil samples (plus QA/QC) samples were collected from the surface at 0 to 0.5 ft bgs; from the deepest interval of urban fill observed (ranging from approximately 1 to 14 ft bgs); from the 2-ft interval at the groundwater interface; and from the approximate development depth at 23 to 25 ft bgs, or the 2-ft interval above bedrock refusal if encountered prior to reaching development depth. Where the sampling interval depths coincided (when the surface soil interval, the deepest interval of urban fills, and/or the 2-ft interval at the groundwater interface were observed at the same depth interval), only one sample was collected. To assess immediate potential human exposure via direct contact, shallow soil sampling at soil boring locations where vegetative cover and/or exposed soil were present included a 0 to 2-in. sample for all analytes except VOCs, and a 2- to 6-in. sample for VOC analysis. During the SRI, four soil borings were advanced and sampled, specifically cross-gradient (west) and upgradient (south) of the AST and documented LNAPL in MW02. One sample was collected from each boring at a depth of 4 to 6 ft bgs, representing the 2-ft interval above the groundwater interface. Samples were collected using laboratory-provided clean bottle ware, and VOC grab samples were collected using Terra Cores®.

During the RI, seven groundwater samples, one from each monitoring well, were collected for laboratory analysis, along with QA/QC samples. During the SRI, four groundwater samples, one from each SRI monitoring well, were collected for laboratory analysis, along with QA/QC samples.

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Groundwater monitoring wells were sampled using low-flow sampling methods. Monitoring wells were purged, and physical and chemical parameters stabilized before samples were collected.

During the RI, 13 soil vapor samples were collected for laboratory analysis, one from each soil vapor probe. During the SRI, three soil vapor samples were collected for laboratory analysis, one from each SRI soil vapor probe. Samples were collected in appropriately sized Summa® canisters that were batch-certified clean by the laboratory. Sampling occurred for a duration of two hours.

2.3 CHEMICAL ANALYSIS

The laboratory analyses performed on the soil, groundwater, and soil vapor samples are summarized below.

Soil samples were analyzed for the following parameters[5]:

- Target Compound List (TCL) VOCs + 10 highest-concentration VOC tentatively identified compounds (TICs) using USEPA Method 8260C;
- TCL SVOCs + 20 highest-concentration SVOC TICs using USEPA Method 8270D;
- Total Analyte List (TAL) metals using USEPA Method 6010;
- Total cyanide using USEPA Method 9012;
- Polychlorinated biphenyls (PCBs) using USEPA Method 8082A;
- TCL pesticides using USEPA Method 8081B;
- Per- and polyfluoroalkyl substances (PFAS) by USEPA Method 1633A; and
- 1,4-dioxane by USEPA Method 8270.

Groundwater samples were analyzed for the following parameters[5]:

- TCL VOCs + TICs (10 VOCs, highest-concentration TICs) using USEPA Method 8260C;
- TCL SVOCs + TICs (20 SVOCs, highest-concentration TICs) using USEPA Method 8270D;
- TAL metals (filtered and unfiltered) using USEPA Method 6010;
- Total cyanide (filtered and unfiltered) using USEPA Method 9012;
- PCBs using USEPA Method 8082;
- TCL pesticides using USEPA Method 8081B;
- PFAS using USEPA Method 1633A; and
- 1,4-dioxane using USEPA Method 8270D SIM isotope dilution.

[5] Soil and groundwater samples collected during the SRI were analyzed for Target Compound List (TCL) VOCs + 10 tentatively identified compounds (TICs; USEPA Method 8260C) and TCL SVOCs + 20 TICs (USEPA Method 8270D) only.

Soil vapor samples were analyzed for VOCs using USEPA Method TO-15[6].

2.4 REMEDIAL INVESTIGATION FINDINGS SUMMARY

Below is a summary of the RI and SRI findings.

2.4.1 Soil Sampling Results

Soil analytical results were compared to NYSDEC Title 6 of the New York Codes, Rules and Regulations (6 NYCRR) Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs) and Restricted Residential Soil Cleanup Objectives (RRSCOs). In addition, where applicable, soil results were compared to Protection of Groundwater Soil Cleanup Objectives (PGWSCOs). Note that no standard for PFAS in soil currently exists in New York State; however, NYSDEC published soil Guidance Values (GVs) for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) in October 2020 (latest revision in April 2023). PFOA and PFOS soil sample results were compared to the unrestricted use, restricted residential use, and protection of groundwater soil GVs outlined in the Part 375 Remedial Programs Guidelines for Sampling and Analysis of PFAS guidance. Soil analytical results are summarized on Figure 6.

Volatile Organic Compounds

During the RI, one VOC, acetone[7], was detected in 12 soil samples at concentrations above the UUSCOs at a maximum concentration of 0.31 milligrams per kilogram (mg/kg) in SB-12_9-11. Additionally, 2-butanone (methyl ethyl ketone) was detected in one soil sample, SB-15_9-11, above the UUSCO at a maximum estimated concentration of 0.13 mg/kg. Both compounds were detected at concentrations above the respective PGWSCOs; however, these compounds were not identified in groundwater above the applicable standard; therefore, this standard does not apply. No VOCs were detected above applicable standards in the additional soil samples collected as part of the SRI.

No other VOCs were detected above applicable standards in any soil samples collected during the RI or SRI.

Semi-Volatile Organic Compounds

During the RI, two SVOCs, dibenz(a,h)anthracene and indeno(1,2,3-cd)pyrene, were detected in one soil sample, SB-15_0-0.5, at concentrations above UUSCOs and RRSCOs, at maximum concentrations of 0.66 mg/kg and 1.7 mg/kg, respectively. Phenanthrene was also detected above the UUSCO in two soil samples, SB-02_9-11 at 4.3 mg/kg and SB-15_12-14 at 1.2 mg/kg. During the SRI, one PAH, phenanthrene, was detected above the UUSCO in a single duplicate soil sample. Phenanthrene was detected at a concentration of 1.2 mg/kg in DUP-01_20260528, the duplicate sample collected from SB02-D4 at a depth of 4 to 6 ft bgs.

No other SVOCs were detected above applicable standards in any soil samples collected during the RI or the SRI.

[6] Soil vapor samples collected during the SRI were analyzed for CVOCs only.
[7] Acetone is a known lab contaminant and slight exceedances of the UUSCOs are not considered source material.

Pesticides

During the RI, two pesticides, 4,4'-DDE and dieldrin, were detected in three soil samples at concentrations above UUSCOs, at maximum low-bias estimated concentrations of 0.0522 mg/kg in SB-08_0-0.5 and 0.0175 mg/kg in SB-02_0-0.5, respectively. One pesticide, 4,4'-DDT, was detected in six soil samples at concentrations above the UUSCOs, at a maximum low-bias estimated concentration of 0.053 mg/kg in SB-08_0-0.5.

No other pesticides were detected above applicable standards in any soil samples collected during the RI and SRI samples were not analyzed for pesticides.

Metals

During the RI, seven metals were detected in multiple soil samples at concentrations above the UUSCOs and RRSCOs. Arsenic was detected above the RRSCO in one soil sample at a concentration of 65.9 mg/kg in SB-06_0-0.5 and above the UUSCO in one soil sample at a concentration of 14.2 mg/kg in SB-04_4-6. Lead was detected above the UUSCO in 11 soil samples and above the RRSCO in five soil samples at a maximum concentration of 10,500 mg/kg in SB-08_0-0.5. Mercury was detected above the UUSCO in five soil samples and above the RRSCO in five soil samples at a maximum concentration of 0.869 mg/kg in SB-11_0-0.5. Copper was detected above the UUSCO in three soil samples and above the RRSCO in one soil sample at a maximum concentration of 332 mg/kg in SB-14_0-0.5. Cadmium was detected above the RRSCO in one soil sample, SB-04_4-6, at a maximum concentration of 4.19 mg/kg. Nickel was detected above the UUSCO in nine soil samples, at a maximum estimated concentration of 81.1 mg/kg in the duplicate sample collected at SB-15_23-25. Zinc was detected above the UUSCO in seven soil samples, at a maximum concentration of 391 mg/kg in SB-08_0-0.5. Several metals, including arsenic, lead, and mercury, were detected at concentrations above the respective PGWSCOs; however, these compounds were not identified in groundwater above the applicable standard; therefore, this standard does not apply.

No other metals were detected above applicable standards in any soil samples collected during the RI, and SRI samples were not analyzed for pesticides.

Polychlorinated Biphenyls

No PCBs were detected above the UUSCO or RRSCO in any soil samples collected during the RI, and SRI samples were not analyzed for metals.

Emerging Contaminants

1,4-dioxane was not detected above laboratory detection limits in the soil samples analyzed during the RI, and SRI samples were not analyzed for 1,4-dioxane.

PFOS was detected at concentrations above the GVs for unrestricted use in nine of the RI soil samples, six of which also exceeded the GV for protection of groundwater, at a maximum high-bias estimated concentration of 0.00293 mg/kg in SB-02_0-0.5. PFOA was not detected in any RI soil samples above GVs. SRI samples were not analyzed for PFOS or PFOA

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2.4.2 Groundwater Sampling Results

Groundwater analytical results were compared to 6 NYCRR Part 703.5 NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS) and GVs. PFOA and PFOS were compared to the NYSDEC April 2023 GVs for PFOA and PFOS. 1,4-dioxane was compared to the GV as set by NYSDEC in March 2023. Groundwater analytical results are summarized on Figure 7.

Volatile Organic Compounds

During the RI, four VOCs were detected in one groundwater sample, MW02, at concentrations above the AWQS, including 1,2,4,5-tetramethylbenzene at a maximum concentration of 26 micrograms per liter (µg/L), 2-phenylbutane (sec-butylbenzene) at an estimated concentration of 6.1 µg/L, isopropylbenzene (cumene) at a maximum estimated concentration of 5.8 µg/L, and n-propylbenzene at a maximum estimated concentration of 9.5 µg/L. During the SRI, two VOCs were detected above the AWQS in one groundwater sample, MW02-D4. 1,2,4,5-Tetramethylbenzene was detected at a concentration of 23 µg/L and methyl tert-butyl ether (MTBE) was detected at a concentration of 32 µg/L.

No other VOCs were detected above the AWQS in any groundwater samples collected during the RI or the SRI.

Semi-Volatile Organic Compounds

During the RI, eight SVOCs were detected in one groundwater sample, MW02, at concentrations above the AWQS, including bis(2-ethylhexyl)phthalate at a concentration of 6 µg/L, acenaphthene at a maximum concentration of 120 µg/L, benzo(a)anthracene at a concentration of 1.8 µg/L, benzo(b)fluoranthene at an estimated concentration of 0.6 µg/L, chrysene at a concentration of 3.8 µg/L, fluorene at a maximum concentration of 140 µg/L, naphthalene at a maximum concentration of 12 µg/L, and phenanthrene at a maximum concentration of 260 µg/L. Additionally, phenol was detected in two groundwater samples at concentrations above the AWQS, at a maximum estimated concentration of 1.7 µg/L in MW06. During the SRI, the PAH benzo(a)anthracene was detected above the AWQS in two groundwater samples, MW02-D2 and MW02-D3, at a maximum estimated concentration of 0.04 µg/L.

No other SVOCs were detected above the AWQS in any groundwater samples collected during the RI or the SRI.

Pesticides

During the RI, one pesticide, dieldrin, was detected in three groundwater samples at concentrations above the AWQS, at a maximum estimated concentration of 0.017 µg/L in MW05.

No other pesticides were detected above the AWQS in any groundwater samples collected during the RI, and SRI samples were not analyzed for pesticides.

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Polychlorinated Biphenyls

No PCBs were detected above the AWQS in any groundwater samples collected during the RI ; the SRI samples were not analyzed for PCBs.

Total Metals

During the RI, two total metals were detected in all eight groundwater samples collected, including the duplicate sample collected at MW04, at concentrations above the AWQS, including manganese at a maximum concentration of 4,547 µg/L in MW06 and sodium at a maximum concentration of 338,000 µg/L in MW07. Iron was detected in four groundwater samples at concentrations above the AWQS, at a maximum concentration of 39,600 µg/L in MW02. Total lead was detected in one groundwater sample, MW02, at a maximum concentration of 559.3 µg/L.

No other total metals were detected above the AWQS in any groundwater samples collected during the RI, and SRI samples were not analyzed for total metals.

Dissolved Metals

During the RI, two dissolved metals were detected in all eight of the groundwater samples collected, including the duplicate sample collected at MW04, at concentrations above the AWQS, including manganese at a maximum concentration of 4,551 µg/L in MW06 and sodium at a maximum concentration of 337,000 µg/L in MW07.

No other dissolved metals were detected above the AWQS in any groundwater samples collected during the RI, and SRI samples were not analyzed for dissolved metals.

Emerging Contaminants

1,4-dioxane was not detected above laboratory detection limits in the groundwater samples collected during the RI.

Concentrations of PFOA and PFOS were compared to the NYSDEC GVs of 6.7 parts per trillion (ppt) for PFOA and 2.7 ppt for PFOS. During the RI, PFOA and PFOS were detected above NYSDEC GVs in all eight groundwater samples collected, including one duplicate. PFOA was detected at a maximum concentration of 136 ppt in MW07. PFOS was detected at a maximum estimated concentration of 61.8 ppt in MW06.

SRI samples were not analyzed for emerging contaminants, including 1,4-dioxane.

2.4.3 Soil Vapor Sampling Results

During the RI, total VOC concentrations in soil vapor samples ranged from 172.37 micrograms per cubic meter (µg/m^3) in sample SV07 to 1,905.85 µg/m^3 in sample SV13. Total benzene, toluene, ethylbenzene, and xylenes (BTEX) concentration in soil vapor samples ranged from 2.97 µg/m^3 in sample SV13 to 178.89 µg/m^3 in sample SV12. Total chlorinated volatile organic compound (CVOC) concentration in soil

vapor samples ranged from non-detect in samples SV06 and SV09 to 509.36 µg/m^3 in sample SV02. Soil vapor analytical results are summarized in Figure 8.

During the RI, several petroleum-related VOCs were detected at elevated concentrations in soil vapor samples, including benzene (maximum concentration of 11.2 µg/m^3 in SV01), toluene (maximum concentration of 98.4 µg/m^3 in SV12), ethylbenzene (maximum concentration of 13.1 µg/m^3 in SV12), m,p-xylenes (maximum concentration of 46.9 µg/m^3 in SV11), and o-xylene (maximum concentration of 17.6 µg/m^3 in SV01). Additionally, 2-butanone (methyl ethyl ketone) was detected at a maximum concentration of 1,250 µg/m^3 in SV13, and 2-hexanone (methyl butyl ketone) was detected at a maximum concentration of 175 µg/m^3 in SV05.

During the RI, several CVOCs were detected at moderately elevated concentrations in soil vapor samples, including perchloroethylene/tetrachloroethene (PCE; maximum concentration of 504 µg/m^3 in SV02), trichloroethylene (TCE; maximum concentration of 4.04 µg/m^3 in SV02), 1,1,1-trichloroethane (maximum concentration of 2.28 µg/m^3 in SV04), carbon tetrachloride (maximum concentration of 3.52 µg/m^3 in SV07), and cis-1,2-dichloroethane (maximum concentration of 3.18 µg/m^3 in SV03). Additionally, chloroform was detected at a maximum concentration of 136 µg/m^3 in SV08.

During the SRI, two CVOCs, PCE and 1,1,1-trichloroethane, were detected at low concentrations in soil vapor samples. PCE was detected in SV-16 at a concentration of 8.48 µg/m^3, and 1,1,1-trichloroethane was detected in SV-15 at a concentration of 3.74 µg/m^3. Total CVOC concentrations in SRI soil vapor samples therefore ranged from 3.74 µg/m^3 in sample SV-15 to 8.48 µg/m^3 in sample SV-16.

2.5 SIGNIFICANT THREAT

The NYSDEC and NYSDOH have not yet made a determination on whether the Site is a significant threat to human health and the environment. Upon determination, notice will be provided for public review.

2.6 GEOLOGY AND HYDROGEOLOGY

2.6.1 Contaminated Fill Material

Based on field observations from the RI, the Site is underlain by a layer of urban fill consisting of black to brown medium sand with varying amounts of gravel and brick. Analytical data identified contaminants associated with fill extending between approximately 10 and 25 ft bgs.

2.6.2 Native Soil

The presumed native layer, consisting of black to brown clay and silty clay, underlain by brown coarse sand, was encountered as shallow as approximately 15 ft bgs in some areas.

2.6.3 Bedrock

Weathered bedrock was encountered at variable depths between approximately 15 and 25 ft bgs during the RI. According to the US Geological Survey (USGS) Bedrock and Engineering Geologic Maps of Westchester County, New York, the bedrock beneath the Site is a part of the Hartland Formation.

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2.6.4 Hydrogeology

Groundwater was encountered at depths ranging from approximately 6.0 to 11.25 ft btoc in monitoring wells installed at sidewalk grade, and approximately 0.5 to 2.23 ft btoc in monitoring wells installed within the existing building cellars (approximately 37.34 to 40.10 ft AMSL) during the RI. Groundwater beneath the Site generally flows from southwest to northeast. A groundwater contour map is provided as Figure 5.

A geologic section is shown on Figure 4.

2.7 CONTAMINANT CONDITIONS

2.7.1 Conceptual Site Model

A conceptual site model (CSM) was developed based on the findings of the RI, and the SRI findings are consistent with the RI CSM. The purpose of this model is to develop a simplified framework for understanding the sources of contamination, potential migration pathways, and potentially complete exposure pathways. The following is a description of each.

2.7.1.1 Potential Sources of Contamination

Subsurface soils throughout the Site are impacted with elevated concentrations of metals (including heavy metals such as arsenic, copper, lead, and mercury) and SVOCs (specifically polycyclic aromatic hydrocarbons [PAHs]) within the contaminated fill layer, which varies in extent from 10 to 25 ft bgs throughout the Site. These contaminants and the concentrations at which they were detected on the Site are characteristic of fill material found throughout the Westchester County area. PFAS impacts are observed primarily in shallow soil observed in areas of the Site not developed with buildings, also consistent with and indicative of concentrations found in fill material throughout the region.

Slight exceedances of phenol in groundwater on the southern portion of the Site are attributable to contaminated fill. Slight exceedances of dieldrin in groundwater in the exposed northwestern portion of the Site are also attributable to contaminated fill. Elevated PFOS and PFOA in groundwater are likely attributed to an off-Site source, as any impacts to soil were observed in shallow material above the groundwater table, and there is no historical source associated with PFAS.

The contamination in soil, groundwater, and soil vapor can likely be attributed to several potential sources, both on and off the Site. The impacts to soil vapor and groundwater, specifically VOCs and SVOCs, in the northeast portion of the Site can be attributed to the observed AST located on the Site and NYSDEC Spill No. 2506900. Impacts are contained within the Site as evidenced by a lack of VOC and SVOC contamination observed in the downgradient monitoring wells (MW01 and MW03). Additional sources of impacts in the northeast portion of the Site may include the current uses of the Site, including an auto repair and parts store, and historical Site uses such as a dry cleaner.

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Groundwater contamination, specifically relating to PFAS, may also be associated with off-Site sources, including the adjacent fire station[8] and documented county-wide PFAS groundwater impacts.[9]

2.7.1.2 Description of Areas of Concern

Based on Site observations, Site development history, and the findings of the previous environmental reports, three Areas of Concern (AOCs) were identified.

AOC 1 – Site-Wide Contamination of Subsurface Soils

Subsurface soils throughout the Site are impacted with elevated concentrations of metals (including heavy metals such as arsenic, copper, lead, and mercury) and PAHs. PFAS were detected primarily in shallow soil observed in areas of the Site not developed with buildings. The evidence of shallow PFAS is consistent with characteristics of contaminated fill found throughout the Westchester County area and is not indicative of significant on-Site sources of PFAS. The extent of the contaminated fill layer varies in depth from approximately 10 to 25 ft bgs.

AOC 2 – Groundwater Impacts

VOCs (specifically petroleum-related VOCs), SVOCs (specifically PAHs and naphthalene), and PFAS were detected above the NYSDEC AWQS in groundwater at the Site. Naturally occurring metals, such as iron, manganese, and sodium, and PFAS were detected above the AWQS in groundwater samples collected Sitewide, while VOC and SVOC AWQS exceedances were primarily detected in the northeastern portion of the Site within the vicinity of the AST and observed LNAPL in MW02. The SRI confirmed the LNAPL was localized in the vicinity of MW02. A slight exceedance of the AWQS for a pesticide, dieldrin, was detected with estimated concentrations in groundwater samples collected from the unpaved area in the northwestern portion of the Site. In addition, slight exceedances of the AWQS for the SVOC, phenol, were also detected with estimated concentrations in groundwater samples collected in the southern portion of the Site.

The AST was enclosed within newly installed secondary containment, with absorbent materials placed around the base as a spill prevention measure and to mitigate the possibility of impacts to groundwater during the RI, and a spill was called in to the NYSDEC Spill Hotline (assigned Spill No. 2506900).

AOC 3 – Soil Vapor Impacts

Based on a review of analytical data collected during this RI, VOCs were detected in soil vapor and have potentially partitioned from soil and/or groundwater into the vapor phase. Primarily, impacts to soil vapor are observed in the northeast portion of the Site in the vicinity of the AST. The SRI confirmed that soil vapor impacts were localized in the center of Lot 31 and did not extend off-Site towards the south.

[8] Aqueous film-forming foam was developed in the 1960s for extinguishing high-hazard hydrocarbon-based flammable liquid fires and has been confirmed as containing PFAS.
[9] PFAS have been identified by NYSDEC as COCs in multiple Westchester County townships and have been found to be a regional contaminant in groundwater throughout the county.

2.7.2 Qualitative Human Health Exposure Assessment

A Qualitative Human Health Exposure Assessment (QHHEA) consists of characterizing the exposure setting (including the physical environment and potentially exposed human populations), identifying exposure pathways, and evaluating chemical fate and transport. An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has the following five elements:

1. Receptor population;
2. Contamination source;
3. Contamination release and transport mechanism;
4. Point of exposure; and
5. Route of exposure.

An exposure pathway is complete when all five elements of an exposure pathway are documented; a potential exposure pathway exists when any one or more of the five elements comprising an exposure pathway is not documented but could reasonably occur. An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway does not exist in the present and will not exist in the future.

2.7.2.1 Receptor Population

The receptor population includes the people who are or may be exposed to contaminants at a point of exposure. The identification of potential human receptors is based on the characteristics of the Site, the surrounding land uses, and the probable future land uses. The Site is currently active; therefore, exposed receptors in the current use scenario include indoor and outdoor employees (e.g., groundskeepers or maintenance staff) and construction/maintenance workers who may be employed at or perform work on the property. Customers of commercial spaces and other visitors may also be considered receptors; their exposure would be similar to that of the indoor employees but at a lesser frequency and duration. Exposure routes would include direct contact activities and/or inhalation of soil vapor during ground-intrusive activities.

At this time, Site development plans are conceptual; however, it is anticipated that the proposed future development will consist of the construction of a new 12-story residential building with 410 units and approximately 2,140 sq ft of retail space at street level. Exposed receptors in the future use scenario may be comprised of similar receptor populations as in the current use scenario, as both the current and future uses of the property are for mixed commercial and residential use.

2.7.2.2 Contaminant Sources

The source of contamination is defined as either the source of contaminant release to the environment (such as a waste disposal area or point of discharge) or the impacted environmental medium (soil, air, and/or water) at the point of exposure. Sections 6 and 7 of the RIR discuss the COCs present in the Site media at elevated concentrations. In general, Site COCs include metals, VOCs, SVOCs, pesticides, and PFAS in soil; VOCs, SVOCs, pesticides, metals, and PFAS in groundwater; and VOCs (specifically BTEX and CVOCs) in soil vapor.

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2.7.2.3 Contaminant Release and Transport

Contaminant release and transport mechanisms carry contaminants from the source to points where people may be exposed and are specific to the type of contaminant and site use. For VOCs present in soil vapor, the potential exists for exposure through pathways associated with soil vapor intrusion (SVI). This would include the indoor vapor intrusion pathway.

Concerning the indoor air pathway, under the current and future use scenarios, SVI is a relevant transport mechanism. SVI would entail soil vapor migrating from under the building slab and potentially impacting the indoor air above the slab. Concerning skin contact, inhalation, and incidental ingestion of volatile organics present in soil and groundwater, the potential exists for exposure to VOCs for construction workers involved in subsurface activities where volatiles are present at elevated concentrations.

2.7.2.4 Exposure Points

The point of exposure is a location where actual or potential human contact with a contaminated medium may occur. Based on the exceedances of UUSCOs and PGWSCOs for VOCs and PFAS in soil, exceedances of UUSCOs and RRSCOs for SVOCs in soil, exceedances of UUSCOs, RRSCOs, and PGWSCOs for metals in soil, and exceedances of UUSCOs for pesticides in soil; exceedances of the AWQS for VOCs, SVOCs, pesticides, metals, and PFAS in groundwater; and VOCs detected in soil vapor, the point of exposure is defined as the entire Site.

2.7.2.5 Routes and Mechanisms

The route of exposure is the manner in which a contaminant enters or contacts the body (e.g., ingestion, inhalation, and dermal absorption). Based on the types of receptors and points of exposure identified above, potential routes of exposure are listed below.

Current Use Scenario: The Site is currently active and occupied with various commercial and residential operations. The risk of exposure to contaminated soil and contaminated groundwater is very low in areas with a cover, other than during subsurface investigations or other activities that disturb the subsurface. There is potential for exposure to the contaminated surface soil on the northwestern portion of the Site. Release and transport mechanisms include contaminated surface soil transported as dust, contaminated groundwater flow, volatilization of contaminants from soil and/or groundwater into the vapor phase, and SVI into active buildings on the Site.

- Construction/Utility/Site Investigation Worker – skin contact, inhalation, and incidental ingestion.
- Occupant/Employee/Visitor – inhalation.
- Public Adjacent to the Site – inhalation.

Construction/Remediation Scenario: In the continued absence of engineering controls (ECs) and institutional controls (ICs), there will be continued exposure pathways during construction/remediation, specifically related to surface soil. Planned construction/remedial activities include the removal of the impervious Site cover, removal of USTs (if present), excavation and off-Site disposal of soil, and dewatering of impacted groundwater (if required) to facilitate the construction of the foundation

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elements. Release and transport mechanisms include disturbed and exposed soil during excavation, contaminated soil transported as dust, contaminated groundwater flow (dewatering, if required), and volatilization of contaminants from soil and/or groundwater into the vapor phase. Persons at risk of exposure, via the indicated exposure routes, are noted below.

- Construction/Utility/Remediation Worker – skin contact, inhalation, and incidental ingestion.
- Occupant/Employee/Visitor – inhalation.
- Public Adjacent to the Site – inhalation.

Future Use Scenario: The anticipated future use as a new 12-story residential building with 410 units and approximately 2,140 sq ft of retail space at street level will include a cellar level extending to approximately 25 ft bgs. In the absence of remedial removal of impacted material, remaining contaminant release and transport would include potential migration of contaminated groundwater and volatilization of contaminants from soil and/or groundwater into the vapor phase. Routes of future exposure include cracks in the foundation or slab or emergency repairs to the foundation walls or slab. Persons at risk of exposure, via the indicated exposure routes, are noted below.

- Construction/Utility Worker – skin contact, inhalation, and incidental ingestion.
- Occupant/Employee/Visitor – inhalation.
- Public Adjacent to the Site – inhalation.

2.7.2.6 Exposure Assessment

Based on the above assessment, the potential exposure pathways for the current and future use conditions are listed below.

Current Use Scenario: Site contamination includes metals (including heavy metals such as arsenic, copper, lead, and mercury), VOCs (specifically acetone), and PFAS, and in some areas, petroleum-related VOCs, SVOCs (specifically PAHs), and pesticides in soil related to fill and historical Site operations. Under current conditions, the likelihood of exposure to soil or groundwater is limited, as the majority of the Site has a concrete or asphalt cover in place. Potable water for Westchester County will continue to be sourced from reservoirs in the Catskill and Delaware watersheds. All intrusive work on the Site is done in accordance with a Site-Specific Health and Safety Plan (HASP) and the donning of personal protective equipment (PPE).

Construction/Remediation Scenario: The exposure element exists for all elements during this phase. The overall risk will be minimized by the implementation of a Site-Specific Construction Health and Safety Plan (CHASP), localized monitoring of organic vapors, community air monitoring on the Site perimeter for particulates and VOCs, vapor and dust suppression techniques, installation of a stabilized entrance, cleaning truck tires and undercarriages, and donning of appropriate PPE. Additionally, the Site will be under this RAWP, which will include a Soil Materials Management Plan (S/MMP) that will highlight measures for PPE, covering of stockpiles, housekeeping, suppression techniques (for particulates and vapors), and measures to prevent off-Site migration of contaminants. In addition, the Site will be secured and inaccessible to the public during remedial construction.

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Future Use Scenario: Under the proposed future conditions (after construction/remediation), residual contaminants may remain on-Site depending on the remedy achieved. The remaining contaminants would include those listed in the current conditions. If contaminants remain on the Site after construction/remediation, the route of exposure will be mitigated by proper installation of ECs, such as a Site capping system foundation, implementation of ICs, such as land use and groundwater use restrictions, and implementation of a Site Management Plan (SMP) to manage referenced controls.

2.7.3 Fish & Wildlife Remedial Impact Analysis

NYSDEC DER-10 requires an on-Site and off-Site Fish and Wildlife Resources Impact Analysis (FWRIA) if certain criteria are met. The Site was developed as early as the 1890s and has been utilized mainly for commercial purposes. The Site is located in the Village of Port Chester in Westchester County, New York. The Site provides little or no wildlife habitat or food value and/or access to the detected subsurface contamination. No natural waterways are present on or adjacent to the Site. The proposed future use of the Site is for residential and commercial purposes.

Further, as per Appendix 3C of NYSDEC DER-10, while an AOC exists at the Site resulting from a discharge or spill event, the contamination at the Site or AOC does not have the potential to migrate to, erode into, or otherwise impact any on-Site or off-Site habitat of endangered, threatened, or special concern species, or other fish and wildlife resources. This is evidenced by analytical data collected during the RI showing a lack of contamination downgradient on-Site and the lack of fish and wildlife resources in this urban setting. As such, an FWRIA is not needed, and no unacceptable ecological risks are expected under the current and future use scenarios.

2.8 REMEDIAL ACTION OBJECTIVES

Based on the results of the RI, the following Remedial Action Objectives (RAOs) have been identified for this Site.

2.8.1 Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

2.8.2 Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation exposure to contaminants volatilizing from soil.

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RAOs for Environmental Protection

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

2.8.3 Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, SVI into buildings at the Site.

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3. Summary of Remedial Action

3.1 ALTERNATIVE I – TECHNICAL DESCRIPTION

Alternative I, a Track 1 remedy, will include the following tasks:

- Development and implementation of a CHASP for the protection of on-Site workers
- Development and implementation of a Community Air Monitoring Plan (CAMP) to protect the community, residents, and the environment during remediation and construction activities.
- Design and installation of a support-of-excavation (SOE) system to facilitate the Track 1 remediation.
- Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.
- Demolition and abatement of remaining structures and removal of miscellaneous debris from the Site.
- Decommissioning of existing on-Site monitoring wells, as necessary, in accordance with NYSDEC CP-43.
- Excavation, stockpiling, off-Site transport, and disposal of approximately 34,500 cubic yards (cu yd) of contaminated soils Site-wide that exceed UUSCOs as defined by 6 NYCRR Part 375-6.8. To ensure that all contaminated soils are uniformly removed from the Site in a safe and orderly manner, the excavation will extend to approximately 25 ft bgs (i.e., the bedrock interface).
- Within the northeastern portion of the Site, approximately 30 linear ft of the existing Buckley Drain will remain in place as required by the Village of Port Chester. In this area, totaling approximately 150 square feet (sq ft), excavation will extend to the top of the Buckley Drain (estimated at approximately 10 ft bgs), and excavation beneath the drain will not be performed to avoid disturbing the existing drainage infrastructure.
- Removal of one AST located on Lot 31 and associated appurtenances (e.g., fill lines, vent lines, and electrical conduits) in accordance with DER-10, 6 NYCRR Part 613.9, NYSDEC CP-51. Excavation, characterization, and removal of impacted soil associated with the AST. Documentation sampling from the excavation area to confirm impacted material removal and provide confirmation for closure of Spill Case No. 2506900.
- Removal, decommissioning, and off-Site disposal of the AST, and if encountered, any USTs, and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduits) in accordance with DER-10, 6 NYCRR Part 613.9, NYSDEC CP-51, and other applicable NYSDEC AST/UST closure requirements.
- Implementation of a preliminary waste characterization to facilitate off-Site disposal of excavated soil/fill.
- Screening of excavated material for indication of contamination (by visual means, odors, and monitoring with PIDs) during intrusive Site work.

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- Dewatering, characterization, and treatment of water accumulated in excavations prior to discharge to a NYSDEC-approved sewer/sanitary line (pending permits), or localized dewatering with containerization, classification, and disposal at an approved receiving facility.
- Appropriate off-Site disposal of material removed from the Site in accordance with federal, state, and local rules and regulations for handling, transport, and disposal.
- Backfilling of excavated areas with certified-clean material (i.e., meeting UUSCOs), recycled concrete aggregate (RCA), or virgin, native crushed stone.
- Collection and analysis of confirmation soil samples and/or photo documentation of cleared bedrock from the excavation base in accordance with DER-10, to document post-excavation conditions to confirm a Track 1 remedy was achieved.
- Completion of a desktop SVI evaluation in accordance with DER-10 and the NYSDOH Final Guidance on Soil Vapor Intrusion following remedial excavation activities and prior to occupancy.
- If Track 1 Unrestricted Use is not achieved, the development of an SMP for long-term management of residual contamination as required by an Environmental Easement (EE) will be required.
- Additionally, as part of the remedial program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as USEPA Spreadsheets for Environmental Footprint Analysis (SEFA), SiteWiseTM (available in the Sustainable Remediation Forum [SURF] library), or a similar Department-accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial program, as appropriate. The project will include detailed requirements to achieve the green and sustainable remediation goals.

  Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial program. Additionally, the remedial program will include a climate change vulnerability assessment to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress, and drought), flooding, and sea level rise will be identified, and the remedial program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

The selected remedy has been developed to achieve Track 1 UUSCOs.

The Alternative I remediation extent is shown on Figure 9 and is based on data presented in the RIR, SRIR, and the proposed development plans. The requirements for each of the Alternative I tasks are described below.

On-Site Worker, Public Health, and Environmental Protection

A Site-specific CHASP is appended to this RAWP (Appendix D) and will be implemented during excavation and foundation construction to protect on-Site workers from accidents and acute and chronic exposures to the identified contaminated media. Public health will be protected by implementing and enforcing dust, odor, and organic vapor control and monitoring procedures included in the CAMP. The CAMP will include continuous perimeter monitoring of dust and organic vapors using Aeroqual® AQS1 Air Quality Monitors capable of recording data and calculating 15-minute averages. Field personnel will monitor Site perimeters for visible dust and odors.

Support of Excavation

To accommodate the removal of soil that exceeds Track 1 UUSCOs, an SOE system will be required. Excavations are anticipated to be completed into the water table throughout the Site.

Waste Characterization

Waste characterization will be performed for off-Site disposal in a manner suitable to the receiving facility, or facilities, and in conformance with applicable permits. Sampling and analytical methods, sampling frequency, and analytical results will be reported. Data available for excavated material to be disposed of at a given facility will be submitted to the disposal facility with a suitable explanation prior to shipment and receipt.

Hazardous soil, if present, will be managed in accordance with applicable federal, state, and local regulations. As such, the handling, transport, and disposal of hazardous fill material are subject to USEPA and Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations. The excavated material would be segregated in the field and temporarily placed in stockpiles, or direct loaded, and transported by Part 364-permitted trucks to a facility permitted by the Resource Conservation and Recovery Act (RCRA) to accept hazardous waste.

Fill and Soil Removal

Metals and SVOCs, and in some areas, PFAS, were detected in contaminated fill and/or native material at concentrations that exceed UUSCOs. To achieve Track 1 and to ensure that all contaminated soils are uniformly removed from the Site in a safe and orderly manner, the excavation will extend to approximately 25 ft bgs (i.e., the bedrock interface). The Alternative I excavation plan is shown on Figure 9.

Within the northeastern portion of the Site, approximately 30 linear ft of the existing Buckley Drain will remain in place as required by the Village of Port Chester. In this area, totaling approximately 150 sq ft, excavation will extend to the top of the Buckley Drain (estimated at approximately 10 ft bgs), and excavation beneath the drain will not be performed to avoid disturbing the existing drainage infrastructure. Confirmation soil samples will be collected from the base of the excavation adjacent to the Buckley Drain to document the soil conditions at the accessible excavation limits. Exceedances of UUSCOs were not identified in this limited area beneath shallow surface samples. In addition, this area is located at the farthest, most downgradient portion of the Site, and all areas on-Site and upgradient will be excavated to bedrock and undergo significant dewatering.

The estimated volume of material requiring removal and off-Site disposal for a Track 1 cleanup is approximately 34,500 cu yd. The soil will be screened for visual, olfactory, and instrumental evidence of environmental impacts. Excavation is expected to extend below the water table during remedial excavation and construction; therefore, installation of a dewatering system is anticipated to achieve remedial depth.

Lot 31 AST Removal and Documentation Related to Spill Case No. 2506900

Removal of one AST located on Lot 31 and associated appurtenances (e.g., fill lines, vent lines, and electrical conduits) in accordance with DER-10, 6 NYCRR Part 613.9, NYSDEC CP-51. A qualified tank contractor will mobilize to the Site for cleaning and removal of the AST, which will include appropriate cutting, screening for vapors, washing of the interior of the tank, drumming of wash water and residual material (i.e., sludge, sediment), and manifested off-Site disposal of the wash water. Tank cleanout will be performed in secondary containment. Closure documentation, such as contractor affidavits, manifests, and tank disposal receipts, will be provided as appendices in the FER.

Impacted soil surrounding the AST will be excavated, characterized, and removed for off-Site disposal. Excavation will continue vertically and laterally surrounding the former tank location until visual and olfactory observations and PID readings no longer indicate petroleum impacts to the subsurface. Once field observations indicate impacted soil has been excavated, documentation sampling from the excavation area will be performed to confirm impacted material removal. Documentation samples will be collected for VOCs and SVOCs specified in the October 2010 CP-51. Documentation sample results and contractor confirmation documentation will be provided in the FER related to Spill Case No. 2506900.

AST and UST Removal

Removal, decommissioning, and off-Site disposal of the AST will be performed, and if encountered, any USTs and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduit) would be decommissioned in accordance with applicable NYSDEC tank closure requirements, including DER-10 Section 5.5, 6 NYCRR CP-51. ASTs, USTs, and/or associated appurtenances would be registered and administratively closed with the NYSDEC Petroleum Bulk Storage (PBS) unit. Documentation sampling below any newly encountered tank will not be completed unless gross impacts are observed beneath or surrounding the feature. As the proposed remedial excavation includes soil removal to 25 ft bgs (i.e., the bedrock interface), encountered tanks would be identified at shallower depths. If encountered, petroleum-impacted soil would be excavated and disposed of off-Site at a permitted disposal facility in accordance with applicable regulations. Closure documentation, such as contractor affidavits, bills of lading for sludge disposal, and tank disposal receipts, would be provided as appendices in the FER.

Excavation Backfill

Excavation backfill material will consist of imported clean fill that meets the UUSCOs or other acceptable fill material, such as virgin stone from a quarry or RCA. If RCA is imported to the Site, it will come from an NYSDEC-registered facility in compliance with 6 NYCRR Part 360 registration and permitting requirements for the period of RCA acquisition. RCA imported from compliant facilities will not require chemical testing unless required by the NYSDEC under its terms for operation of the source facility. Imported RCA must be derived from recognizable and uncontaminated concrete (less than 10 percent

by weight passing through a No. 100 sieve). RCA will not be used in locations where prohibited by NYSDEC or applicable guidance. NYSDEC Request to Import/Reuse forms will be submitted, and a template is provided in Appendix E.

Fluids Management

Liquids removed from the Site, including dewatering fluids, will be handled, transported, and disposed of in accordance with applicable local, state, and federal regulations. Fluids will not be recharged back to the land surface or subsurface. Discharge of water generated during remedial construction to surface waters (i.e., a local pond, stream, and/or river) is prohibited without a State Pollutant Discharge Elimination System (SPDES) permit.

Evaluation of the dewatering system design is ongoing, but at a minimum, the system will consist of either sumps or well points transferred to an on-Site settling tank or bag filters. The system may include an activated carbon treatment system prior to off-Site disposal and/or discharge to the combined sewer system.

Based on the depth to water, dewatering is anticipated to facilitate the excavation of material that exceeds the UUSCOs and construction of foundation components. Dewatering fluids discharged into the Westchester County sewer system will be addressed through approval by the Westchester County Department of Environmental Facilities (WCDEF). No dewatering discharge will commence prior to WCDEF approval. The dewatering design/application package and approvals will be submitted to NYSDEC upon receipt and prior to commencement of dewatering on-Site.

Confirmation Soil Samples

Per NYSDEC DER-10, confirmation soil samples will be collected from the bottom of the proposed remedial excavation at a frequency of one sample per 900 sq ft to confirm Track 1 UUSCOs are achieved. An estimated 44 confirmation soil samples, plus QA/QC samples, will be collected and analyzed for the Part 375 list of VOCs, SVOCs, PCBs, pesticides, metals, PFAS, and 1,4-dioxane. Of note, the proposed excavation extends to where bedrock was encountered in the former investigations. Should excavation encounter bedrock, instead of confirmation soil samples, photo documentation of the cleared bedrock service per the 900 sq ft confirmation soil sample area will be provided. The proposed confirmation sample/photo documentation locations are included in Figure 10.

3.2 ALTERNATIVE II – TECHNICAL DESCRIPTION

Alternative II, a Track 2 remedy, will include the following tasks:

- Development and implementation of a CHASP for the protection of on-Site workers.
- Development and implementation of a CAMP for the protection of the community, residents, and the environment during remediation and construction activities.
- Design and installation of an SOE system to facilitate the Track 2 remediation.
- Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.
- Demolition of remaining structures and removal of miscellaneous debris from the Site.

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- Decommissioning of existing on-Site monitoring wells, as necessary, in accordance with NYSDEC CP-43.
- Excavation, stockpiling, off-Site transport, and disposal of approximately 1,500 cu yd of contaminated fill material Site-wide that exceeds RRSCOs as defined by 6 NYCRR Part 375-6.8. This includes excavation to a depth of 1 ft bgs Site-wide, with a localized deeper excavation to 6 ft bgs at RI soil boring location SB04 to remove soils with metals exceeding RRSCOs.
- Removal of one AST located on Lot 31 and associated appurtenances (e.g., fill lines, vent lines, and electrical conduits) in accordance with DER-10, 6 NYCRR Part 613.9, NYSDEC CP-51. Excavation, characterization, and removal of impacted soil associated with the AST. Documentation sampling from the excavation area to confirm impacted material removal and provide confirmation for closure of Spill Case No. 2506900.
- Removal, decommissioning, and off-Site disposal of the AST, and if encountered, any USTs, and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduits) in accordance with DER-10, 6 NYCRR Part 612.9, NYSDEC CP-51, and other applicable NYSDEC AST/UST closure requirements.
- Implementation of a preliminary waste characterization to facilitate off-Site disposal of excavated soil/fill.
- Screening of excavated material for indication of contamination (by visual means, odors, and monitoring with PIDs) during intrusive Site work.
- Dewatering, characterization, and treatment of water accumulated in excavations prior to discharge to an NYSDEC-approved sewer/sanitary line (pending permits), or localized dewatering with containerization, classification, and disposal at an approved receiving facility.
- Appropriate off-Site disposal of material removed from the Site in accordance with federal, state, and local rules and regulations for handling, transport, and disposal.
- Backfilling of excavated areas with certified-clean material (i.e., meeting the lower of RRSCOs or PGWSCOs), RCA, or virgin, native crushed stone.
- Collection and analysis of confirmation soil samples from the excavation base in accordance with DER-10, to document post-excavation conditions to confirm RRSCOs are achieved. If a Track 2 cleanup is achieved, ECs will not be a required element of the remedy and NYSDEC will issue a Track 2 Certificate of Completion.
- Completion of an SVI evaluation in accordance with DER-10 and the NYSDOH Final Guidance on Soil Vapor Intrusion following remedial excavation activities and prior to occupancy.
- Establishment of use restrictions, if necessary, including the prohibition on the use of groundwater from the Site and prohibitions on sensitive Site uses, such as farming or vegetable gardening in residual Site soil, to significantly reduce the potential for future exposure pathways.
- Establish an SMP for ICs and ECs that includes an Institutional and Engineering Control Plan, a Monitoring Plan, and an Operations and Maintenance Plan.
- Recording of an EE to ensure future owners of the Site continue to maintain ECs/ICs as required.

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The Alternative II remediation extent is shown on Figure 11 and is based on data presented in the RIR, the SRIR, and the proposed development plans. The requirements for each of the Alternative II tasks are described below.

On-Site Worker, Public Health, and Environmental Protection

A Site-specific CHASP is appended to this RAWP (Appendix D) and will be implemented during excavation and foundation construction to protect on-Site workers from accidents and acute and chronic exposures to the identified contaminated media. Public health will be protected by implementing and enforcing dust, odor, and organic vapor control and monitoring procedures included in the CAMP. The CAMP will include continuous perimeter monitoring of dust and organic vapors using Aeroqual® AQS1 Air Quality Monitors capable of recording data and calculating 15-minute averages. Field personnel will monitor Site perimeters for visible dust and odors.

Support of Excavation

To accommodate the removal of soil that exceeds Track 2 RRSCOs, an SOE system will be required. Excavations are anticipated to be completed into the water table throughout the Site. Additional SOE to support hotspot excavation areas throughout the Site may be constructed, as necessary.

Waste Characterization

Waste characterization will be performed for off-Site disposal in a manner suitable to the receiving facilities and in conformance with applicable permits. Sampling and analytical methods, sampling frequency, and analytical results will be reported. Data available for excavated material to be disposed of at a given facility will be submitted to the disposal facility with a suitable explanation prior to shipment and receipt.

Hazardous soil, if present, will be managed in accordance with applicable federal, state, and local regulations. As such, the handling, transport, and disposal of hazardous fill material are subject to USEPA and OSHA HAZWOPER regulations. The excavated material would be segregated in the field and temporarily placed in stockpiles, or direct loaded, and transported by Part 364-permitted trucks to a facility permitted by the RCRA to accept hazardous waste.

Fill and Soil Removal

Metals and PAHs were detected in contaminated fill material at concentrations that exceed the RRSCOS. To achieve Track 2, soil removal and disposal will extend from surface grade to 1 ft bgs Site-wide, with a localized deeper excavation to 6 ft bgs at RI soil boring location SB04 to remove soils with metals exceeding RRSCOs. The Alternative II excavation plan is shown on Figure 11.

The estimated volume of material requiring removal and off-Site disposal for a Track 2 cleanup is approximately 1,500 cu yd. The soil will be screened for visual, olfactory, and instrumental evidence of environmental impacts. Excavation is not expected to extend below the water table during remedial excavation and construction; therefore, installation of a dewatering system is not anticipated to achieve remedial depth.

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Lot 31 AST Removal and Documentation Related to Spill Case No. 2506900

Removal of one AST located on Lot 31 and associated appurtenances (e.g., fill lines, vent lines, and electrical conduits) in accordance with DER-10, 6 NYCRR Part 613.9, NYSDEC CP-51. A qualified tank contractor will mobilize to the Site for cleaning and removal of the AST, which will include appropriate cutting, screening for vapors, washing of the interior of the tank, drumming of wash water and residual material (i.e., sludge, sediment), and manifested off-Site disposal of the wash water. Tank cleanout will be performed in secondary containment. Closure documentation, such as contractor affidavits, manifests, and tank disposal receipts, will be provided as appendices in the FER.

Impacted soil surrounding the AST will be excavated, characterized, and removed for off-Site disposal. Excavation will continue vertically and laterally surrounding the former tank location until visual and olfactory observations and PID readings no longer indicate petroleum impacts to the subsurface. Once field observations indicate impacted soil has been excavated, documentation sampling from the excavation area will be performed to confirm impacted material removal. Documentation samples will be collected for VOCs and SVOCs specified in the October 2010 CP-51. Documentation sample results and contractor confirmation documentation will be provided in the FER related to Spill Case No. 2506900.

AST and UST Removal

Removal, decommissioning, and off-Site disposal of the AST will be performed, and if encountered, any USTs and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduit) will be decommissioned in accordance with applicable NYSDEC tank closure requirements, including DER-10 Section 5.5, 6 NYCRR, and NYSDEC CP-51. ASTs, USTs, and/or associated appurtenances would be registered and administratively closed with the NYSDEC PBS unit. Documentation sampling below any newly encountered tank will not be completed unless gross impacts are observed beneath or surrounding the feature. As the proposed remedial excavation includes soil removal to 25 ft bgs (i.e., the bedrock interface), encountered tanks would be identified at shallower depths. If encountered, petroleum-impacted soil would be excavated and disposed of off the Site at a permitted disposal facility in accordance with applicable regulations. Closure documentation, such as contractor affidavits, bills of lading for sludge disposal, and tank disposal receipts, would be provided as appendices in the FER.

Excavation Backfill

Excavation backfill material will consist of imported clean fill that meets the lower of RRSCOs or PGWSCOs or other acceptable fill material, such as virgin stone from a quarry or RCA. If RCA is imported to the Site, it will come from an NYSDEC-registered facility in compliance with 6 NYCRR Part 360 registration and permitting requirements for the period of RCA acquisition. RCA imported from compliant facilities will not require chemical testing unless required by the NYSDEC under its terms for operation of the source facility. Imported RCA must be derived from recognizable and uncontaminated concrete (less than 10 percent by weight passing through a No. 100 sieve). RCA is not acceptable for, and will not be used as, Site cover or drainage material. NYSDEC Request to Import/Reuse forms will be submitted, and a template is provided in Appendix E.

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Fluids Management

Dewatering is not anticipated in association with this Alternative II remedy. However, if required, liquids removed from the Site, including dewatering fluids, would be handled, transported, and disposed of in accordance with applicable local, state, and federal regulations. Fluids will not be recharged back to the land surface or subsurface. Discharge of water generated during remedial construction to surface waters (i.e., a local pond, stream, and/or river) is prohibited without an SPDES permit.

Evaluation of the dewatering system design is ongoing, but at a minimum, the system will consist of either sumps or well points transferred to an on-Site settling tank or bag filters. The system may include an activated carbon treatment system prior to off-Site disposal and/or discharge to the combined sewer system.

Based on the depth to water, dewatering is anticipated to facilitate the excavation of material that exceeds the RRSCOs and the construction of foundation components. Dewatering fluids discharged into the Westchester County sewer system will be addressed through approval by the WCDEF. No dewatering discharge will commence prior to WCDEF approval. The dewatering design/application package and approvals will be submitted to NYSDEC upon receipt and prior to commencement of dewatering on the Site.

Documentation Soil Samples

Per NYSDEC DER-10, confirmation soil samples will be collected from the bottom of the proposed remedial excavation at a frequency of one sample per 900 sq ft to confirm that Track 2 RRSCOs were achieved. An estimated 44 confirmation soil samples, plus QA/QC samples, will be collected and analyzed for the Part 375 list of VOCs, SVOCs, PCBs, pesticides, metals, PFAS, and 1,4-dioxane. The proposed confirmation sample locations are included on Figure 10.

Composite Cover System

As part of the development, a composite cover system would be installed. Under the Track 2 remedy, assuming the documentation sampling results meet RRSCOs, the composite cover system would not function as an EC. Should Track 2 not be achieved and a Track 4 remedy completed, the composite cover system would function as an EC to be monitored under the SMP.

Site Management Plan and Environmental Easement

An EE will be recorded referencing ICs that are part of the selected remedy, which would be binding upon all subsequent owners and occupants of the property. The ICs would 1) restrict the Site's use to restricted residential, commercial, and industrial uses, although land use is subject to local zoning laws; 2) restrict the use of groundwater as a source of potable or process water, unless it undergoes necessary water quality treatment as determined by the NYSDEC or NYSDOH; 3) require implementation of an NYSDEC-approved SMP; and 4) require completion and submission to the NYSDEC of a periodic certification of ICs and ECs in accordance with Part 375.

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The SMP would identify all use restrictions, ECs, and long-term monitoring and maintenance requirements to ensure the ICs and/or ECs remain in place and are effective. The SMP will include, but may not be limited to:

1. An Excavation Work Plan which details the provisions for management of future excavations in areas of remaining contamination;
2. Descriptions of the provisions of the EE, including any land use and/or groundwater use restrictions;
3. Provisions for evaluation of the potential SVI for any buildings developed on the Site, including provisions for implementing actions recommended to address exposures related to SVI;
4. Provision for the management and inspection of the identified ECs;
5. Provisions for maintaining Site access controls and NYSDEC notification; and
6. The steps necessary for the periodic review and certification of the ICs and ECs.

3.3 EVALUATION OF THE REMEDIAL ALTERNATIVES

The following is an evaluation of the proposed remedy based on the BCP remedy evaluation criteria listed below. The first two criteria are considered "threshold criteria," and the remaining criteria are "balancing criteria." A remedial alternative must meet the threshold criteria to be considered and evaluated further under the balancing criteria, including:

- Protection of human health and the environment;
- Compliance with standards, criteria, and guidelines (SCGs);
- Short-term effectiveness and impacts;
- Long-term effectiveness and permanence;
- Reduction of toxicity, mobility, or volume of contaminated material;
- Implementability;
- Cost effectiveness;
- Community acceptance;
- Green and Sustainable Remediation (including climate resiliency); and
- Land use.

3.3.1 Protection of Human Health and the Environment

Alternative I – The remedy would significantly reduce the potential for each of the identified pathways of exposure to on-Site contaminated media. Remediating the Site to Track 1 standards would result in the elimination of Site soil that exceeds UUSCOs. Removal, decommissioning, and off-Site disposal of the AST would be performed, and if encountered, any USTs and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduit) will be decommissioned, removed, and disposed of off-Site. Dewatering would be required for the remedial excavation as well as the proposed development. The RAOs for public health and environmental protection would be met through the removal of

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contaminated media at the Site to meet UUSCOs and AWQS, which would significantly reduce the potential for exposure pathways via possible ingestion, inhalation, or dermal contact.

This remedy is protective of human health and the environment without the need for ICs or ECs.

Alternative II – The Track 2 remedy will provide similar overall protection to human health and the environment as Alternative I. Remediating the Site to Track 2 standards will result in the removal of Site soil that exceeds RRSCOs. The AST and any USTs, if encountered, would be decommissioned, removed, and disposed of off-Site. The RAOs for public health and the environment would be met through the removal of contaminated media at the Site to meet RRSCOs and AWQS, which would significantly reduce the potential for exposure pathways via possible ingestion, inhalation, or dermal contact. Residual contamination will be addressed with ECs and ICs, including recording an environmental easement and implementation of an SMP.

Construction of a composite cover system consisting of 4 in. of subbase overlain by a 12-in. concrete slab and installation of a waterproofing/vapor barrier that will exceed the performance expectations of a 20-mil vapor barrier to mitigate the SVI exposure pathway. With the cover system, this remedy is protective of human health and the environment.

Public health will be protected during the remediation under both alternatives by implementing and enforcing dust, odor, and organic vapor control and monitoring procedures when needed.

3.3.2 Compliance with Standard, Criteria, and Guidance

Both alternatives will be in compliance with applicable SCGs listed in Section 4.1.1 by removing Site sources of contamination to achieve the RAOs. While implementing either remedy, the protection of public health and the environment will be maintained by enforcing a Site-specific CHASP and CAMP. OSHA requirements for on-Site construction safety will be followed by Site contractors performing work.

3.3.3 Short-Term Effectiveness and Impacts

Alternative I – The most significant short-term adverse impact and risk to the community will be the potential complications and risks involved with designing and constructing the SOE system for the Site. Potential impositions on roadway and pedestrian traffic associated with construction may result from the remedial excavation to achieve a Track 1 cleanup. Increased truck traffic in Alternative I, relative to Alternative II, would be necessary to haul out the additional soil that exceeds UUSCOs to achieve Track 1 standards.

Under Alternative I, the excavated soil and fill would require up to approximately 1,725 20-cu-yd truck trips for disposal. Implementing Alternative I would require approximately 10 months of effort (assuming normal work hours). Truck traffic will be routed on the most direct course using major thoroughfares where possible and appropriate (see Section 5.4.4 for a full discussion of truck routing), and flaggers will be used to protect pedestrians at Site entrances and exits. Waiting times associated with the analysis of confirmation sampling and resampling may delay construction, leaving soil exposed for a longer time, resulting in a potential increase in dust, odors, and/or organic vapor from the excavation and construction. The effects of these potentially adverse impacts on the community, workers, and the environment will be minimized by implementing the respective control plans.

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Alternative II – Alternative II will result in similar, though lesser, short-term adverse impacts and risks to the community. The excavated soil and fill would require approximately 75 20-cu-yd truck trips. Implementing the Alternative II concept would require approximately three months of effort (assuming normal work hours).

Under both remedial alternatives, dust will be controlled by the on-Site application of water spray as needed. ECs, such as slowing the pace of work, applying foam and/or dust suppressant, and/or covering portions of the excavation, will be used to suppress odors/ dust when required. Work will be modified or stopped according to the action levels defined in the CAMP. Therefore, short-term impacts are similar for both alternatives.

3.3.4 Long-Term Effectiveness and Performance

Alternative I will remove contaminated soil from the Site exceeding UUSCOs, while Alternative II will remove contaminated soil from the Site exceeding RRSCOs and will be documented in post-excavation confirmation sampling, and residual contamination will be managed with long-term operation, maintenance, and monitoring (OM&M) of ECs/ICs.

3.3.5 Reduction of Toxicity, Mobility, or Volume of Contaminated Material

Both remedial alternatives would permanently and significantly reduce the toxicity, mobility, and volume of contamination through the removal of contaminated fill and buried solid waste through excavation and off-Site disposal.

3.3.6 Implementability

Alternative I – Implementing a Track 1 remedy will be technically challenging because of the SOE requirements associated with the protection of neighboring buildings and street; however, the SOE requirements will be comparable to those required for construction. This remedy will consist primarily of excavation with standard bucket excavators and bedrock-chopping attachments. The availability of local contractors, personnel, and equipment suitable for working in structurally challenging environments is high due to the frequency of this type of remediation in the region. The excavation and SOE are not expected to require schedule extensions or additional costs. If deeper contamination above UUSCOs is encountered requiring unanticipated over-excavation, the cost will be marginal compared to the benefit of achieving an Unrestricted Use remediation and avoiding long-term ECs and ICs. Additional coordination between trades may be required. This alternative is considered feasible.

Alternative II – The technical feasibility of implementing the Alternative II remedy is similar to Alternative I, if not more feasible, as less excavation and SOE will be required to achieve the Track 2 RRSCOs. This alternative will consist primarily of excavation with standard bucket excavators. The availability of local contractors, personnel, and equipment suitable for working in structurally challenging environments is high due to the frequency of this type of remediation in the region. Additional coordination between trades may be required. This alternative is considered feasible.

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3.3.7 Cost-Effectiveness

Alternative I – Based on the assumptions detailed for Alternative I, the estimated remediation cost of a Track 1 cleanup is approximately $10,898,000. A detailed cost estimate for a Track 1 cleanup is provided in Table 1.

Alternative II – Based on the assumptions detailed for Alternative II, the estimated remediation cost of a Track 2 cleanup is approximately $2,393,000. Alternative I is more cost-effective in the long term, as Alternative II may require long-term OM&M for Site management if Track 2 RRSCOs are not achieved. A detailed cost estimate for a Track 2 cleanup is provided in Table 2.

3.3.8 Community Acceptance

Both remedial alternatives should be acceptable to the community because the potential exposure pathways to on-Site contamination will be addressed during and after completion of the respective remedies, and the Site will be remediated to allow for a higher-level use. The selected remedy will be subject to a 45-day public comment period in accordance with the Citizen Participation Plan (CPP), included as Appendix F. Substantive public comments will be addressed before the remedy is approved.

3.3.9 Green and Sustainable Remediation

An environmental footprint analysis was conducted for both remedial alternatives and is provided in Appendix G. Alternative I, a Track 1 remedy, would likely export a greater volume (up to approximately 34,500 cu yd) of non-hazardous waste off the Site to a recycling facility than Alternative II, a Track 2 remedy, due to the expected requirement of greater excavation depth. Additionally, Alternative I will potentially result in slightly more air emissions than Alternative II due to the expected additional excavation and off-Site disposal required. Both Alternative I and Alternative II will require dewatering as part of construction.

3.3.10 Land Use

The current, intended, and reasonably anticipated future land use of the Site and its surroundings is compatible with both remedial alternatives. The proposed future development will consist of the construction of a new 12-story residential building with 410 units, including 10 percent or 41 affordable units, sub-grade and at-grade parking with 365 parking spaces, and approximately 2,140 sq ft of retail space at street level. The new development is anticipated to encompass the entire Site footprint and require Site-wide excavation to approximately 25 ft bgs to accommodate construction.

3.4 SELECTION OF THE PREFERRED REMEDY

Both alternatives will be protective of human health and the environment, meet the remedy selection criteria, and comply with the requirements of Section 27-1415 of the Environmental Conservation Law. Alternative I achieves the remedial action goals established for the redevelopment project and is effective in the short term. Alternative I effectively reduces contaminant mobility and is a better alternative for the reduction of contaminant volume. Alternative I is more effective in the long term because the Site achieves unrestricted use. Alternative I is preferred over Alternative II if it can be feasibly and practically implemented at a similar cost while providing greater overall protection to

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human health and the environment. Therefore, Alternative I is the recommended remedial alternative for this Site. However, if Alternative I is not achievable due to unanticipated Site conditions, Alternative II is similarly protective of human health and the environment.

Figure 9 depicts the Alternative I (Track 1) soil cleanup plan. Figure 11 depicts the Alternative II (Track 2) soil cleanup plan. The Alternative I and II remediation extents are based on data presented in the RIR (Haley & Aldrich of New York, 2026).

3.4.1 Zoning

The Site is currently zoned as an urban core character district (CD-6), characterized by low-rise commercial and residential buildings.

3.4.2 Applicable Comprehensive Community Master Plans or Land Use Plans

The current, intended, and reasonably anticipated future land use of the Site is compatible with the Village of Port Chester Comprehensive Plan, dated December 17, 2012. The development plan supports the major goals of the plan primarily by enhancing a residential neighborhood and revitalizing a commercial area. The development plan also includes 10 percent affordable housing units, which support the Village of Port Chester Comprehensive Plan's recommendation for a balanced range of housing types that considers affordability.

3.4.3 Surrounding Property Uses

The current, intended, and reasonably anticipated future land use of the Site and its surroundings are compatible with the selected remedy. The construction of a new mixed-use commercial and residential building conforms to recent development patterns in the area and current zoning.

3.4.4 Citizen Participation

The selected remedy will be subject to a 45-day public comment period in accordance with the CPP, included as Appendix F. Substantive public comments will be addressed before the remedy is approved.

3.4.5 Environmental Justice Concerns

Per "Potential Environmental Justice Areas in Westchester County, New York," the Site is in a potential Environmental Justice area, identified as Census Block Group 15000US361190080003, with 14.29 percent of the population below the poverty level and a minority population of 93.16 percent. NYSDEC's Office of Environmental Justice acts as an advocate on behalf of these areas, which are disproportionately affected by environmental burdens. The proposed remedy will best reduce the environmental burden on the surrounding area.

3.4.6 Land Use Designations

There are no federal or state land use designations.

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3.4.7 Population Growth Patterns

The population growth patterns and projections support the current and anticipated future land use.

3.4.8 Accessibility to Existing Infrastructure

The Site is accessible via existing infrastructure.

3.4.9 Proximity to Cultural Resources

The Site is not in close proximity to a registered landmark.

3.4.10 Proximity to Natural Resources

The Site is not in close proximity to important federal, state, or local natural resources, including waterways, wildlife refuges, wetlands, and critical habitats of endangered or threatened species.

3.4.11 Off-Site Groundwater Impacts

Municipal water supply wells are not present in this area; therefore, groundwater from the Site does not affect municipal water supply wells or recharge areas.

3.4.12 Proximity to Floodplains

The Site is not located in a floodplain.

3.4.13 Geography and Geology of the Site

The Site geology is described in Section 2.6.

3.4.14 Current Institutional Controls

There are currently no ICs being implemented at the Site.

3.5 SUMMARY OF SELECTED REMEDIAL ACTIONS

The selected Track 1 (Alternative I) remedy will include the following:

- Development and implementation of a CHASP for the protection of on-Site workers.
- Development and implementation of a CAMP for the protection of the community, residents, and the environment during remediation and construction activities.
- Design and installation of an SOE system to facilitate the Track 1 remediation.
- Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.
- Demolition and abatement of remaining structures and removal of miscellaneous debris from the Site.

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- Decommissioning of existing on-Site monitoring wells, as necessary, in accordance with NYSDEC CP-43.
- Excavation, stockpiling, off-Site transport, and disposal of approximately 34,500 cu yd of contaminated soils Site-wide that exceed UUSCOs as defined by 6 NYCRR Part 375-6.8. To ensure that all contaminated soils are uniformly removed from the Site in a safe and orderly manner, the excavation will extend to approximately 25 ft bgs (i.e., the bedrock interface).
- Within the northeastern portion of the Site, approximately 30 linear ft of the existing Buckley Drain will remain in place as required by the Village of Port Chester. In this area, totaling approximately 150 sq ft, excavation will extend to the top of the Buckley Drain (estimated at approximately 10 ft bgs), and excavation beneath the drain will not be performed to avoid disturbing the existing drainage infrastructure.
- Removal of one AST located on Lot 31 and associated appurtenances (e.g., fill lines, vent lines, and electrical conduits) in accordance with DER-10, 6 NYCRR Part 613.9, NYSDEC CP-51. Excavation, characterization, and removal of impacted soil associated with the AST. Documentation sampling from the excavation area to confirm impacted material removal and provide confirmation for closure of Spill Case No. 2506900.
- Removal, decommissioning, and off-Site disposal of the AST, and if encountered, any USTs and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduits) in accordance with DER-10, 6 NYCRR Part 613.9, NYSDEC CP-51, and other applicable NYSDEC AST/UST closure requirements.
- Implementation of a preliminary waste characterization to facilitate off-Site disposal of excavated soil/fill.
- Screening of excavated material for indication of contamination (by visual means, odors, and monitoring with PIDs) during intrusive Site work.
- Dewatering, characterization, and treatment of water accumulated in excavations prior to discharge to a NYSDEC-approved sewer/sanitary line (pending permits), or localized dewatering with containerization, classification, and disposal at an approved receiving facility.
- Appropriate off-Site disposal of material removed from the Site in accordance with federal, state, and local rules and regulations for handling, transport, and disposal.
- Backfilling of excavated areas with certified-clean material (i.e., meeting UUSCOs), RCA, or virgin, native crushed stone.
- Collection and analysis of confirmation soil samples and/or photo documentation of cleared bedrock from the excavation base in accordance with DER-10, to document post-excavation conditions to confirm a Track 1 remedy was achieved.
- Completion of a desktop SVI evaluation in accordance with DER-10 and the NYSDOH Final Guidance on Soil Vapor Intrusion following remedial excavation activities and prior to occupancy.
- If Track 1 Unrestricted Use is not achieved, the development of an SMP for long-term management of residual contamination as required by an EE will be required.
- Additionally, as part of the remedial program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The

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environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as USEPA SEFA, SiteWiseTM (available in the SURF library), or a similar Department-accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial program, as appropriate. The project will include detailed requirements to achieve the green and sustainable remediation goals.

Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the FER, including a comparison to the goals established during the remedial program. Additionally, the remedial program will include a climate change vulnerability assessment to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress, and drought), flooding, and sea level rise will be identified, and the remedial program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

The selected remedy has been developed to achieve Track 1 UUSCOs.

Remedial activities will be performed at the Site in accordance with this NYSDEC-approved RAWP and the NYSDEC-issued Decision Document. All deviations from this RAWP and/or Decision Document will be promptly reported to NYSDEC for approval and fully explained in the FER.

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4. Remedial Action Program

4.1 GOVERNING DOCUMENTS

The primary documents governing the remedial action are summarized in this section.

4.1.1 Standards, Criteria, and Guidance

- Title 29 Code of Federal Regulations (CFR) Part 1910.120 – Hazardous Waste Operations and Emergency Response
- 6 NYCRR Part 364 – Waste Transporter Permits
- 6 NYCRR Part 371 – Identification and Listing of Hazardous Wastes
- 6 NYCRR Part 372 – Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities
- 6 NYCRR Subpart 373-4 – Facility Standards for the Collection of Household Hazardous Waste and Hazardous Waste from Conditionally Exempt Small Quantity Generators
- 6 NYCRR Subpart 374-1 – Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
- 6 NYCRR Subpart 374-3 – Standards for Universal Waste
- 6 NYCRR Part 375 – Environmental Remediation Programs
- 6 NYCRR Part 376 – Land Disposal Restrictions
- 6 NYCRR Part 750 –SPDES Permits
- CFR Title 29 Part 1926 - Safety and Health Regulations for Construction
- CP-43 – Commissioner Policy on Groundwater Monitoring Well Decommissioning (December 2009)
- NYSDEC Spill Response Guidance Manual
- NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances Under NYSDEC's Part 375 Remedial Programs (April 2023)
- CP-51 – Soil Cleanup Guidance (2010)
- DER-10 – Technical Guidance for Site Investigation and Remediation (May 3, 2010)
- DER-23 – Citizen Participation Handbook for Remedial Programs (March 2010)
- DER-31 – Green Remediation (2011)
- NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006)
- TOGS 1.1.1 – AWQS and GVs and Groundwater Effluent Limitations
- Screening and Assessment of Contaminated Sediment (Division of Fish, Wildlife and Marine Resources, June 2014)

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4.1.2 Site-Specific Construction Health & Safety Plan

A site-specific CHASP has been prepared (Appendix D). The CHASP will apply to remedial and construction-related work on the Site. The CHASP provides a mechanism for establishing on-Site safe working conditions, safety organization, procedures, and PPE requirements during the implementation of the remedy. The CHASP meets the requirements of 29 CFR 1910 and 29 CFR 1926 (which includes 19 CFR 1910.120 and 29 CFR 1926.65, respectively). The CHASP includes, but is not limited to, the following components:

- Organization and identification of key personnel;
- Training requirements;
- Medical surveillance requirements;
- List of Site hazards;
- Excavation safety;
- Drill rig safety;
- Work zone descriptions and monitoring procedures;
- Personal safety equipment and PPE requirements;
- Decontamination requirements;
- Standard operating procedures;
- Contingency plan;
- CAMP; and
- Safety data sheets (SDS).

All remedial work performed under this plan will be in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA. The Applicants and associated parties preparing the remedial documents submitted to the State and those performing the construction work are responsible for the preparation of a CHASP and the performance of work according to the CHASP and applicable laws. The CHASP and requirements defined in this RAWP pertain to remedial and ground-intrusive work performed at the Site until the issuance of a Certificate of Completion. The Haley & Aldrich of New York Safety Coordinator will be Brian Ferguson, a resume for whom is included in Appendix H. If required, confined space entry will comply with OSHA requirements to address the potential risk posed by combustible and toxic gases.

4.1.3 Quality Assurance Project Plan

A Quality Assurance Project Plan (QAPP) has been prepared that describes the QC components that will ensure that the proposed remedy accomplishes the remedial goals and RAOs and is completed in accordance with the design specifications. The QAPP is provided as Appendix I and includes:

- Responsibilities of key personnel and their organizations for the proposed remedy.
- Qualifications of the QA Officer.

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- Sampling requirements, including methodologies, quantity, volume, location, frequency, and acceptance and rejection criteria.
- Description of the reporting requirements for QA activities, including weekly QA review reports.

4.1.4 Construction Quality Assurance Plan

A Construction Quality Assurance Plan (CQAP) has been prepared to describe the QC components that will ensure that the proposed remedy accomplishes the remedial goals and RAOs and is completed in accordance with the design specifications. Because the remedy will be accomplished concurrently with the building construction, the contractor and Construction Manager will have the primary responsibility to provide construction quality. A list of engineering personnel involved in the implementation of the CQAP and the procedures that will be carried out by the remedial engineering team are listed in Section 4.3.1. Project personnel resumes are included in Appendix H.

4.1.5 Soil/Materials Management

An S/MMP has been prepared that includes detailed plans for managing soils/materials that are disturbed at the Site, including excavation, handling, storage, transport, and disposal. The S/MMP also includes controls that will be applied to these efforts to facilitate effective, nuisance-free performance in compliance with applicable federal, state, and local laws and regulations (see Section 5.4).

4.1.6 Stormwater Pollution Prevention Plan

Erosion and sediment controls will be implemented as necessary in conformance with requirements presented in the New York State Standards and Specifications for Erosion and Sediment Control. Best management practices (BMPs) for soil erosion and sediment control will be selected to minimize erosion and sedimentation off the Site from the outset of remediation to the completion of development. Stormwater pollution prevention will be implemented as described below in Section 5.4.9. A Stormwater Pollution Prevention Plan (SWPPP) is not required since the project will disturb less than 1 acre. Stormwater discharge will be to a combined sewer in accordance with a SPDES permit.

4.1.7 Community Air Monitoring Plan

Details of the CAMP are discussed in Section 5.4.11.

4.1.8 Contractors' Site Operations Plan

The Remedial Engineer (RE) will review plans and submittals for this remedial project, contractor and subcontractor document submittals, and will confirm that plans and submittals are in compliance with this RAWP. The RE is responsible for ensuring that all later document submittals for this remedial project, including contractor and subcontractor document submittals, are in compliance with this RAWP. Remedial documents, including contractor and subcontractor document submittals, will be submitted to NYSDEC and NYSDOH in a timely manner and prior to the start of work associated with the remedial document.

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4.1.9 Citizen Participation Plan

Document repositories were established at the following locations and contain the applicable project documents:

1. Rye Free Reading Room
   Attn: Chris Shoemaker
   1061 Boston Post Road
   Rye, New York 10580
   Phone: 914.967.0480
   Email: reference@ryelibrary.org
   Hours: Monday to Thursday – 9:30 a.m. to 8:00 p.m.
   Friday – 9:30 a.m. to 5:30 p.m.
   Saturday – 10:00 a.m. to 5:00 p.m.
   Sunday – 12:00 a.m. to 5:00 p.m.

2. Port Chester-Rye Brook Public Library
   Attn: Robin Lettiere
   1 Haseco Avenue
   Port Chester, New York, 10573
   Phone: 914.939.6710
   Email: pcrbpl@pcrblibrary.org
   Hours: Monday – 9:00 a.m. to 9:00 p.m.
   Tuesday – 9:00 a.m. to 8:00 p.m.
   Wednesday to Saturday – 9:00 a.m. to 5:00 p.m.
   Sunday – Closed

In addition, an electronic repository can be accessed via DECInfo Locator at the following link: https://extapps.dec.ny.gov/data/DecDocs/C360253/.

A certification of mailing will be sent by the Applicants to the NYSDEC Case Manager following the distribution of all Fact Sheets and notices that includes: (1) certification that the Fact Sheets were mailed; (2) the date they were mailed; (3) a copy of the Fact Sheet; (4) a list of recipients (contact list); and (5) a statement that the repository was inspected on (date to be determined) and that it contained all of the applicable project documents.

No changes will be made to approved Fact Sheets authorized for release by NYSDEC without the written consent of NYSDEC. No other information, such as brochures and flyers, will be included with the Fact Sheet mailing.

The approved CPP for this project is attached in Appendix F.

4.2 GREEN AND SUSTAINABLE REMEDIATION AND CLIMATE RESILIENCY

The work completed as part of this work plan will comply with all NYSDEC guidance documents, including DER-31: Green Remediation (NYSDEC, 2011). To ensure compliance with DER-31, the work will

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be completed using the best practices and techniques described below. Specific reporting methods relative to DER-31 are further described below.

4.2.1 Best Practices and Techniques

DER-31 provides examples of best practices and techniques that could be applied during all phases of remediation (Attachment 1 of the DER-31 policy). In addition, the NYSDEC expects that the techniques identified below will be implemented at sites unless a site-specific evaluation demonstrates impracticability or favors an alternative green approach:

Practice/Technique	**Potential Benefits[1]**	**Applicable to this Work Plan**
Use renewable energy where possible or purchase Renewable Energy Credits	Reduce/supplement purchased energy use	
Use of remediation technologies with an intermittent energy supply (i.e., energy use during peak energy generation only)	Reduce energy use	
Incorporate green building design	Reduce future use impacts	X
Reuse existing buildings and infrastructure to reduce waste	Reduce waste and material use	
Reuse and recycle construction and demolition debris and other materials (i.e., grind waste wood and other organics for on-site use)	Reduce waste and material use	
Design cover systems to be usable (i.e., habitat or recreation)	Reduce construction impacts of future development	X
Reduce vehicle idling	Reduce air emissions and fuel use	X
Use of Low-Sulfur Diesel Fuel (LSDF) or alternate fuels (i.e., biodiesel or E85) when possible	Reduce air emissions	X
Sequence work to minimize double-handling of materials	Reduce construction impacts	X
Use energy-efficient systems and office equipment in the job trailer	Reduce energy use	X
[1]*Potential benefits listed are not comprehensive and will vary depending upon the site and implementation of the practice or technique.*		

In order to comply with the requirements of DER-31, the following actions will be taken:

1. All vehicles and fuel-consuming equipment on the Site will be shut off if not in use for more than three minutes;
2. If necessary, any soil cover placed on the Site will meet 6 NYCRR Part 375 residential use soil standards and will allow future use of the Site in a residential setting;
3. Work will be sequenced, to the extent practicable, to allow the direct loading of waste containers for off-Site disposal;

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4. To the extent practicable, energy-efficient systems and office equipment will be utilized within the Site trailers; and
5. All vehicles and equipment that consume diesel fuel will be required to use ultra-LSDF.

4.2.2 Reporting

All green and sustainable practices and techniques employed will be discussed in the FER.

4.3 GENERAL REMEDIAL CONSTRUCTION INFORMATION

4.3.1 Project Organization

A project team for the Site was created based on qualifications and experience with personnel suited for the successful completion of the project.

The following project personnel are anticipated for oversight of the RAWP implementation. Project personnel resumes are provided in Appendix H.

NYSDEC Case Manager	Daniel Lanners
NYSDOH Case Manager	Christine Vooris
Remedial Engineer	Suzanne M. Bell, P.E.
Principal/Qualified Environmental Professional (QEP)	Mari C. Conlon, P.G.
Project Manager	Elizabeth Fitzgerald
Haley & Aldrich of New York Health and Safety Director	Brian Fitzpatrick, CHMM
Health & Safety Officer	Brian Ferguson
Field Team Leader/Quality Assurance Officer	Calvin Jackson

Haley & Aldrich of New York personnel, under the direct supervision of the QEP and the RE, will be on the Site during the implementation of the RAWP to monitor particulates and organic vapor in accordance with the CAMP. CAMP results that exceed specified action levels will be reported to the NYSDEC and NYSDOH.

Haley & Aldrich of New York personnel will meet with the Construction Superintendent daily to discuss the plans for that day and schedule upcoming activities. Field personnel will document remedial activities. Field activities will be forwarded to the Field Team Leader and Project Manager daily and to the QEP and the RE on a weekly basis. Daily reports will also be submitted to the NYSDEC and NYSDOH Case Managers by noon the following business day.

Field personnel will screen excavations with a PID during ground-intrusive work. PID readings, including specifically elevated readings, will be recorded in the project field book (or on separate logs) and reported to the NYSDEC and NYSDOH. Field personnel under the direct supervision of the RE and QEP will collect endpoint samples from the base of the excavation in accordance with this RAWP.

Field observations and laboratory tests will be recorded in the project field book or on separate logs. Recorded field observations may take the form of notes, charts, sketches, and/or photographs. A photo log will be kept to document construction activities during remediation.

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The Field Team Leader will maintain original field paperwork during performance of the remedy. Remedial activities will be documented in the monthly BCP progress reports. The Project Manager will maintain the field paperwork after completion and will maintain submittal document files.

4.3.2 Remedial Engineer

The RE for this project will be Suzanne M. Bell. The RE is a registered professional engineer licensed by the state of New York. The RE will have primary direct responsibility for the implementation of the remedial program at the Site. The RE will certify in the FER that the remedial activities were observed by qualified environmental professionals under their supervision and that the remediation requirements set forth in this RAWP and other relevant provisions of Environmental Conservation Law (ECL) 27-1419 have been achieved in substantial conformance with the RAWP.

Under the direction of the RE, the work of other contractors and subcontractors involved in aspects of the remedial construction will be documented, including soil excavation, stockpiling, confirmation sample collection, air monitoring, emergency spill response services, import of backfill, and management of waste transport and disposal. The RE will be responsible for all appropriate communication with NYSDEC and NYSDOH.

The RE will review the pre-remedial plans submitted by contractors and subcontractors for substantial conformance with this RAWP and will provide a certification in the FER. The RE will provide the certifications listed below in Section 9.1.

4.3.3 Remedial Action Construction Schedule

The remedial action construction schedule is discussed below in Section 10 and included in Appendix J. The NYSDEC will be promptly notified of proposed changes, delays, and/or deviations to the schedule.

4.3.4 Work Hours

The hours for operation of remedial construction will conform to the Port Chester Department of Buildings (DOB) construction code requirements or according to specific variances issued by that agency. The NYSDEC will be notified by the Applicants of any variances issued by the Village of Port Chester. The NYSDEC reserves the right to deny alternate remedial construction hours.

4.3.5 Site Security

Site access will be controlled by gate entrances to the property. The Site perimeter will be secured with gated and signed plywood fencing with restricted points of entry in accordance with the Village of Port Chester and Westchester County Department of Transportation (WCDOT) permits and requirements. The purpose of the fencing is to limit Site access to authorized personnel, protect pedestrians from Site activities, and maintain Site security.

4.3.6 Traffic Control

Site traffic will be controlled through designated points of access along Westchester Avenue, and/or Irving Avenue. Access points will be continuously monitored, and if necessary, a flagging system will be

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used to protect workers, pedestrians, and authorized guests. Traffic will also be required to adhere to applicable local, state, and federal laws.

4.3.7 Contingency Plan

Contingency plans, as described below, have been developed to effectively deal with the potential unexpected discovery of additional contaminated media or USTs.

4.3.8 Discovery of Additional Contaminated Media

During remediation and construction, the soil will be continuously monitored by the RE's field representatives via visual, olfactory, and instrumental field screening techniques to identify additional soil that may not be suitable for disposal at the NYSDEC-approved disposal facility. If such soil is identified, the suspected impacts will be confirmed by collecting and analyzing samples in accordance with the NYSDEC-approved facility's requirements. If the previously approved facility is not permitted to receive the impacted soil, the soil will be excavated and disposed of off-Site at a permitted facility that can receive the material.

Identification of unknown or unexpected contaminated media identified by screening during ground-intrusive Site work will be promptly communicated to the NYSDEC Case Manager. These findings will be detailed in the monthly report.

4.3.9 UST Discovery

Previous investigations did not identify the presence of USTs on the Site. In the event a UST is discovered during excavation, it will be decommissioned as per the 6 NYCRR Parts 612.2 and 613.9 and DER-10 Section 5.5. After removal of the tank and residual contents, confirmatory post-excavation soil samples will be collected as outlined in DER-10 if deemed necessary by the NYSDEC and/or the RE.

Post-excavation soil samples are not expected where the proposed excavation would extend below the UST unless visual, olfactory, or instrumental field screening techniques indicate the potential for contamination. If petroleum-impacted soils are encountered, they will be segregated, characterized, and disposed of at an appropriate off-Site facility. Closure documentation, including affidavits, bills of lading, and tank disposal receipts, will be included in the FER. If necessary, the NYSDEC PBS registration will be updated.

In the event USTs are encountered during ground-intrusive activities, the NYSDEC Case Manager will be promptly notified, and pertinent information will be included in the monthly report.

4.3.10 Worker Training and Monitoring

Worker training and monitoring will be conducted in accordance with the Site-specific CHASP.

4.3.11 Agency Approvals

Permits or government approvals required for remedial construction have been or will be obtained prior to the start of remedial construction.

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The planned end use for the Site is in conformance with the current zoning for the property as determined by the Village of Port Chester. A complete list of all federal, state, and local governmental permits, certificates, or other approvals or authorizations required to perform the remedial and development work will be included in the FER.

4.3.12 Pre-Construction Meeting with NYSDEC

Prior to the start of remedial construction, a meeting will be held among the NYSDEC, the RE, the Applicants, the Construction Manager, and the remediation contractor to discuss project roles, responsibilities, and expectations associated with this RAWP.

4.3.13 Emergency Contact Information

An emergency contact sheet that states the specific project contacts (with names and phone numbers) for use by NYSDEC and NYSDOH in the case of an emergency is included in the CHASP.

4.3.14 Remedial Action Costs

Detailed summaries of the total estimated costs of the Track 1 and Track 2 remedies are included in Tables 1 and 2, respectively.

4.4 SITE PREPARATION

4.4.1 Mobilization

Prior to commencing remedial construction, abatement of hazardous building materials and demolition of existing structures will occur.

NYSDEC will be notified at least seven days in advance of the remediation contractor mobilizing to the Site to prepare for remedial activities. Mobilization and Site preparation activities may include the following:

- Identifying the location of aboveground and underground utilities (e.g., power, gas, water, sewer, and telephone), equipment, and structures as necessary to implement remediation;
- Mobilizing necessary remediation personnel, equipment, and materials to the Site;
- Constructing one or more stabilized construction entrance(s) consisting of non-hazardous material at or near the Site exit, which takes into consideration the Site setting and Site perimeter;
- Constructing an equipment decontamination pad for trucks, equipment, and personnel that come into contact with impact materials during remediation; and/or
- Marking out excavation hotspot area (if identified during the RI or preliminary waste characterization event).

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4.4.2 Monitoring Well Decommissioning

Monitoring wells will be decommissioned in accordance with NYSDEC CP-43 by an experienced driller with oversight from Haley & Aldrich of New York. Decommissioning documentation will be provided in the FER.

4.4.3 Erosion and Sedimentation Controls

Since the planned earthwork activities will be below the adjacent sidewalk grade, full-time erosion and sedimentation measures are not anticipated. BMPs for soil erosion will be implemented to minimize erosion and sedimentation off the Site.

4.4.4 Temporary Stabilized Construction Entrance(s)

Temporary stabilized construction entrances will be installed at the existing curb cuts along Westchester Avenue and/or Irving Avenue. The entrances will be covered with NYSDEC-approved gravel or RCA and graded so that runoff water will be directed on the Site. Vehicles exiting construction areas will be cleaned using clean water or dry brushing, as needed, to remove Site soil from the tires and undercarriages. The contractor will protect and maintain the existing sidewalks and roadways at all Site access points.

4.4.5 Utility Marker and Easements Layout

The Applicants and their contractors are solely responsible for the identification of utilities and/or easements that might be affected by work under this RAWP and implementation of the required, appropriate, or necessary health and safety measures during the performance of the work under this RAWP. The Applicants and their contractors are solely responsible for the safe execution of the work performed under this RAWP. The Applicants and their contractors must obtain the necessary local, state, and/or federal permits or approvals that may be required to perform the work detailed in this RAWP. Approval of this RAWP by the NYSDEC does not constitute satisfaction of these requirements.

4.4.6 Excavation Support

Appropriate management of the structural stability of on-Site or off-Site structures during Site activities is the sole responsibility of the Applicants and their contractors. The Applicants and their contractors are solely responsible for the safe execution of the work performed under this RAWP. The Applicants and their contractors must obtain the necessary local, state, and/or federal permits or approvals that may be required to perform the work detailed in this RAWP. Additionally, the Applicants and their contractors are solely responsible for the implementation of the required, appropriate, or necessary health and safety measures during the performance of work conducted under this RAWP.

4.4.7 Equipment and Material Staging

The contractor will notify the RE and the Applicants in writing, with receipt confirmed at least 30 calendar days in advance of pending Site work mobilization. During mobilization, construction equipment will be delivered to the Site, temporary facilities will be constructed, and temporary utilities

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will be installed. The contractor will place and maintain temporary toilet facilities within the work areas for usage by Site personnel.

4.4.8 Truck-Inspection Station

An outbound-truck inspection station will be set up at or near the Site exit. Before exiting the Site, trucks will be required to stop at the truck inspection station and will be examined for evidence of contaminated soil on the undercarriage, body, and wheels. If observed, soil and debris will be removed. Brooms, shovels, and potable water will be utilized for the removal of soil from vehicles and equipment, as necessary. The contractor is responsible for collecting soil that is tracked immediately off the Site and returning the soil to the Site.

4.4.9 Site Fencing

The Site will continue to be secured with a gated fence, with appropriate signage added and maintained by the contractor. The fence will limit access to authorized personnel and protect pedestrians from Site activities.

4.4.10 Demobilization

After remediation and construction are completed, the contractor will be responsible for demobilizing equipment and materials not designated for off-Site disposal. The RE's representative will document that the contractor performs follow-up coordination and maintenance for the following activities:

- Removal of sediment and erosion control measures and disposal of materials in accordance with applicable rules and regulations;
- Equipment decontamination;
- Refuse disposal; and
- Removal of remaining contaminated material or waste.

4.5 REPORTING

Periodic reports and an FER will be required to document the remedial action. The RE, Suzanne M. Bell, will be responsible for certifying the FER and is licensed to practice engineering in the state of New York. Should Ms. Bell become unable to fulfill this responsibility, another suitably qualified New York State Professional Engineer will take her place. Field reports will be included as appendices to the FER. In addition to the periodic reports and the FER, copies of the relevant contractor documents will be submitted to the NYSDEC.

4.5.1 Daily Reports

Reports providing a summary of activities for each day of active remedial work will be emailed to the NYSDEC and NYSDOH Case Managers on a daily basis. These reports will include:

- The project number, statement of activities, an update of the progress made, locations of excavation, and other remedial work performed;

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- Quantities of material imported and exported from the Site;
- References to an alpha-numeric map for Site activities;
- Status of on-Site soil/fill stockpiles;
- A summary of citizen complaints, including relevant details (i.e., name, phone number, basis of complaint, actions taken);
- A summary of CAMP results, noting exceedances; and
- Photographs of notable Site conditions and activities.

Daily reports are not intended to be the primary mode of communication for notifying NYSDEC of emergencies, requests for changes to the RAWP, or time-critical information. However, these conditions, if they occur, will be included in the daily reports. Emergency conditions and changes to the RAWP will be directly communicated to the NYSDEC Case Manager.

4.5.2 Monthly Reports

Monthly reports will be submitted to NYSDEC and NYSDOH by the 10th day of each month and will consist of a summary of remedial work performed at the Site throughout the month and will include:

- Investigative or Remedial Actions relative to the Site during the reporting period;
- Actions relative to the Site anticipated for the next reporting period;
- Approved changes of work scope or schedule, if applicable;
- Results of sampling or testing;
- Deliverables submitted during the reporting period;
- An update of the remedial schedule, including the approximate percentage of completion of the project at the Site;
- Unresolved delays encountered that may affect the schedule and efforts to mitigate such delays; and
- CPP activities during the reporting period and activities anticipated in support of the CPP for the next reporting period.

4.5.3 Photographs

Photographs of the remedial activities will be taken and included in the daily reports and FER, alongside descriptions of the photographs.

4.5.4 Complaint Management Plan

Complaints from the public regarding nuisance or other Site conditions will be addressed by notifying the NYSDEC of the complaint and investigating the cause/source of the issue. Records will be kept regarding the date and time of the complaint, the nature of the complaint, the type of communication (i.e., telephone, email, letter, etc.), and the name and contact information of the complaint provider. Corrective measures will then be formulated and put into place to address the complaint as soon as

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possible. The resolution will be documented and submitted to the NYSDEC. A representative of the Applicants will respond to the complainant within two weeks of receipt of the complaint to ensure resolution.

4.5.5 Deviations from the Remedial Action Work Plan

Deviations from the RAWP will be communicated to and coordinated with the NYSDEC in advance. Notification will be provided to the NYSDEC by telephone and email for conditions requiring immediate action (e.g., conditions judged to be a danger to the surrounding community). Based on the significance of the deviation, an addendum to this RAWP may be necessary and will include:

- Reasons for deviating from the approved RAWP;
- Approval process to be followed for changes/editions to the RAWP; and
- Effect of the deviations on the overall remedy.

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5. Remedial Action: Material Removal from Site

As part of the preferred Alternative I remedy, excavation, stockpiling, off-Site transport, and disposal of up to approximately 34,500 cu yd of contaminated fill/native material that exceeds UUSCOs as defined by 6 NYCRR Part 375-6.8 will be required. Excavation of material that exceeds UUSCOs is generally estimated to extend to approximately 25 ft bgs Site-wide. Within the northeastern 150 sq ft portion of the Site, where approximately 30 linear ft of the existing Buckley Drain will remain in place, excavation will extend to the top of the Buckley Drain (estimated at approximately 10 ft bgs). Excavation beneath the Buckley Drain will not be performed, as required by the Village of Port Chester. The soil will be screened for visual, olfactory, and instrumental evidence of environmental impacts.

5.1 SOIL CLEANUP OBJECTIVES

Soil Cleanup Objectives (SCOs) for the Site will be the Track 1 UUSCO concentrations listed in Table 3. Soil and materials management will be conducted in accordance with the S/MMP as described below. Soil sample locations and results that exceed the UUSCOs are shown on Figure 6.

5.2 REMEDIAL PERFORMANCE EVALUATION (CONFIRMATION SAMPLING)

5.2.1 Soil Sampling Frequency

One endpoint soil sample will be collected for every 900 sq ft of excavation base Site-wide in accordance with NYSDEC DER-10, or at an alternative frequency approved by NYSDEC. Endpoint samples will be collected to confirm that UUSCOs have been achieved. Of note, the proposed excavation extends to where bedrock was previously encountered in the former investigations. Should excavation encounter bedrock, instead of confirmation soil samples, photo documentation of the cleared bedrock service per the 900-sq-ft confirmation soil sample area will be provided. A total of 44 confirmation soil samples, plus QA/QC samples, and/or photo documentation points will be collected from the remedial excavation base. The proposed endpoint sample/photo documentation locations are shown on Figure 10.

5.2.2 Methodology

Confirmation soil samples will be collected from the base of the remedial excavations in accordance with NYSDEC DER-10 to document remedial performance and will be analyzed for the Part 375 list of VOCs, SVOCs, pesticides, metals, PCBs, PFAS, and 1,4-dioxane. Where excavation terminates adjacent to the Buckley Drain, confirmation samples will be collected from the accessible excavation limits in accordance with NYSDEC DER-10. The excavation limits in the vicinity of the Buckley Drain have been developed to achieve the Track 1 UUSCOs. Samples will be collected into laboratory-provided bottle ware. VOCs will be collected into Terra Cores® or En Cores®. Samples will be transported under chain-of-custody protocol to an ELAP-certified laboratory. Should additional soil samples be deemed necessary (e.g., additional tank closure, an unknown environmental condition through visual evidence of a remaining source, or over-excavation of a failed confirmation sample), confirmation sampling will be conducted in accordance with NYSDEC DER-10.

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5.2.3 QA/QC

QC procedures for confirmation soil sampling are included in the QAPP (refer to Appendix I). Confirmation analytical results will be provided in the NYSDEC's electronic data deliverable (EDD) format for EQuIS™. Guidance on the sampling frequency is presented in NYSDEC DER-10 Section 5.4.

The QA/QC procedures required by the NYSDEC Analytical Services Protocol (ASP) and SW-846 methods will be followed. This will include instrument calibration, standard compound spikes, surrogate compound spikes, and analysis of QC samples. The laboratory will provide sample bottles, which will be pre-cleaned and preserved. Where there are differences in the SW-846 and NYSDEC ASP requirements, the NYSDEC ASP will take precedence.

5.2.4 Data Validation

ASP Category B deliverables will be prepared for remedial performance samples collected during the implementation of this RAWP. Data Usability Summary Reports (DUSRs) will be prepared by a qualified data validator, and the findings will be reported in the FER.

5.2.5 Reporting

Analytical laboratories that analyze confirmation soil samples, prepare results, and perform contingency sampling will be NYSDOH ELAP-certified.

5.3 ESTIMATED MATERIAL REMOVAL QUANTITIES

The preferred Alternative I remedy includes the excavation, stockpiling, off-Site transport, and disposal of 34,500 cu yd of contaminated fill/native material.

5.4 SOIL/MATERIALS MANAGEMENT PLAN

This section presents the approach to management, disposal, and reuse of soil, fill, and materials excavated from the Site. This plan is based on the current knowledge of Site conditions and will be altered as necessary. Field personnel, under the direction of the RE, will monitor and document the handling and transport of material removed from the Site for disposal as a regulated solid waste. Field personnel will also assist the remediation contractor in (i) identifying impacted materials during remediation; (ii) determining materials suitable for direct load out versus temporary on-Site stockpiling; (iii) selecting samples for waste characterization, if necessary; and (iv) determining the proper off-Site disposal facility. Separate stockpile areas will be constructed as needed for the various materials to be excavated or generated to avoid commingling impacted with non-impacted soil.

5.4.1 Soil Screening Methods

Visual, olfactory, and instrumental soil screening and assessment will be performed during remediation-related ground-intrusive activities into known or potentially contaminated material. Soil screening will be performed regardless of when the invasive work is done and will include excavation and invasive work performed during the remedy, such as excavations for foundations and utility work.

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5.4.2 Stockpile Methods

Stockpiles will be used as necessary to separate and stage excavated material pending loading or characterization sampling. Separate stockpile areas will be constructed to avoid commingling materials. Stockpile areas will meet the following minimum requirements:

- Excavated soil will be placed onto a minimum thickness of 6-mil low-permeability liner of sufficient strength and thickness to prevent puncture during use; separate stockpiles will be created where material types are different. The use of multiple layers of thinner liners is permissible.
- Efforts will be made to place and remove the soil to minimize the potential to jeopardize the integrity of the liner.
- Stockpiles will be covered at the designated times (see below) with minimum 6-mil plastic sheeting or tarps, which will be securely anchored to the ground. Stockpiles will be routinely inspected, and broken sheeting covers will be promptly replaced.
- Stockpiles will be covered upon reaching their capacity (approximately 1,000 cu yd) until ready for loading. Stockpiles that have not reached their capacity will be covered at the end of each workday.
- Each stockpile will be encircled with silt fences and hay bales, as needed, to contain and filter particulates from rainwater that has drained off the soils and to mitigate the potential for surface water run-off.
- Stockpiles will be inspected at a minimum of once daily and after every storm event.
- If hazardous material is encountered, stockpiling on the Site will be avoided to the extent possible, in favor of live-loading into trucks permitted to transport hazardous waste.
- Results of inspections will be recorded in a logbook, maintained at the Site and available for inspection by NYSDEC.
- Water will be available on-Site at a suitable supply and pressure for use in dust control.

5.4.3 Materials Excavation and Load Out

Field personnel, under the supervision of the RE, will monitor ground-intrusive work and the excavation and load-out of excavated material.

Loaded vehicles leaving the Site will be appropriately lined, securely covered, manifested, and placarded in accordance with the appropriate federal, state, and local requirements, including applicable transportation requirements (i.e., NYSDOT and WCDOT requirements). Trucks hauling contaminated fill material will not be lined unless free liquids are present or the material is grossly impacted. Hazardous wastes derived from the Site will be stored, transported, and disposed of in compliance with applicable local, state, and federal regulations.

An outbound-truck inspection and wash station will be operated on the Site. Trucks will be washed, as necessary, before leaving the Site, and Site ingress and egress points will be cleaned of dirt and other materials to prevent material generated during remediation and development from being tracked off the Site.

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The Applicants and their contractors are solely responsible for the safe performance of all invasive and other work performed under this QAPP and for the structural integrity of excavations and structures that may be affected by excavations (such as building foundations and bridge footings).

The presence of utilities and easements on the Site has been investigated by the RE. It has been determined that no risk or impediment to the planned work under the RAWP is posed by utilities or easements on the Site.

The Applicants and associated parties will ensure that Site development activities will not interfere with, or otherwise impair or compromise, remedial activities proposed in this RAWP. Development-related grading cuts and fills will not be performed without NYSDEC approval and will not interfere with, or otherwise impair or compromise, the performance of remediation required by this RAWP. Mechanical processing of contaminated fill and contaminated soil on the Site is prohibited unless otherwise approved by NYSDEC.

The excavation will be surveyed, and survey information will be shown on maps to be included with the FER.

5.4.4 Materials Transport Off-Site

Transport of materials will be performed by licensed haulers in accordance with appropriate local, state, and federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed, and trucks will be properly placarded. Trucks heading to disposal facilities will travel east on Irving Avenue or Westchester Avenue, south on North Pearl Street, west on Boston Post Road, and south on I-95 South (or other NYSDEC-approved routes). Truck routes are shown on Figure 12.

Loaded trucks will exit in the vicinity of the Site using approved truck routes. These routes are the most appropriate routes to and from the Site and take into account the following:

- Limiting transport through residential areas and past sensitive sites;
- Use of city-mapped truck routes;
- Prohibiting off-Site queueing of trucks entering the facility;
- Limiting total distance to major highways;
- Promoting safety in access to highways;
- Overall safety in transport; and
- Community input (where necessary).

Trucks will be prohibited from excessive stopping and idling in the neighborhood outside of the Site. Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid or hazardous metals-impacted material, truck liners will be used.

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5.4.5 Materials Disposal Off-Site

Disposal facilities have not been determined at the time of this report submittal; however, facility determination will be reported to the NYSDEC Case Manager prior to off-Site transport and disposal of excavated material. About 34,500 cu yd of impacted soil will be excavated and disposed of off-Site. Soil, fill, or solid waste excavated and removed from the Site will be treated as contaminated and regulated material and will be disposed of in accordance with local, state (including 6 NYCRR Part 360), and federal regulations.

Hazardous soil, if encountered, will be managed in accordance with applicable federal, state, and local regulations. As such, the handling, transport, and disposal of hazardous fill material are subject to USEPA and the OSHA HAZWOPER regulations. The presence of hazardous waste requires compliance with both federal and state regulations and the following requirements:

1. Hazardous waste disposal requires obtaining a USEPA RCRA generator ID number;
2. Hazardous waste must be transported to a facility permitted by RCRA to accept hazardous waste;
3. Hazardous waste must be segregated and cannot be comingled with other Site material; and
4. Hazardous waste must be transported and disposed of by properly permitted (Part 364) transporters and facilities.

Unregulated off-Site management of materials from this Site is prohibited without formal NYSDEC approval. Material that does not meet UUSCOs, such as non-hazardous contaminated fill material, contaminated soil, and hazardous lead-impacted material (if present), is prohibited from being taken to a New York State recycling facility (6 NYCRR Part 360-16 Registration Facility). Non-hazardous contaminated fill material, contaminated soil, and hazardous lead-impacted material (if present) transported off-Site will be handled, at a minimum, as a solid waste per 6 NYCRR Part 360.

The following documentation, to be included in the FER, will be obtained for each disposal location used in this project to fully demonstrate and document that the disposal of material derived from the Site conforms to applicable laws:

- A letter from the RE or one or more of the Applicants to the receiving facility describing the material to be disposed of and requesting formal written acceptance of the material. This letter will state that the material to be disposed of is contaminated material generated at an environmental remediation site located in New York State. The letter will provide the project identity and the name and phone number of the RE. The letter will include, as an attachment, a summary of chemical data for the material being transported (including waste characterization and RI data).
- A letter from each receiving facility stating that it is in receipt of the correspondence (above) and that acceptance of the material is approved.

5.4.6 Materials Reuse On-Site

Materials reuse is not anticipated at the Site. If on-Site material is proposed for reuse, material will be stockpiled and sampled at a frequency consistent with the recommendations of Table 5.4(e)10 in

DER-10 in order to confirm UUSCOs are achieved prior to placing backfill. It is noted that only soils meeting the requirements in this section may be reused. Soil proposed for reuse must be non-hazardous, must not be grossly contaminated, and must meet UUSCOs. Soil proposed for reuse will not contain organic matter, including wood, roots, stumps, etc., or other solid waste derived from clearing and grubbing. Soil removed during implementation of the remedy will not be reused in a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

5.4.7 Fluids Management

Liquids to be removed from the Site, including dewatering fluids, will be handled, transported, and disposed of in accordance with applicable local, state, and federal regulations. Liquids discharged into the Westchester County sewer system will be addressed through approval by WCDEF. Based on the depth to water, dewatering is anticipated to facilitate the excavation of material that exceeds the UUSCOs and the construction of foundation components. If necessary, a dewatering and treatment system will be designed by the remediation contractor's New York State-licensed Professional Engineer.

Dewatered fluids will not be recharged back to the land surface or subsurface. Dewatering fluids will be managed off the Site. Discharge of water generated during remedial construction to surface waters (i.e., a local pond, stream, and/or river) is prohibited without an SPDES permit.

5.4.8 Backfill from Off-Site Sources

Materials proposed for import onto the Site are anticipated for the Track 1 remedy. Documentation of the material will be provided to the NYSDEC for approval prior to its use on the Site. Imported soil for backfill must meet the requirements of 6 NYCRR Part 375-6.7(d) and NYSDEC DER-10 Section 5.4(e), Table 5.4(e)10. Material from industrial sites, spill sites, other environmental remediation sites, or other potentially contaminated sites will not be imported to the Site. Solid waste will not be imported onto the Site.

Backfill material will consist of clean fill (as described in the following paragraph) or other acceptable fill material, such as virgin stone from a quarry or RCA. If RCA is imported to the Site, it will be from a NYSDEC-registered facility in compliance with 6 NYCRR Part 360 registration and permitting requirements for the period of acquisition of RCA. RCA imported from compliant facilities will not require chemical testing unless required by the NYSDEC under the terms for operation of the facility. RCA imported to the Site must be derived from recognizable and uncontaminated concrete, with no more than 10 percent by weight passing through a No. 80 sieve. RCA is not acceptable for and will not be used as cover or drainage material.

Imported soil (i.e., clean fill) will meet the UUSCOs. Non-compliant soils will not be imported to the Site. Clean fill will be segregated at a source/facility that is free of environmental contaminants. Qualified environmental personnel will collect representative samples at a frequency consistent with NYSDEC CP-51. The samples will be analyzed for Part 375 VOCs, SVOCs, pesticides/herbicides, PCBs, cyanide, metals, including trivalent and hexavalent chromium, 1,4-dioxane, and PFAS by an NYSDOH ELAP-certified laboratory. Upon meeting these criteria, the certified-clean fill will be transported to the Site and segregated from impacted material, as necessary, on plastic sheeting until used as backfill. Trucks entering the Site with imported soils will be secured with tight-fitting covers.

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Soils that meet "exempt" fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by the NYSDEC. The contents of this RAWP and NYSDEC approval of this RAWP should not be considered an approval for this purpose.

5.4.9 Stormwater Pollution Prevention

A silt fence or hay bales will be installed around the perimeter of the remedial construction area, as required. Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook maintained at the Site and available for inspection by the NYSDEC. Necessary repairs to the silt fence and/or hay bales will be made immediately. Accumulated sediments will be removed as required to keep the barriers and hay bale checks functional. The manufacturer's recommendations will be followed for replacing the silt fence damaged due to weathering. Erosion and sediment control measures identified in the RAWP will be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they will be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to the sewer system.

5.4.10 Contingency Plan

As discussed above in Section 4.3.7, if USTs or other previously unidentified contaminant sources are encountered, sampling will be performed on the product, if encountered, and surrounding subsurface materials (e.g., soil, stone). Chemical analyses will include Part 375 VOCs, SVOCs, PCBs, pesticides, metals, and PFAS. Analyses will not be otherwise limited without NYSDEC approval. Identification of unknown or unexpected contaminated media identified by screening during ground-intrusive work will be promptly communicated by phone to the NYSDEC Case Manager. These findings will also be detailed in the monthly BCP progress report.

5.4.10.1 Extreme Storm Preparedness and Response Contingency Plan

Damage from flooding or storm surge can include (i) dislocation of soil and stockpiled materials, (ii) dislocation of Site structures, construction materials, and equipment; and (iii) dislocation of SOE structures. Damage from wind during an extreme storm event can create unsafe or unstable structures, damage safety structures, and cause downed power lines, creating dangerous Site conditions and loss of power. In the event of emergency conditions caused by an extreme storm event, the Applicants will undertake the following steps for Site preparedness prior to the event and response after the event.

Storm Preparedness

Preparations in advance of an extreme storm event will include the following: containerized hazardous materials and fuels will be removed from the property; loose materials will be secured to prevent dislocation and blowing by wind or water; heavy equipment such as excavators and generators will be removed from excavated areas, trenches and depressions on the property to high ground or removed from the property; an inventory of the property with photographs will be performed to establish conditions for the Site and equipment prior to the event; stockpile covers for soil and fill will be secured by adding weights such as sandbags for added security and worn or ripped stockpile covers will be replaced with competent covers; stockpiled hazardous wastes will be removed from the property;

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stormwater management systems will be inspected and fortified, including, as necessary: clean and reposition silt fences, hay bales; clean storm sewer filters and traps; and secure and protect pumps and hosing.

Storm Response

At the conclusion of an extreme storm event, as soon as it is safe to access the property, a complete inspection of the property will be performed. A Site inspection report will be submitted to NYSDEC at the completion of the Site inspection and after Site security is assessed. Site conditions will be compared to the inventory of Site conditions and materials performed prior to the storm event, and significant differences will be noted. Damage from storm conditions that result in acute public safety threats, such as downed power lines or imminent collapse of buildings, structures, or equipment, will be reported to public safety authorities via appropriate means, such as calling 911.

Petroleum spills will be reported to NYSDEC within two hours of identification, consistent with New York State regulations. Public safety structures, such as construction security fences, will be repaired promptly to eliminate public safety threats. Debris will be collected and removed.

Dewatering will be performed in compliance with existing laws and regulations and consistent with emergency notifications, if any, from proper authorities. Eroded areas of soil, including unsafe slopes, will be stabilized and fortified. Dislocated materials will be collected and appropriately managed. The SOE structure will be inspected and fortified as necessary. Impacted stockpiles will be contained, and damaged stockpile covers will be replaced. Stormwater control systems and structures will be inspected and maintained as necessary.

If soil or fill materials are discharged off-Site to adjacent properties, property owners and NYSDEC will be notified, and a corrective measure plan designed to remove and clean dislocated material will be submitted to NYSDEC and implemented following approval by NYSDEC and granting of Site access by the property owner. Impacted off-Site areas may require characterization based on Site conditions, at the discretion of NYSDEC.

If on-Site petroleum spills are identified, a qualified environmental professional will determine the nature and extent of the spill and report to NYSDEC's spill hotline at 800.457.7362 within statutorily defined timelines. If the source of the spill is ongoing and can be identified, it should be stopped if this can be done safely. Potential hazards will be addressed immediately, consistent with guidance issued by NYSDEC.

Storm Response Reporting

A Site inspection report will be submitted to NYSDEC at the completion of Site inspection. An inspection report will be used for this purpose. Site conditions will be compared to the inventory of Site conditions and materials performed prior to the storm event and significant differences will be noted. The Site inspection report will be sent to the NYSDEC Case Manager and will include the Site name, address, tax block and lot, as well as Site primary and alternate contact name and phone number.

Damage and soil release assessment will include: whether the project had stockpiles; whether stockpiles were damaged; photographs of damage and notice of plan for repair; report of whether soil from the

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Site was dislocated and whether any of the soil left the Site; estimates of the volume of soil that left the Site, nature of impact, and photographs; description of erosion damage; description of equipment damage; description of damage to the remedial program or the construction program, such as damage to the SOE; presence of on-Site or off-Site exposure pathways caused by the storm; presence of petroleum or other spills and status of spill reporting to NYSDEC; description of corrective actions; and a schedule for corrective actions.

This report should be completed and submitted to the NYSDEC Case Manager with photographs within 24 hours of the time of safe entry to the Site after the storm event.

5.4.11 Community Air Monitoring Plan

The CAMP will require real-time monitoring for particulates (i.e., dust) and VOCs at the upwind and downwind perimeters when ground-intrusive activities, including soil/waste excavation, soil handling, test pit excavation, and/or trenching, are in progress at the Site during remedial construction activities. The CAMP aims to provide protection for residents in the designated work area and residents of the downwind community from potential airborne releases that directly result from the remedial construction activities conducted at the Site. Adherence to the monitoring action levels specified in the CAMP requires monitoring and, when necessary, corrective actions to abate emissions and/or shutdown work. The CAMP also helps to confirm that work activities do not spread contamination off the Site through the air. In addition, visual and olfactory observations will be made to keep dust and odors at a minimum around the work areas. VOCs and particulates will be monitored using Aeroqual® AQS1 Air Quality Monitors or other equivalent equipment. Readings will be recorded every 15 minutes at the Site by field personnel.

The following actions will be taken based on monitoring of particulate concentrations:

- If the downwind inhalable particles with diameters generally less than 10 micrometers and smaller (PM-10) particulate level is 100 µg/m^3 greater than background (upwind perimeter) for the 15-minute period, or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 µg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 µg/m^3 above the upwind level, work will be stopped, and a re-evaluation of activities initiated. Work will resume if dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 µg/m^3 of the upwind level and in preventing visible dust migration.

The following actions will be taken based on VOC monitoring:

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be

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

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shut down.

5.4.12 Odor, Dust, and Nuisance Control Plan

Dust, odor, and nuisance controls will be accomplished by the remediation contractor as described in this section. The FER will include the following certification by the RE: "I certify that all invasive work during the remediation and all invasive development work were conducted in accordance with dust and odor suppression methodology defined in the RAWP."

Odor Control

This odor control plan is capable of controlling emissions of nuisance odors off-Site. Specific odor control methods to be used, if needed, will include the application of foam suppressants or tarps over the odor or VOC source areas. If nuisance odors are identified, work will be halted, and the source of the odors will be identified and corrected. Work will not resume until nuisance odors have been abated. The NYSDEC and NYSDOH will be notified of odor events and other complaints about the project. Implementation of odor controls is the responsibility of the contractor. Monitoring odor emission, including the halt of work, will be the responsibility of the RE or his/her designated representative.

Necessary means will be employed to prevent on- and off-Site nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) using suppressants or foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (a) direct load-out of soils to trucks for off-Site disposal; (b) use of chemical odorants in spray or misting systems; and (c) use of staff to monitor odors in surrounding neighborhoods. Odor control suppressant will be available on-Site during ground-intrusive work, as necessary, such as Blanket 510 Wintergreen™ or industry equivalent. The SDS for this is included in Appendix K.

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems.

Dust Control

A dust suppression plan that addresses dust management during demolition and ground-intrusive on-Site work will include, at a minimum: (a) use of a dedicated water distribution system, an on-Site water truck for road wetting, or an alternate source with suitable supply and pressure for use in dust control; (b) gravel used for on-Site roads to provide a clean and dust-free road surface; and (c) on-Site roads will be limited in total area to minimize the area required for water spraying.

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Other Nuisances

A plan for rodent control will be developed and used by the remediation contractor during Site preparation (including clearing and grubbing) and remedial work. A plan for noise control will be developed and used by the remediation contractor during Site preparation and remedial work and will conform, at a minimum, to the Village of Port Chester's noise control standards.

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6. Residual Contamination to Remain on the Site

Residual contaminated soil will not exist beneath the development footprint after the Track 1 remedy is complete; therefore, ECs and ICs will not be required to protect human health and the environment.

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7. Engineering Controls

ECs are not required in a Track 1 remedy. If neither Track 1 SCOs nor Track 2 SCOs are able to be met and a Track 4 remedy is achieved, a composite cover system will act as an EC.

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8. Institutional Controls

Following completion of the Track 1 UUSCO remedy, ICs will not be required as part of the remedial action. In the event that a Track 2 Cleanup (Restricted-Residential) is required (if a Track 1 cleanup cannot be achieved), implementation of ICs may be required, such as:

- Establishment of use restrictions, if necessary, including prohibitions on the use of groundwater from the Site and prohibitions on sensitive Site uses, such as farming or vegetable gardening in residual Site soil, to significantly reduce the potential for future exposure pathways;
- Establish an SMP for ICs and ECs that includes an Institutional and Engineering Control Plan, a Monitoring Plan, and an Operations and Maintenance Plan; and
- Recording of an EE to ensure future owners of the Site continue to maintain ECs/ICs as required.

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9. Final Engineering Report

An FER will be submitted to NYSDEC following the implementation of the remedy defined in this RAWP. The FER will be prepared in conformance with NYSDEC DER-10 and will include the following:

- Documentation that the remedial work required under this RAWP has been completed and has been performed in substantial conformance with this plan.
- A summary of the locations and characteristics of material removed from the Site, including the surveyed map(s) of each area, as necessary.
- As-built drawings for constructed elements, certifications, manifests, and bills of lading.
- A description of the changes to the remedy from the elements provided in the RAWP and associated design documents, if any.
- A tabular summary of performance evaluation sampling results, material characterization results, and other sampling and chemical analyses performed as part of the remedy.
- Written and photographic documentation of remedial work performed under this remedy.
- A summary of confirmation sampling results to show that the remaining soil left on the Site meets the Track 1 UUSCOs.
- Documentation of treatment and/or disposal of material removed from the Site, including excavated contaminated soil, historical fill, solid waste, hazardous waste, non-regulated material, and fluids. Documentation associated with the disposal of material must also include records and approvals for receipt of the material.
- Documentation of the origin and chemical quality of each material type imported onto the Site.
- Documentation for closure of Spill Case No. 2506900.
- Discussion of the green remediation practices/technologies employed throughout the remedial program. A final footprint analysis using a DER-accepted model and any tracking methods used through the construction, including restoration activities.

Before approval of the FER and issuance of a Certificate of Completion, the daily or weekly reports and monthly BCP progress reports must be submitted in digital format (i.e., PDF).

9.1 CERTIFICATIONS

The following certification will appear in front of the Executive Summary of the FER. The certification will be signed by the RE, Suzanne M. Bell, who is a Professional Engineer registered in New York State. This certification will be appropriately signed and stamped. The certification will include the following statements:

I, _____, am currently a registered professional engineer licensed by the State of New York. I had primary direct responsibility for implementation of the remedial program for the Proposed 227 Westchester Avenue Development Site (NYSDEC BCA Index No. C360253-09-24 Site No. C360253).

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I certify that the Site description presented in this FER is identical to the Site descriptions presented in the Environmental Easement, the Site Management Plan, and the Brownfield Cleanup Agreement for the Proposed 227 Westchester Avenue Development Site and related amendments.

I certify that the Remedial Action Work Plan dated [month day year] and Stipulations [if any] in a letter dated [month day year] and approved by the NYSDEC were implemented and that all requirements in those documents have been substantively complied with.

I certify that the remedial activities were observed by qualified environmental professionals under my supervision and that the remediation requirements set forth in the Remedial Action Work Plan and any other relevant provisions of ECL 27-1419 have been achieved.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and all operation and maintenance requirements applicable to the Site are contained in an Environmental Easement created and recorded pursuant to ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded. A Site Management Plan has been submitted by the [Applicant / Volunteer / Participant] for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by the NYSDEC.

I certify that the export of all contaminated soil, fill, water, or other material from the property was performed in accordance with the Remedial Action Work Plan, and was taken to facilities licensed to accept this material in full compliance with all Federal, State, and local laws.

I certify that all imports of soil from off-Site, including source approval and sampling, have been performed in a manner that is consistent with the methodology defined in the Remedial Action Work Plan.

I certify that all invasive work during the remediation and all invasive development work were conducted in accordance with dust and odor suppression methodology and soil screening methodology defined in the Remedial Action Work Plan.

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State-licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

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10. Schedule

Mobilization for implementation of the RAWP is expected to take about one to two weeks. Once mobilization is complete, remediation of the Site will proceed. The remedy, which will be implemented in accordance with this RAWP, is anticipated to take about 10 months to complete. After completion of the remedy, an FER will be drafted and subsequently submitted to the NYSDEC for review and approval. A proposed project schedule is included in Appendix J.

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References

1. BJF Planning in Association with Urbanomics, 2012. Village of Port Chester Comprehensive Plan. December 17.

2. GO Environmental, 2013. Phase I Environmental Site Assessment, 223-225 Westchester Avenue, Port Chester, New York. September 16.

3. GO Environmental, 2013. Subsurface Investigation Report, 223-225 Westchester Avenue, Port Chester, New York. October 28.

4. Haley & Aldrich of New York, 2024. Brownfield Cleanup Program Application. Proposed 227 Westchester Avenue Development. June.

5. Haley & Aldrich of New York, 2024. Limited Phase II Environmental Site Investigation Report, Proposed 227 Westchester Avenue Development, 223-225, 227 Westchester Avenue & 204, 206-208, 214-220 Irving Avenue. February 12.

6. Haley & Aldrich of New York, 2025. Remedial Investigation Work Plan, Proposed 227 Westchester Avenue Development. August 8.

7. New York State Department of Environmental Conservation, 2006. Part 375 of Title 6 of the New York Compilation of Codes, Rules, and Regulations. Effective December 14.

8. New York State Department of Environmental Conservation, 2010. Program Policy DER-10, “Technical Guidance for Site Investigation and Remediation.” May.

9. New York State Department of Environmental Conservation, 2011. Program Policy DER-31, “Green Remediation.” January 20.

10. New York State Department of Environmental Conservation, 2023. Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS). Revised April

11. New York State Department of Health, 2006. Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. October (February 2024 matrices).

12. New York State Division of Water, 1998. Technical and Operational Guidance Series (TOGS) (1.1.1). June.

13. Property Solutions Inc., 2021. Draft Phase I Environmental Assessment of Mixed Use Property 227 Westchester Avenue. November 5.

14. Property Solutions Inc., 2022. Draft Phase I Environmental Assessment of 206-208 and 214-220 Irving Avenue. September 16.

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15. United States Environmental Protection Agency, 2017. Low Flow Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, EQASOP-GW 001. September 19.

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TABLES

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TABLE 1
ALTERNATIVE I REMEDIAL COST ESTIMATE
PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
PORT CHESTER, NEW YORK
NYSDEC BCP SITE C360253

Consulting/Engineering Costs					
Task	**Description**	**Unit**	**Unit Cost**	**Quantity**	**Total Cost**
1	Waste Characterization	Lump Sum	$ 80,000	1	$ 80,000
2	Program Management (NYSDEC/NYSDOH Correspondence, Daily/Weekly/Monthly Reporting, etc.)	Month	$ 5,000	10	$ 50,000
3	Remedial Oversight	Month	$ 34,000	10	$ 340,000
4	Confirmation Sampling (plus QA/QC)	Sample	$ 1,500	50	$ 75,000
5	Permitting (township, dewatering, etc.)	Lump Sum	$ 25,000	1	$ 25,000
6	Final Engineering Report and COC Coordination	Lump Sum	$ 75,000	1	$ 75,000
				Consulting/Engineering Subtotal	$ 645,000
Contractor Costs					
Task	**Description**	**Unit**	**Unit Cost**	**Quantity**	**Total Cost**
1	Mobilization/Demobilization, Site Maintenance, Security, etc.	Allowance	$ 300,000	1	$ 300,000
2	Truck Wash Station	Month	$ 25,000	6	$ 150,000
3	Management/Handling Contaminated Material	Cubic Yard	$ 40	34,500	$ 1,380,000
4	Support of Excavation	Linear Foot	$ 4,000	962.5	$ 3,850,000
5	Transport and Disposal of Urban Fill	Ton	$ 55	33,000	$ 1,815,000
6	Transport and Disposal of Non-Contaminated Fill	Ton	$ 42	17,250	$ 724,500
7	Transport and Disposal of Non-Hazardous Petroleum Impacted Fill Material	Ton	$ 55	750	$ 41,250
8	Transport and Disposal of Hazardous Material (F Listed and/or Lead)	Ton	$ 275	750	$ 206,250
9	Backfill Procurement, Placement and Compaction	Cubic Yard	$ 28	1,450	$ 39,875
10	Dewatering System	Lump Sum	$ 200,000	1	$ 200,000
11	AST Removal and Sampling	Lump Sum	$ 50,000	1	$ 50,000
12	Underground Storage Tank (Contingency Budget)	Allowance	$ 75,000	1	$ 75,000
				Contractor Subtotal	$ 8,831,875
				Total	$ 9,476,875
				15% Contingency	$ 1,421,531
				Estimated Total (Rounded to the nearest $1,000)	$ 10,898,000

Notes:

1. Assuming a Track 1 Remedy.

2. Assumes density of 1.5 tons per cubic yard of fill/soil.

3. Assumes residual soil will meet Track 1 Unrestricted Use Soil Cleanup Objectives

4. SOE Costs are based on a conventional soldier pile and timber lagging system with lateral bracing provided by either steel rakers or tiebacks; costs calculated by average cost per linear ft.

5. Costs are estimated and subject to change. Costs do not include new building construction.

6. RAWP implementation is assumed to take 6 months.

7. This cost estimate was prepared to compare various remedial alternatives as was based on available information at the time of preparation. The estimate may be +/- 30-50% of the actual cost. This estimate was not prepared for financial or legal consulting purposes and was not intended for use regarding compliance with financial reporting requirements or liability services.

8. This estimate does not include legal fees associated with attorneys involved in the project, insurance fees or outside consulting fees.

TABLE 2
ALTERNATIVE II REMEDIAL COST ESTIMATE
PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
PORT CHESTER, NEW YORK
NYSDEC BCP SITE C360253

Consulting/Engineering Costs					
Task	**Description**	**Unit**	**Unit Cost**	**Quantity**	**Total Cost**
1	Waste Characterization	Lump Sum	$ 80,000	1	$ 80,000
2	Program Management (NYSDEC/NYSDOH Correspondence, Daily/Weekly/Monthly Reporting, etc.)	Month	$ 5,000	10	$ 50,000
3	Remedial Oversight	Month	$ 34,000	5	$ 170,000
4	Endpoint Sampling	Sample	$ 1,500	44	$ 66,000
5	Permitting (township, dewatering, etc.)	Lump Sum	$ 25,000	1	$ 25,000
6	Final Engineering Report and COC Coordination	Lump Sum	$ 75,000	1	$ 75,000
7	Site Management Plan	Allowance	$ 80,000	1	$ 80,000
8	Annual Site Management (engineering control monitoring, reporting)	Year (Allowance)	$ 50,000	10	$ 500,000
				Consulting/Engineering Subtotal	$ 1,046,000
Contractor Costs					
Task	**Description**	**Unit**	**Unit Cost**	**Quantity**	**Total Cost**
1	Mobilization/Demobilization, Site Maintenance, Security, etc.	Allowance	$ 300,000	1	$ 300,000
2	Truck Wash Station	Month	$ 25,000	5	$ 125,000
3	Management/Handling Contaminated Material	Cubic Yard	$ 40	1,500	$ 60,000
4	Support of Excavation (multiplied by 5% for remedial excavation to 1 ft over 25 ft development excavation)	Linear Foot	$ 4,000	48.12	$ 192,480
5	Transport and Disposal of Urban Fill	Ton	$ 55	500	$ 27,500
6	Transport and Disposal of Non-Contaminated Fill	Ton	$ 42	0	$ -
6	Transport and Disposal of Non-Hazardous Petroleum Impacted Fill Material	Ton	$ 55	500	$ 27,500
7	Transport and Disposal of Hazardous Material (F Listed and/or Lead)	Ton	$ 275	500	$ 137,500
8	Backfill Procurement, Placement and Compaction	Cubic Yard	$ 28	1,450	$ 39,875
9	Dewatering System	Lump Sum	$ 100,000	0	$ -
11	AST Removal and Sampling	Lump Sum	$ 50,000	1	$ 50,000
10	Underground Storage Tank (Contingency Budget)	Allowance	$ 75,000	1	$ 75,000
				Contractor Subtotal	$ 1,034,855
				Total	$ 2,080,855
				15% Contingency	$ 312,128
				Estimated Total	$ 2,393,000

Notes:

1. Assuming a Track 2 Remedy with site management to remove soil exceeding RRSCOs.

2. Assumes density of 1.5 tons per cubic yard of fill/soil

3. Assumes residual soil will meet Track 2 Restricted Residential Use Soil Cleanup Objectives

4. SOE Costs are based on a conventional soldier pile and timber lagging system with lateral bracing provided by either steel rakers or tiebacks.

5. Costs are estimated and subject to change. Costs do not include new building construction.

6. RAWP implementation is assumed to take 5 months.

7. This cost estimate was prepared to compare various remedial alternatives as was based on available information at the time of preparation. The estimate may be +/- 30-50% of the actual cost. This estimate was not prepared for financial or legal consulting purposes and was not intended for use regarding compliance with financial reporting requirements or liability services.

8. This estimate does not include legal fees associated with attorneys involved in the project, insurance fees or outside consulting fees.

TABLE 3
TRACK 1 SOIL CLEANUP OBJECTIVES
PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
PORT CHESTER, NEW YORK
NYSDEC BCP SITE C360253

Pesticides/PCBs (mg/kg)	
4,4'-DDD	0.0033
4,4'-DDE	0.0033
4,4'-DDT	0.0033
Aldrin	0.0048
Alpha-BHC	0.02
alpha-Chlordane	0.014
Beta-BHC	0.021
Delta-BHC	0.04
Dieldrin	0.005
Endosulfan I	4.3
Endosulfan II	4.3
Endosulfan sulfate	4.3
Endrin	0.014
gamma-BHC (Lindane)	0.025
Heptachlor	0.013
Polychlorinated Biphenyls (PCBs)	0.1

Volatile Organic Compounds (mg/kg)	
1,1,1-Trichloroethane	0.68
1,1-Dichloroethane	0.27
1,1-Dichloroethene	0.24
1,2,4-Trimethylbenzene	5.9
1,2-Dichlorobenzene	1.1
1,2-Dichloroethane	0.02
1,3,5-Trimethylbenzene	3.1
1,3-Dichlorobenzene	2.6
1,4-Dichlorobenzene	1.8
2-Butanone (Methyl Ethyl Ketone)	0.1
2-Phenylbutane (sec-Butylbenzene)	25
Acetone	0.03
Benzene	0.06
Carbon tetrachloride	0.76
Chlorobenzene	4.5
Chloroform (Trichloromethane)	0.37
cis-1,2-Dichloroethene	0.19
Ethylbenzene	1
Hexachlorobenzene	0.33
Methyl tert butyl ether (MTBE)	0.1
Methylene chloride (Dichloromethane)	0.05
n-Butylbenzene	18
n-Propylbenzene	5
tert-Butylbenzene	11
Tetrachloroethene	1.3
Toluene	0.7
trans-1,2-Dichloroethene	0.19
Trichloroethene	0.47
Vinyl chloride	0.03
Xylenes, Total	0.26

Semivolatile Organic Compounds (mg/kg)	
1,4-Dioxane	0.1
o-Cresol	0.33
Acenaphthene	20
Acenaphthylene	100
Anthracene	100
Benzo(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1
Benzo(ghi)perylene	0.64
Benzo(k)fluoranthene	0.8
Chrysene	1
Dibenzo(a,h)anthracene	0.33
Dibenzofuran	2.1
Fluoranthene	85
Fluorene	30
Indeno(1,2,3-cd)pyrene	0.5
Naphthalene	12
p-Cresol	0.33
Pentachlorophenol	0.8
Phenanthrene	1.1
Phenol	0.33
Pyrene	64

Metals (mg/kg)	
Arsenic, Total	13
Barium, Total	410
Beryllium, Total	4.4
Cadmium, Total	2.5
Chromium, hexavalent	1
Chromium, trivalent	30
Copper, Total	50
Lead, Total	63
Manganese, Total	1600
Mercury, Total	0.18
Nickel, Total	30
Selenium, Total	3.9
Silver, Total	2
Zinc, Total	109

Per- and Polyfluoroalkyl Substances (PFAS) (µg/kg)	
Perfluorooctanoic acid (PFOA)	0.66
Perfluorooctanesulfonic acid (PFOS)	0.88

Notes:

1. Criteria are 6 NYCRR Part 375-6.8 Unrestricted Use Soil Cleanup Objectives

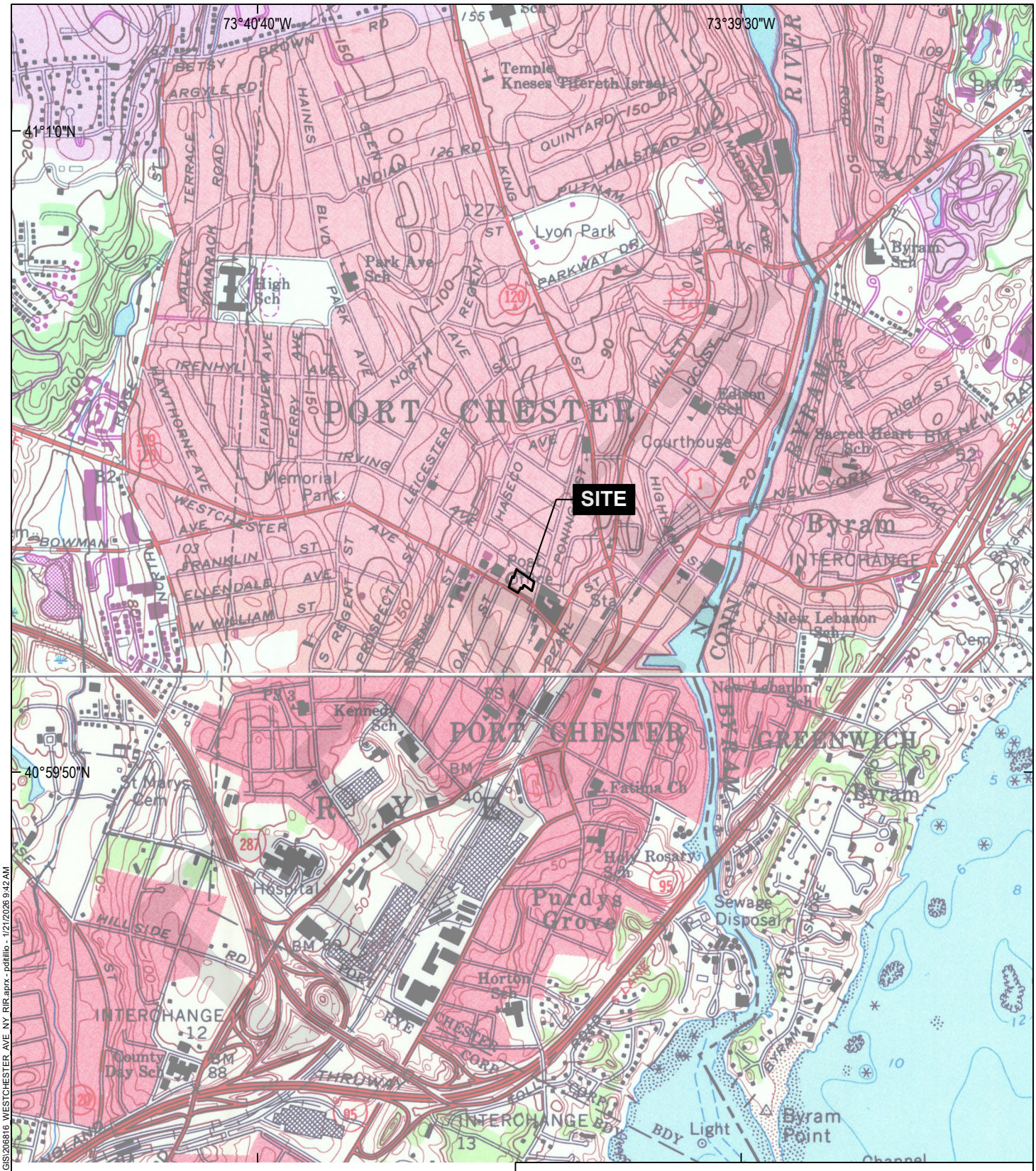
2. Sampling, Analysis, and Assessment of PFAS Guidance, April 2023

3. mg/kg: milligram per kilogram

4. µg/kg: microgram per kilogram

FIGURES

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MAP SOURCE: ESRI
SITE COORDINATES: 41°0'13"N, 73°40'04"W

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PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
223-225, 227 WESTCHESTER AVENUE &
204, 206-208, 214-220 IRVING AVENUE
PORT CHESTER, NEW YORK

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
JANUARY 2026

FIGURE 1

GIS: \\haleyaldrich.com\share\CF\Projects\0206816\GIS\206816_WESTCHESTER_AVE_NY_RIR.aprx - pdtillio - 1/21/2026 9:42 AM



LEGEND

SITE BOUNDARY

PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: WESTCHESTER COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

N

0 40 80

SCALE IN FEET

HALEY ALDRICH

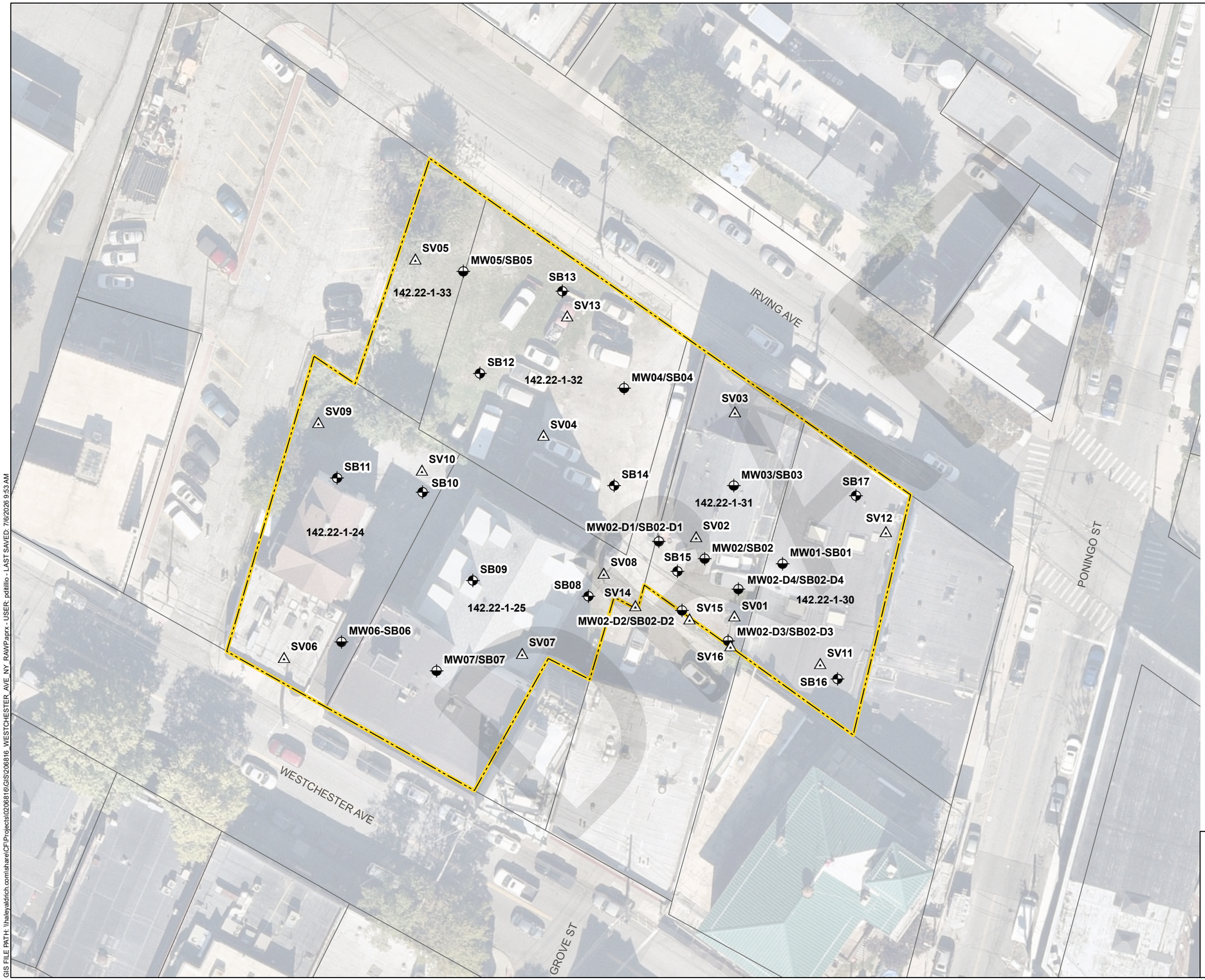
PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
223 - 225, 227 WESTCHESTER AVENUE &
204, 206 - 208, 214 - 220 IRVING AVENUE
PORT CHESTER, NEW YORK

SITE PLAN

JANUARY 2026

FIGURE 2

GIS FILE PATH: \\haleyaldrich.com\share\CFLProjects\0206816\GIS\206816_WESTCHESTER_AVE_NY_RIR.aprx - USER: pdilillio - LAST SAVED: 1/21/2026 11:09 AM



LEGEND

- SOIL BORING
- SOIL BORING/MONITORING WELL
- SOIL VAPOR SAMPLE
- SITE BOUNDARY
- PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAMPLES MW02-D1/SB02-D1,MW02-D2/SB02-D2,MW02-D3/SB02-D3, MW02-D4/SB02-D4, SV14, SV15, AND SV16 WERE COLLECTED AS PART OF THE 2026 SUPPLEMENTAL REMEDIAL INVESTIGAITON.
3. ASSESSOR PARCEL DATA SOURCE: WESTCHESTER COUNTY
4. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

N

0 40 80
SCALE IN FEET

HALEY ALDRICH

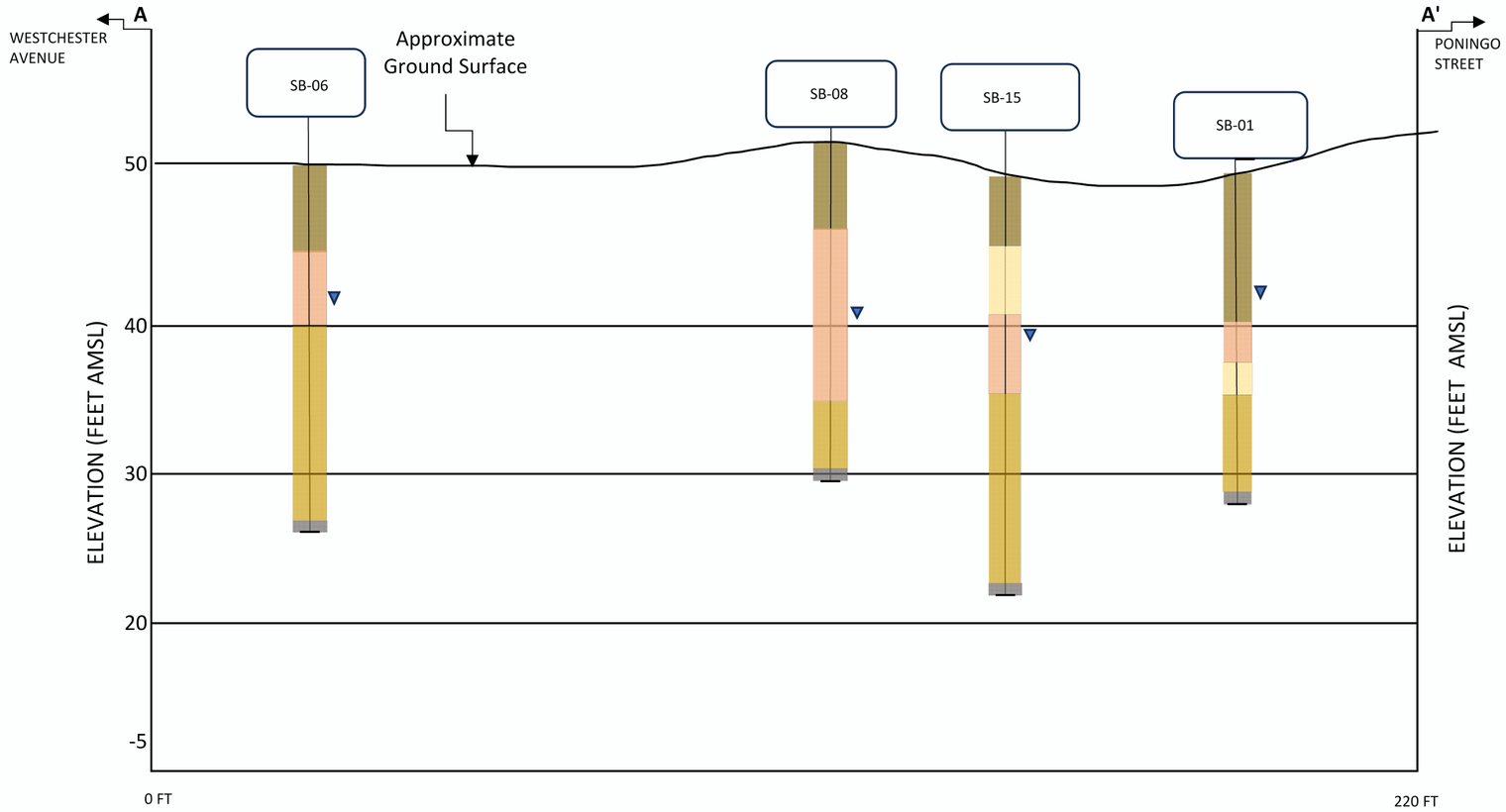
PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
223 - 225, 227 WESTCHESTER AVENUE &
204, 206 - 208, 214 - 220 IRVING AVENUE
PORT CHESTER, NEW YORK

SAMPLE LOCATION MAP

JULY 2026

FIGURE 3

GIS FILE PATH: \\haleyaldrich.com\share\CP\Projects\0206816\GIS\206816_WESTCHESTER_AVE_NY_RAWP.aprx - USER: pdilillio - LAST SAVED: 7/6/2026 9:53 AM



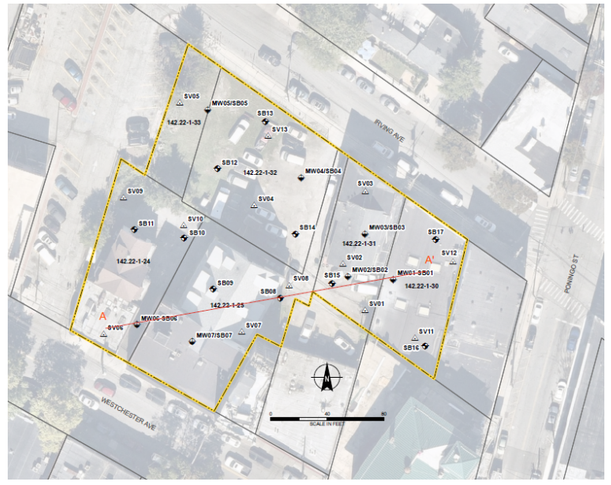
LEGEND:

SB-06	Exploration Designation
= groundwater	Groundwater Encountered
⊥	Bottom of Exploration

GEOLOGY KEY

FILL
FINE TO COARSE SAND
SILTY SAND
CLAY
WEATHERED BEDROCK

KEY PLAN
(NOT TO SCALE)



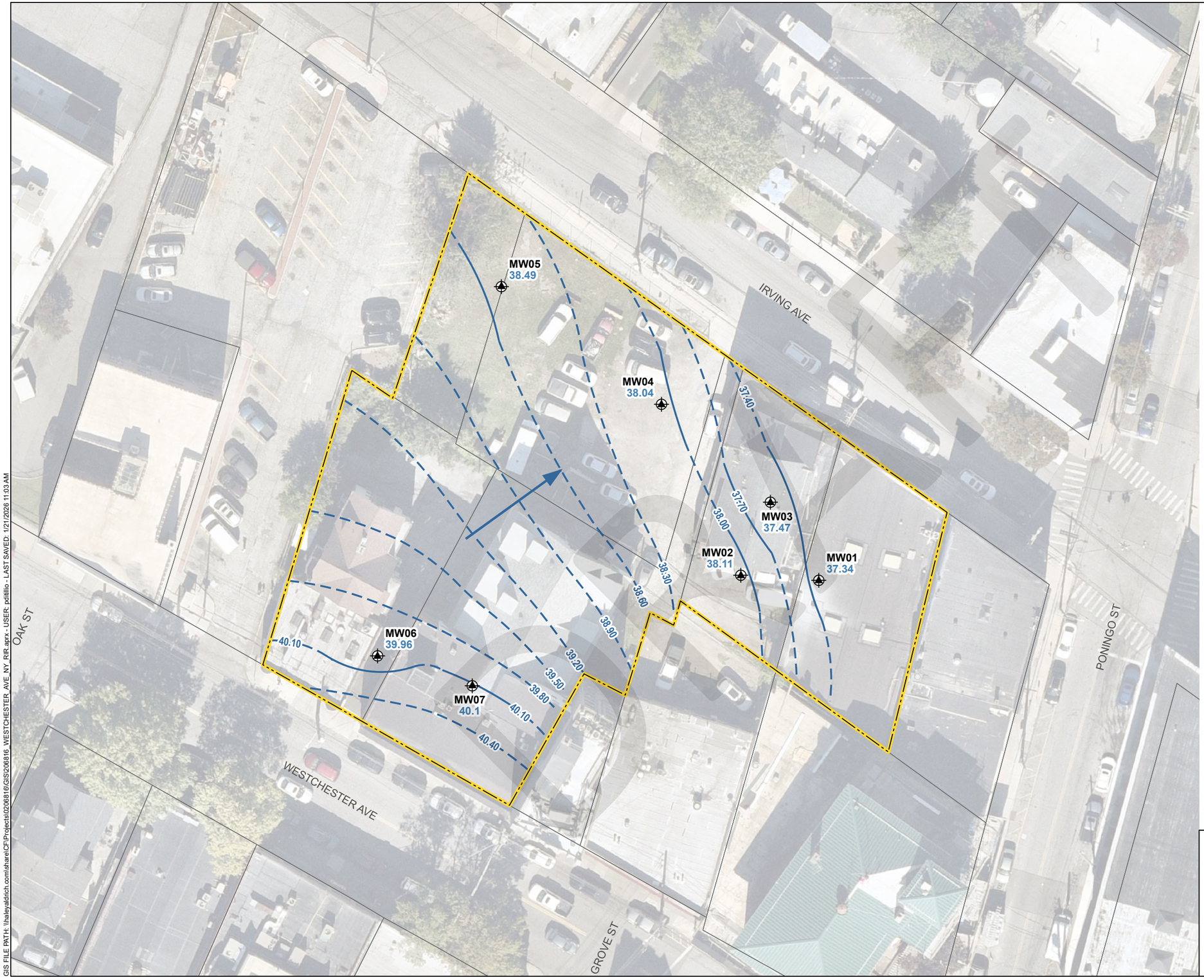
HALEY ALDRICH

PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
223 - 225, 227 WESTCHESTER AVENUE &
204, 206 - 208, 214 - 220 IRVING AVENUE
PORT CHESTER, NEW YORK

GEOLOGIC CROSS SECTION A-A'

JANUARY 2026

FIGURE 4



LEGEND

- MONITORING WELL
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER ELEVATION CONTOUR, IN FEET. DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION
- SITE BOUNDARY
- PARCEL BOUNDARY
- 37.34 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. GROUNDWATER ELEVATION AT MW-02 WAS CALCULATED USING DEPTH FROM THE TOP OF CASING TO THE TOP OF PRODUCT.
3. ASSESSOR PARCEL DATA SOURCE: WESTCHESTER COUNTY
4. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

N

0 40 80
SCALE IN FEET

HALEY ALDRICH

PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
223 - 225, 227 WESTCHESTER AVENUE &
204, 206 - 208, 214 - 220 IRVING AVENUE
PORT CHESTER, NEW YORK

GROUNDWATER CONTOUR MAP

JANUARY 2026

FIGURE 5

GIS FILE PATH: \\haleyaldrich.com\share\CP\Projects\0206816\GIS\206816_WESTCHESTER_AVE_NY_RIR.aprx - USER: pdilillio - LAST SAVED: 1/21/2026 11:03 AM

SB-12	10/21/2025 SB-12_0-0.16 0 - 0.16 (ft)	10/21/2025 SB-12_0.16-0.5 0.16 - 0.5 (ft)	10/21/2025 SB-12_4-6 4 - 6 (ft)	10/21/2025 SB-12_9-11 9 - 11 (ft)	10/21/2025 SB-12_20-22 20 - 22 (ft)
PFAS (mg/kg)					
Perfluorooctanesulfonic acid (PFOS)	*0.00194*	-	0.000322 J+	-	ND (0.000196) J
Total Metals (mg/kg)					
Copper	53.9	-	27.4	-	12.6
Lead	***692 J-***	-	61.4 J-	-	3.16 J-
Mercury	0.265	-	0.189	-	ND (0.078)
Nickel	23.7	-	33.8	-	10.8
Zinc	189 J-	-	69.8 J-	-	13.8 J-
Volatile Organic Compounds (mg/kg)					
Acetone	-	ND (0.017)	ND (0.014)	*0.31*	ND (0.01)

SB-13	10/21/2025 SB-13_0-0.16 0 - 0.16 (ft)	10/21/2025 SB-13_0.16-0.5 0.16 - 0.5 (ft)	10/21/2025 SB-13_4-6 4 - 6 (ft)	10/21/2025 SB-13_9-11 9 - 11 (ft)	10/21/2025 SB-13_23-25 23 - 25 (ft)
Pesticides (mg/kg)					
4,4'-DDT	0.00169 J-	-	0.0341 J-	0.00218 R	0.00176 R
PFAS (mg/kg)					
Perfluorooctanesulfonic acid (PFOS)	0.000836 J+	-	*0.00103 J*	0.000616 J+	ND (0.000199)
Total Metals (mg/kg)					
Lead	165 J-	-	94.5 J-	238 J-	2.26 J-
Zinc	188 J-	-	42.6 J-	95.6 J-	12.9 J-
Volatile Organic Compounds (mg/kg)					
Acetone	-	ND (0.011)	ND (0.012)	*0.14*	ND (0.0096)

SB-04	10/20/2025 SB-04_0-0.5 0 - 0.5 (ft)	10/20/2025 SB-04_4-6 4 - 6 (ft)	10/20/2025 SB-04_9-11 9 - 11 (ft)	10/20/2025 SB-04_18-20 18 - 20 (ft)
Pesticides (mg/kg)				
4,4'-DDE	0.00687 J-	0.000734 J-	0.0194 R	0.00174 R
Dieldrin	0.0165 J-	0.00262 J-	0.0121 R	0.00109 R
PFAS (mg/kg)				
Perfluorooctanesulfonic acid (PFOS)	0.000974	0.000388 J+	ND (0.000202)	ND (0.0002)
Total Metals (mg/kg)				
Arsenic	5.08	14.2	3.84	0.644 J
Cadmium	ND (0.863)	4.19	ND (2)	ND (0.892)
Lead	117	213	4.48 J	3.03 J
Zinc	79.2	182	11	17.6

SB-05	10/21/2025 SB-05_0-0.16 0 - 0.16 (ft)	10/21/2025 SB-05_9-11 9 - 11 (ft)	10/21/2025 SB-05_19-21 19 - 21 (ft)
PFAS (mg/kg)			
Perfluorooctanesulfonic acid (PFOS)	0.000918	ND (0.000196)	ND (0.0002)

SB-09	10/22/2025 SB-09_0-0.5 0 - 0.5 (ft)	10/22/2025 DUP-03_20251022 4 - 6 (ft)	10/22/2025 SB-09_4-6 4 - 6 (ft)	10/22/2025 SB-09_14-16 14 - 16 (ft)
Pesticides (mg/kg)				
4,4'-DDT	0.00178 R	0.0018 R	0.00189 R	0.00383 J-
Total Metals (mg/kg)				
Lead	*451*	10.8	10.6	66.4

SB-14	10/20/2025 SB-14_0-0.5 0 - 0.5 (ft)	10/20/2025 SB-14_7-9 7 - 9 (ft)	10/20/2025 SB-14_9-11 9 - 11 (ft)	10/20/2025 SB-14_23-25 23 - 25 (ft)
Pesticides (mg/kg)				
4,4'-DDT	0.00612 J-	0.0019 R	0.00286 R	0.00179 R
Total Metals (mg/kg)				
Copper	332	3.85	21.5	15
Lead	149	2.47 J	14.3	3.38 J
Mercury	0.229	ND (0.077)	ND (0.144)	ND (0.083)
Nickel	22.1	7.96	32.3	29.1
Volatile Organic Compounds (mg/kg)				
Acetone	ND (0.013)	ND (0.0097)	*0.05*	ND (0.0099)

SB-10	10/21/2025 SB-10_0-0.5 0 - 0.5 (ft)	10/21/2025 SB-10_6-8 6 - 8 (ft)	10/21/2025 SB-10_9-11 9 - 11 (ft)	10/21/2025 SB-10_13-15 13 - 15 (ft)
Total Metals (mg/kg)				
Lead	93.6	8.87	9.57	4.59
Nickel	53.6	18.8	16.6	16
Volatile Organic Compounds (mg/kg)				
Acetone	ND (0.012)	*0.075*	0.015	ND (0.01)

SB-03	10/24/2025 SB-03_0-0.5 0 - 0.5 (ft)	10/24/2025 SB-03_4-6 4 - 6 (ft)	10/24/2025 SB-03_7-9 7 - 9 (ft)	10/24/2025 SB-03_14-16 14 - 16 (ft)
Pesticides (mg/kg)				
Dieldrin	0.00128 R	0.00732 J-	0.00119 R	0.00354 J-
Volatile Organic Compounds (mg/kg)				
Acetone	*0.041*	0.027	ND (0.011)	ND (0.0097)

SB-11	10/21/2025 SB-11_0-0.5 0 - 0.5 (ft)	10/21/2025 SB-11_6-8 6 - 8 (ft)	10/21/2025 SB-11_9-11 9 - 11 (ft)	10/21/2025 DUP-02_20251021 18 - 20 (ft)	10/21/2025 SB-11_18-20 18 - 20 (ft)
PFAS (mg/kg)					
Perfluorooctanesulfonic acid (PFOS)	*0.00241*	ND (0.0002)	0.000365 J+	ND (0.000199)	ND (0.000202) J
Total Metals (mg/kg)					
Lead	***3040***	12.3	4.94 J	3.96 J	4.21 J
Mercury	***0.869***	ND (0.1)	ND (0.107)	ND (0.076)	ND (0.076)
Nickel	19.8	17.3	10.9	9.82 J	62.2 J
Zinc	120	40.8	14.2	12.5 J	29.9 J

SB-17	10/24/2025 SB-17_0-0.5 0 - 0.5 (ft)	10/24/2025 SB-17_4-6 4 - 6 (ft)	10/24/2025 SB-17_6-8 6 - 8 (ft)	10/24/2025 SB-17_18-20 18 - 20 (ft)
Total Metals (mg/kg)				
Lead	68.3 J-	56 J-	7.3 J-	2.18 J-
Mercury	0.595	0.292	ND (0.096)	ND (0.071)
Nickel	49.5	12.5	17.8	10
Zinc	178 J+	75.3 J+	44.4 J+	13.4 J+
Volatile Organic Compounds (mg/kg)				
Acetone	ND (0.01)	ND (0.016)	*0.12 J*	ND (0.01)

SB-06	10/28/2025 SB-06_0-0.5 0 - 0.5 (ft)	10/28/2025 SB-06_4-6 4 - 6 (ft)	10/28/2025 SB-06_6-8 6 - 8 (ft)	10/28/2025 SB-06_22-24 22 - 24 (ft)
PFAS (mg/kg)				
Perfluorooctanesulfonic acid (PFOS)	*0.00154*	0.0005 J+	0.000974	ND (0.000198)
Total Metals (mg/kg)				
Arsenic	65.9	4.55	1.81	0.792 J
Copper	44.8	51.9	8.62	8.68
Lead	108	19	5.8	2.17 J

SB-01	10/23/2025 SB-01_0-0.5 0 - 0.5 (ft)	10/23/2025 SB-01_5-7 5 - 7 (ft)	10/23/2025 SB-01_18-20 18 - 20 (ft)
Total Metals (mg/kg)			
Mercury	0.587	ND (0.104)	ND (0.08)
Volatile Organic Compounds (mg/kg)			
Acetone	0.017 J	*0.044 J*	*0.085 J*

SB-07	10/22/2025 SB-07_0-0.5 0 - 0.5 (ft)	10/22/2025 SB-07_3-5 3 - 5 (ft)	10/22/2025 SB-07_14-16 14 - 16 (ft)
Pesticides (mg/kg)			
4,4'-DDT	0.00726 J-	0.00202 R	0.00169 J-

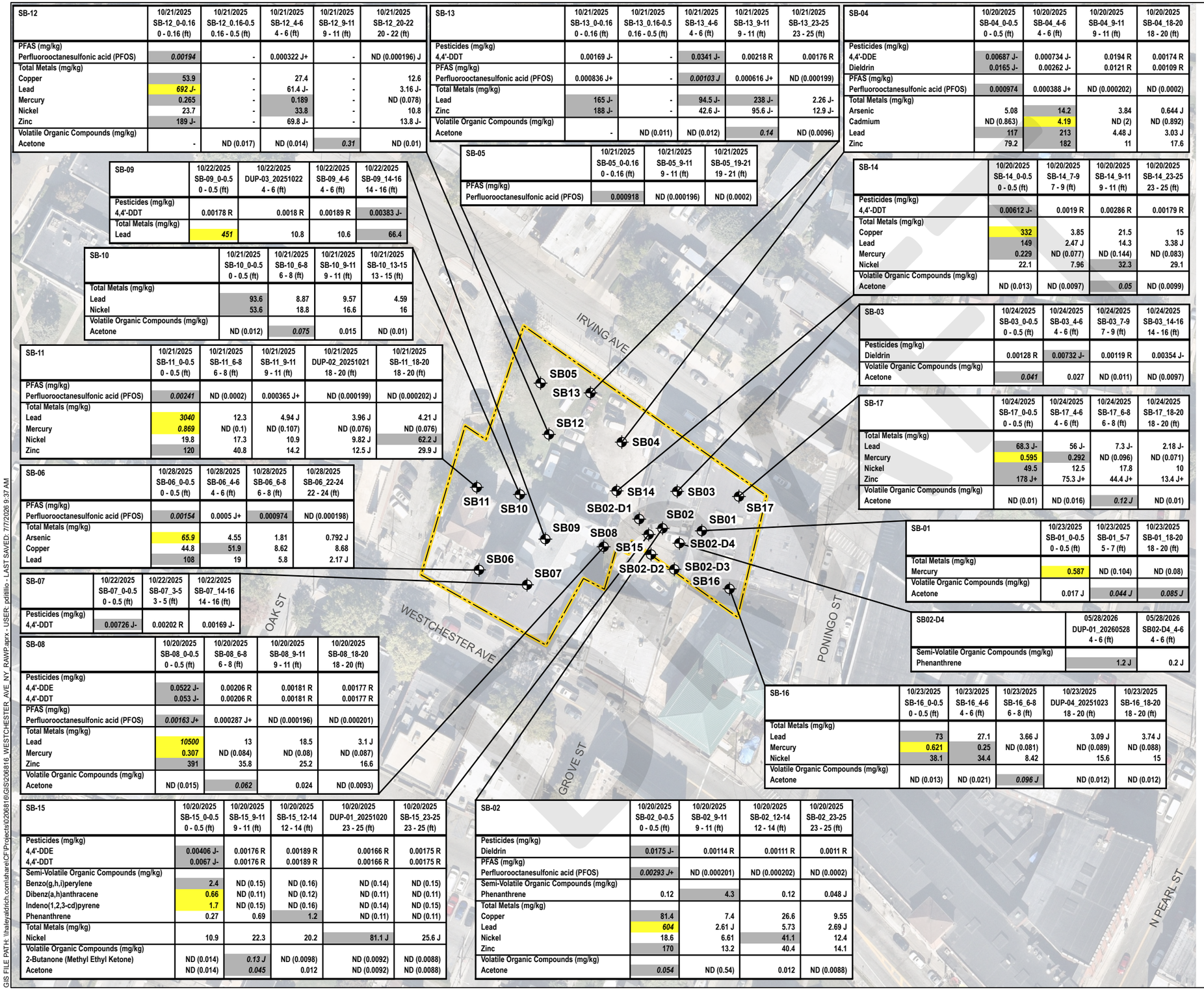
SB02-D4	05/28/2026 DUP-01_20260528 4 - 6 (ft)	05/28/2026 SB02-D4_4-6 4 - 6 (ft)
Semi-Volatile Organic Compounds (mg/kg)		
Phenanthrene	1.2 J	0.2 J

SB-08	10/20/2025 SB-08_0-0.5 0 - 0.5 (ft)	10/20/2025 SB-08_6-8 6 - 8 (ft)	10/20/2025 SB-08_9-11 9 - 11 (ft)	10/20/2025 SB-08_18-20 18 - 20 (ft)
Pesticides (mg/kg)				
4,4'-DDE	0.0522 J-	0.00206 R	0.00181 R	0.00177 R
4,4'-DDT	0.053 J-	0.00206 R	0.00181 R	0.00177 R
PFAS (mg/kg)				
Perfluorooctanesulfonic acid (PFOS)	*0.00163 J+*	0.000287 J+	ND (0.000196)	ND (0.000201)
Total Metals (mg/kg)				
Lead	***10500***	13	18.5	3.1 J
Mercury	0.307	ND (0.084)	ND (0.08)	ND (0.087)
Zinc	391	35.8	25.2	16.6
Volatile Organic Compounds (mg/kg)				
Acetone	ND (0.015)	*0.062*	0.024	ND (0.0093)

SB-16	10/23/2025 SB-16_0-0.5 0 - 0.5 (ft)	10/23/2025 SB-16_4-6 4 - 6 (ft)	10/23/2025 SB-16_6-8 6 - 8 (ft)	10/23/2025 DUP-04_20251023 18 - 20 (ft)	10/23/2025 SB-16_18-20 18 - 20 (ft)
Total Metals (mg/kg)					
Lead	73	27.1	3.66 J	3.09 J	3.74 J
Mercury	0.621	0.25	ND (0.081)	ND (0.089)	ND (0.088)
Nickel	38.1	34.4	8.42	15.6	15
Volatile Organic Compounds (mg/kg)					
Acetone	ND (0.013)	ND (0.021)	*0.096 J*	ND (0.012)	ND (0.012)

SB-15	10/20/2025 SB-15_0-0.5 0 - 0.5 (ft)	10/20/2025 SB-15_9-11 9 - 11 (ft)	10/20/2025 SB-15_12-14 12 - 14 (ft)	10/20/2025 DUP-01_20251020 23 - 25 (ft)	10/20/2025 SB-15_23-25 23 - 25 (ft)
Pesticides (mg/kg)					
4,4'-DDE	0.00406 J-	0.00176 R	0.00189 R	0.00166 R	0.00175 R
4,4'-DDT	0.0067 J-	0.00176 R	0.00189 R	0.00166 R	0.00175 R
Semi-Volatile Organic Compounds (mg/kg)					
Benzo(g,h,i)perylene	2.4	ND (0.15)	ND (0.16)	ND (0.14)	ND (0.15)
Dibenz(a,h)anthracene	0.66	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.11)
Indeno(1,2,3-cd)pyrene	1.7	ND (0.15)	ND (0.16)	ND (0.14)	ND (0.15)
Phenanthrene	0.27	0.69	1.2	ND (0.11)	ND (0.11)
Total Metals (mg/kg)					
Nickel	10.9	22.3	20.2	81.1 J	25.6 J
Volatile Organic Compounds (mg/kg)					
2-Butanone (Methyl Ethyl Ketone)	ND (0.014)	*0.13 J*	ND (0.0098)	ND (0.0092)	ND (0.0088)
Acetone	ND (0.014)	*0.045*	0.012	ND (0.0092)	ND (0.0088)

SB-02	10/20/2025 SB-02_0-0.5 0 - 0.5 (ft)	10/20/2025 SB-02_9-11 9 - 11 (ft)	10/20/2025 SB-02_12-14 12 - 14 (ft)	10/20/2025 SB-02_23-25 23 - 25 (ft)
Pesticides (mg/kg)				
Dieldrin	0.0175 J-	0.00114 R	0.00111 R	0.0011 R
PFAS (mg/kg)				
Perfluorooctanesulfonic acid (PFOS)	*0.00293 J+*	ND (0.000201)	ND (0.000202)	ND (0.0002)
Semi-Volatile Organic Compounds (mg/kg)				
Phenanthrene	0.12	4.3	0.12	0.048 J
Total Metals (mg/kg)				
Copper	81.4	7.4	26.6	9.55
Lead	***604***	2.61 J	5.73	2.69 J
Nickel	18.6	6.61	41.1	12.4
Zinc	170	13.2	40.4	14.1
Volatile Organic Compounds (mg/kg)				
Acetone	*0.054*	ND (0.54)	0.012	ND (0.0088)



LEGEND

- SOIL BORING
- SITE BOUNDARY

Analyte	NY-PGW	NY-RESR	NY-UNRES
Pesticides (mg/kg)			
4,4'-DDE	9.3	3.4	0.0033
4,4'-DDT	135	3.8	0.0033
Dieldrin	0.1	0.075	0.005
PFAS (mg/kg)			
Perfluorooctanesulfonic acid (PFOS)	0.001	0.044	0.00088
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(g,h,i)perylene	1000	4.9	0.64
Dibenz(a,h)anthracene	1000	0.33	0.33
Indeno(1,2,3-cd)pyrene	6.6	1.4	0.5
Phenanthrene	1000	4.9	1.1
Total Metals (mg/kg)			
Arsenic	16	16	13
Cadmium	7.5	2.5	2.5
Copper	1720	280	50
Lead	450	400	63
Mercury	0.73	0.3	0.18
Nickel	130	320	30
Zinc	2480	6600	109
Volatile Organic Compounds (mg/kg)			
2-Butanone (Methyl Ethyl Ketone)	0.1	100	0.1
Acetone	0.03	100	0.03

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAMPLES SB02-D1,SB02-D2,SB02-D3 and SB02-D4 WERE COLLECTED AS PART OF THE 2026 SUPPLEMENTAL REMEDIAL INVESTIGAITON
3. SOIL ANALYTICAL RESULTS ARE COMPARED TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TITLE 6 OF THE OFFICIAL COMPILATION OF NEW YORK CODES, RULES, AND REGULATIONS (NYCRR) PART 375 UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCO), RESTRICTED-USE RESIDENTIAL SCOS, AND PROTECTION OF GROUNDWATER SCO'S.
4. EXCEEDANCES OF THE PROTECTION OF GROUNDWATER CRITERIA ARE SHOWN IN ***ITALICS***.
5. EXCEEDANCES OF THE UNRESTRICTED SCOS ARE SHADED GRAY.
6. EXCEEDANCES OF THE RESTRICTED SCOS ARE SHADED YELLOW.
7. DEFINITIONS:
   NY-PGW - NYSDEC PART 375 PROTECTION OF GROUNDWATER CRITERIA
   NY-RESR - NYSDEC PART 375 RESTRICTED-USE RESIDENTIAL SCOs
   NY-UNRES - NYSDEC PART 375 UNRESTRICTED USE SCOs
   mg/kg: MILLIGRAM PER KILOGRAM
   ND (2.5): NOT DETECTED, NUMBER IN PARENTHESES IS THE LABORATORY REPORTING LIMIT
   J: VALUE IS ESTIMATED
   J+: VALUE IS ESTIMATED, HIGH BIAS
   J-: VALUE IS ESTIMATED, LOW BIAS
   R: REJECTED
8. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

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SCALE IN FEET

HALEY ALDRICH

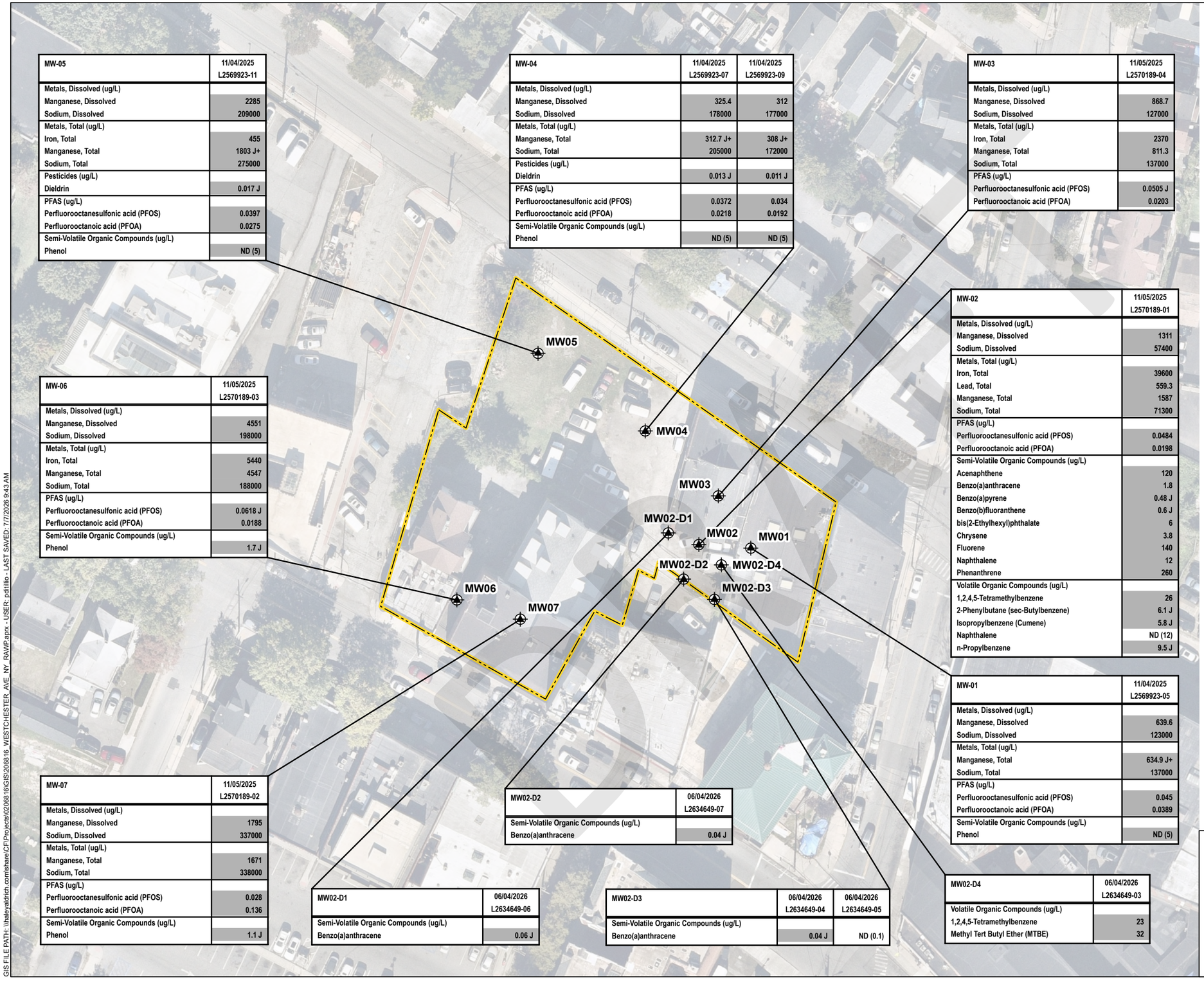
PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
223 - 225, 227 WESTCHESTER AVENUE &
204, 206 - 208, 214 - 220 IRVING AVENUE
PORT CHESTER, NEW YORK

SOIL EXCEEDANCE RESULT MAP

JULY 2026

FIGURE 6

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0206816\GIS\206816_WESTCHESTER_AVE_NY_RAWP.aprx - USER: pdillio - LAST SAVED: 7/7/2026 9:37 AM



MW-05	11/04/2025 L2569923-11
Metals, Dissolved (ug/L)	
Manganese, Dissolved	2285
Sodium, Dissolved	209000
Metals, Total (ug/L)	
Iron, Total	455
Manganese, Total	1803 J+
Sodium, Total	275000
Pesticides (ug/L)	
Dieldrin	0.017 J
PFAS (ug/L)	
Perfluorooctanesulfonic acid (PFOS)	0.0397
Perfluorooctanoic acid (PFOA)	0.0275
Semi-Volatile Organic Compounds (ug/L)	
Phenol	ND (5)

MW-04	11/04/2025 L2569923-07	11/04/2025 L2569923-09
Metals, Dissolved (ug/L)		
Manganese, Dissolved	325.4	312
Sodium, Dissolved	178000	177000
Metals, Total (ug/L)		
Manganese, Total	312.7 J+	308 J+
Sodium, Total	205000	172000
Pesticides (ug/L)		
Dieldrin	0.013 J	0.011 J
PFAS (ug/L)		
Perfluorooctanesulfonic acid (PFOS)	0.0372	0.034
Perfluorooctanoic acid (PFOA)	0.0218	0.0192
Semi-Volatile Organic Compounds (ug/L)		
Phenol	ND (5)	ND (5)

MW-03	11/05/2025 L2570189-04
Metals, Dissolved (ug/L)	
Manganese, Dissolved	868.7
Sodium, Dissolved	127000
Metals, Total (ug/L)	
Iron, Total	2370
Manganese, Total	811.3
Sodium, Total	137000
PFAS (ug/L)	
Perfluorooctanesulfonic acid (PFOS)	0.0505 J
Perfluorooctanoic acid (PFOA)	0.0203

MW-06	11/05/2025 L2570189-03
Metals, Dissolved (ug/L)	
Manganese, Dissolved	4551
Sodium, Dissolved	198000
Metals, Total (ug/L)	
Iron, Total	5440
Manganese, Total	4547
Sodium, Total	188000
PFAS (ug/L)	
Perfluorooctanesulfonic acid (PFOS)	0.0618 J
Perfluorooctanoic acid (PFOA)	0.0188
Semi-Volatile Organic Compounds (ug/L)	
Phenol	1.7 J

MW-02	11/05/2025 L2570189-01
Metals, Dissolved (ug/L)	
Manganese, Dissolved	1311
Sodium, Dissolved	57400
Metals, Total (ug/L)	
Iron, Total	39600
Lead, Total	559.3
Manganese, Total	1587
Sodium, Total	71300
PFAS (ug/L)	
Perfluorooctanesulfonic acid (PFOS)	0.0484
Perfluorooctanoic acid (PFOA)	0.0198
Semi-Volatile Organic Compounds (ug/L)	
Acenaphthene	120
Benzo(a)anthracene	1.8
Benzo(a)pyrene	0.48 J
Benzo(b)fluoranthene	0.6 J
bis(2-Ethylhexyl)phthalate	6
Chrysene	3.8
Fluorene	140
Naphthalene	12
Phenanthrene	260
Volatile Organic Compounds (ug/L)	
1,2,4,5-Tetramethylbenzene	26
2-Phenylbutane (sec-Butylbenzene)	6.1 J
Isopropylbenzene (Cumene)	5.8 J
Naphthalene	ND (12)
n-Propylbenzene	9.5 J

MW-01	11/04/2025 L2569923-05
Metals, Dissolved (ug/L)	
Manganese, Dissolved	639.6
Sodium, Dissolved	123000
Metals, Total (ug/L)	
Manganese, Total	634.9 J+
Sodium, Total	137000
PFAS (ug/L)	
Perfluorooctanesulfonic acid (PFOS)	0.045
Perfluorooctanoic acid (PFOA)	0.0389
Semi-Volatile Organic Compounds (ug/L)	
Phenol	ND (5)

MW-07	11/05/2025 L2570189-02
Metals, Dissolved (ug/L)	
Manganese, Dissolved	1795
Sodium, Dissolved	337000
Metals, Total (ug/L)	
Manganese, Total	1671
Sodium, Total	338000
PFAS (ug/L)	
Perfluorooctanesulfonic acid (PFOS)	0.028
Perfluorooctanoic acid (PFOA)	0.136
Semi-Volatile Organic Compounds (ug/L)	
Phenol	1.1 J

MW-02-D2	06/04/2026 L2634649-07
Semi-Volatile Organic Compounds (ug/L)	
Benzo(a)anthracene	0.04 J

MW-02-D1	06/04/2026 L2634649-06
Semi-Volatile Organic Compounds (ug/L)	
Benzo(a)anthracene	0.06 J

MW-02-D3	06/04/2026 L2634649-04	06/04/2026 L2634649-05
Semi-Volatile Organic Compounds (ug/L)		
Benzo(a)anthracene	0.04 J	ND (0.1)

MW-02-D4	06/04/2026 L2634649-03
Volatile Organic Compounds (ug/L)	
1,2,4,5-Tetramethylbenzene	23
Methyl Tert Butyl Ether (MTBE)	32

LEGEND

MONITORING WELL

SITE BOUNDARY

	New York TOGS 111 Ambient Water Quality Standards	New York April 2023 Ambient Water Quality Guidance Values (AWQGV)
Metals (ug/L)		
Iron	300	NA
Lead	25	NA
Manganese	300	NA
Sodium	20000	NA
Pesticides (ug/L)		
Dieldrin	0.004	NA
PFAS (ug/L)		
Perfluorooctanesulfonic acid (PFOS)	NA	0.0027
Perfluorooctanoic acid (PFOA)	NA	0.0067
Semi-Volatile Organic Compounds (ug/L)		
Acenaphthene	20	NA
Benzo(a)anthracene	0.002	NA
Benzo(a)pyrene	0	NA
Benzo(b)fluoranthene	0.002	NA
bis(2-Ethylhexyl)phthalate	5	NA
Chrysene	0.002	NA
Fluorene	50	NA
Naphthalene	10	NA
Phenanthrene	50	NA
Phenol	1	NA
Volatile Organic Compounds (ug/L)		
1,2,4,5-Tetramethylbenzene	5	NA
2-Phenylbutane (sec-Butylbenzene)	5	NA
Isopropylbenzene (Cumene)	5	NA
Methyl Tert Butyl Ether (MTBE)	10	NA
Naphthalene	10	NA
n-Propylbenzene	5	NA

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SAMPLES MW02-D1, MW02-D2, MW02-D3, AND MW02-D4 WERE COLLECTED AS PART OF THE 2026 SUPPLEMENTAL REMEDIAL INVESTIGAITON
3. DEFINITIONS:
   NA: NOT APPLICABLE
   ND (2.5): NOT DETECTED, NUMBER IN PARENTHESES IS THE LABORATORY REPORTING LIMIT
   J: VALUE IS ESTIMATED, HIGH BIAS
   J: VALUE IS ESTIMATED
4. GROUNDWATER ANALYTICLA RESULTS ARE COMPARED TO NYSDEC TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1 AMBIENT WATER QUALITY STANDARDS FOR CLASS GA WATER.
5. EXCEEDANCES OF THE OF THE CRITERIA ARE SHADED GRAY.
6. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

N

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SCALE IN FEET

HALEY ALDRICH

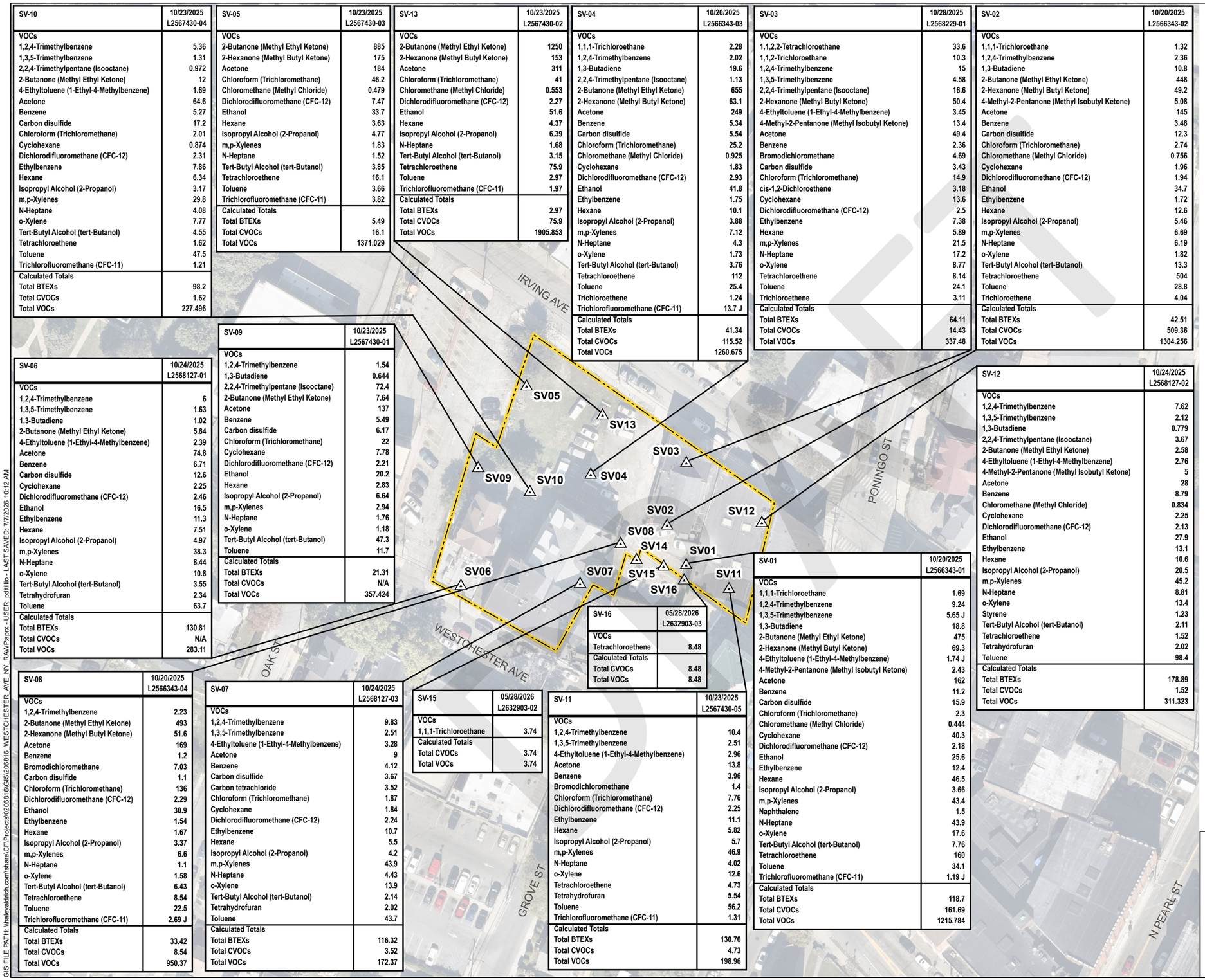
PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
223 - 225, 227 WESTCHESTER AVENUE &
204, 206 - 208, 214 - 220 IRVING AVENUE
PORT CHESTER, NEW YORK

GROUNDWATER RESULTS EXCEEDANCE MAP

JULY 2026

FIGURE 7

GIS FILE PATH: \\haleyaldrich.com\share\CFI\Projects\020681G\GIS\206816_WESTCHESTER_AVE_NY_RAWP.aprx - USER: pdilillo - LAST SAVED: 7/7/2026 9:43 AM



SV-10	10/23/2025 L2567430-04
VOCs	
1,2,4-Trimethylbenzene	5.36
1,3,5-Trimethylbenzene	1.31
2,2,4-Trimethylpentane (Isooctane)	0.972
2-Butanone (Methyl Ethyl Ketone)	12
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	1.69
Acetone	64.6
Benzene	5.27
Carbon disulfide	17.2
Chloroform (Trichloromethane)	2.01
Cyclohexane	0.874
Dichlorodifluoromethane (CFC-12)	2.31
Ethylbenzene	7.86
Hexane	6.34
Isopropyl Alcohol (2-Propanol)	3.17
m,p-Xylenes	29.8
N-Heptane	4.08
o-Xylene	7.77
Tert-Butyl Alcohol (tert-Butanol)	4.55
Tetrachloroethene	1.62
Toluene	47.5
Trichlorofluoromethane (CFC-11)	1.21
Calculated Totals	
Total BTEXs	98.2
Total CVOCs	1.62
Total VOCs	227.496

SV-05	10/23/2025 L2567430-03
VOCs	
2-Butanone (Methyl Ethyl Ketone)	885
2-Hexanone (Methyl Butyl Ketone)	175
Acetone	184
Chloroform (Trichloromethane)	46.2
Chloromethane (Methyl Chloride)	0.479
Dichlorodifluoromethane (CFC-12)	7.47
Ethanol	33.7
Hexane	3.63
Isopropyl Alcohol (2-Propanol)	4.77
m,p-Xylenes	1.83
N-Heptane	1.52
Tert-Butyl Alcohol (tert-Butanol)	3.85
Tetrachloroethene	16.1
Toluene	3.66
Trichlorofluoromethane (CFC-11)	3.82
Calculated Totals	
Total BTEXs	5.49
Total CVOCs	16.1
Total VOCs	1371.029

SV-13	10/23/2025 L2567430-02
VOCs	
2-Butanone (Methyl Ethyl Ketone)	1250
2-Hexanone (Methyl Butyl Ketone)	153
Acetone	311
Chloroform (Trichloromethane)	41
Chloromethane (Methyl Chloride)	0.553
Dichlorodifluoromethane (CFC-12)	2.27
Ethanol	51.6
Hexane	4.37
Isopropyl Alcohol (2-Propanol)	6.39
N-Heptane	1.68
Tert-Butyl Alcohol (tert-Butanol)	3.15
Tetrachloroethene	75.9
Toluene	2.97
Trichlorofluoromethane (CFC-11)	1.97
Calculated Totals	
Total BTEXs	2.97
Total CVOCs	75.9
Total VOCs	1905.853

SV-04	10/20/2025 L2566343-03
VOCs	
1,1,1-Trichloroethane	2.28
1,2,4-Trimethylbenzene	2.02
1,3-Butadiene	19.6
2,2,4-Trimethylpentane (Isooctane)	1.13
2-Butanone (Methyl Ethyl Ketone)	655
2-Hexanone (Methyl Butyl Ketone)	63.1
Acetone	249
Benzene	5.34
Carbon disulfide	5.54
Chloroform (Trichloromethane)	25.2
Chloromethane (Methyl Chloride)	0.925
Cyclohexane	1.83
Dichlorodifluoromethane (CFC-12)	2.93
Ethanol	41.8
Ethylbenzene	1.75
Hexane	10.1
Isopropyl Alcohol (2-Propanol)	3.88
m,p-Xylenes	7.12
N-Heptane	4.3
o-Xylene	1.73
Tert-Butyl Alcohol (tert-Butanol)	3.76
Tetrachloroethene	112
Toluene	25.4
Trichloroethene	1.24
Trichlorofluoromethane (CFC-11)	13.7 J
Calculated Totals	
Total BTEXs	41.34
Total CVOCs	115.52
Total VOCs	1260.675

SV-03	10/28/2025 L2568229-01
VOCs	
1,1,2,2-Tetrachloroethane	33.6
1,1,2-Trichloroethane	10.3
1,2,4-Trimethylbenzene	15
1,3,5-Trimethylbenzene	4.58
2,2,4-Trimethylpentane (Isooctane)	16.6
2-Hexanone (Methyl Butyl Ketone)	50.4
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	3.45
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	13.4
Acetone	49.4
Benzene	2.36
Bromodichloromethane	4.69
Carbon disulfide	3.43
Chloroform (Trichloromethane)	14.9
cis-1,2-Dichloroethene	3.18
Cyclohexane	13.6
Dichlorodifluoromethane (CFC-12)	2.5
Ethylbenzene	7.38
Hexane	5.89
m,p-Xylenes	21.5
N-Heptane	17.2
o-Xylene	8.77
Tetrachloroethene	8.14
Toluene	24.1
Trichloroethene	3.11
Calculated Totals	
Total BTEXs	64.11
Total CVOCs	14.43
Total VOCs	337.48

SV-02	10/20/2025 L2566343-02
VOCs	
1,1,1-Trichloroethane	1.32
1,2,4-Trimethylbenzene	2.36
1,3-Butadiene	10.8
2-Butanone (Methyl Ethyl Ketone)	448
2-Hexanone (Methyl Butyl Ketone)	49.2
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	5.08
Acetone	145
Benzene	3.48
Carbon disulfide	12.3
Chloroform (Trichloromethane)	2.74
Chloromethane (Methyl Chloride)	0.756
Cyclohexane	1.96
Dichlorodifluoromethane (CFC-12)	1.94
Ethanol	34.7
Ethylbenzene	1.72
Hexane	12.6
Isopropyl Alcohol (2-Propanol)	5.46
m,p-Xylenes	6.69
N-Heptane	6.19
o-Xylene	1.82
Tert-Butyl Alcohol (tert-Butanol)	13.3
Tetrachloroethene	504
Toluene	28.8
Trichloroethene	4.04
Calculated Totals	
Total BTEXs	42.51
Total CVOCs	509.36
Total VOCs	1304.256

SV-06	10/24/2025 L2568127-01
VOCs	
1,2,4-Trimethylbenzene	6
1,3,5-Trimethylbenzene	1.63
1,3-Butadiene	1.02
2-Butanone (Methyl Ethyl Ketone)	5.84
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	2.39
Acetone	74.8
Benzene	6.71
Carbon disulfide	12.6
Cyclohexane	2.25
Dichlorodifluoromethane (CFC-12)	2.46
Ethanol	16.5
Ethylbenzene	11.3
Hexane	7.51
Isopropyl Alcohol (2-Propanol)	4.97
m,p-Xylenes	38.3
N-Heptane	8.44
o-Xylene	10.8
Tert-Butyl Alcohol (tert-Butanol)	3.55
Tetrahydrofuran	2.34
Toluene	63.7
Calculated Totals	
Total BTEXs	130.81
Total CVOCs	N/A
Total VOCs	283.11

SV-09	10/23/2025 L2567430-01
VOCs	
1,2,4-Trimethylbenzene	1.54
1,3-Butadiene	0.644
2,2,4-Trimethylpentane (Isooctane)	72.4
2-Butanone (Methyl Ethyl Ketone)	7.64
Acetone	137
Benzene	5.49
Carbon disulfide	6.17
Chloroform (Trichloromethane)	22
Cyclohexane	7.78
Dichlorodifluoromethane (CFC-12)	2.21
Ethanol	20.2
Hexane	2.83
Isopropyl Alcohol (2-Propanol)	6.64
m,p-Xylenes	2.94
N-Heptane	1.76
o-Xylene	1.18
Tert-Butyl Alcohol (tert-Butanol)	47.3
Toluene	11.7
Calculated Totals	
Total BTEXs	21.31
Total CVOCs	N/A
Total VOCs	357.424

SV-12	10/24/2025 L2568127-02
VOCs	
1,2,4-Trimethylbenzene	7.62
1,3,5-Trimethylbenzene	2.12
1,3-Butadiene	0.779
2,2,4-Trimethylpentane (Isooctane)	3.67
2-Butanone (Methyl Ethyl Ketone)	2.58
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	2.76
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	5
Acetone	28
Benzene	8.79
Chloromethane (Methyl Chloride)	0.834
Cyclohexane	2.25
Dichlorodifluoromethane (CFC-12)	2.13
Ethanol	27.9
Ethylbenzene	13.1
Hexane	10.6
Isopropyl Alcohol (2-Propanol)	20.5
m,p-Xylenes	45.2
N-Heptane	8.81
o-Xylene	13.4
Styrene	1.23
Tert-Butyl Alcohol (tert-Butanol)	2.11
Tetrachloroethene	1.52
Tetrahydrofuran	2.02
Toluene	98.4
Calculated Totals	
Total BTEXs	178.89
Total CVOCs	1.52
Total VOCs	311.323

SV-16	05/28/2026 L2632903-03
VOCs	
Tetrachloroethene	8.48
Calculated Totals	
Total CVOCs	8.48
Total VOCs	8.48

SV-01	10/20/2025 L2566343-01
VOCs	
1,1,1-Trichloroethane	1.69
1,2,4-Trimethylbenzene	9.24
1,3,5-Trimethylbenzene	5.65 J
1,3-Butadiene	18.8
2-Butanone (Methyl Ethyl Ketone)	475
2-Hexanone (Methyl Butyl Ketone)	69.3
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	1.74 J
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	2.43
Acetone	162
Benzene	11.2
Carbon disulfide	15.9
Chloroform (Trichloromethane)	2.3
Chloromethane (Methyl Chloride)	0.444
Cyclohexane	40.3
Dichlorodifluoromethane (CFC-12)	2.18
Ethanol	25.6
Ethylbenzene	12.4
Hexane	46.5
Isopropyl Alcohol (2-Propanol)	3.66
m,p-Xylenes	43.4
Naphthalene	1.5
N-Heptane	43.9
o-Xylene	17.6
Tert-Butyl Alcohol (tert-Butanol)	7.76
Tetrachloroethene	160
Toluene	34.1
Trichlorofluoromethane (CFC-11)	1.19 J
Calculated Totals	
Total BTEXs	118.7
Total CVOCs	161.69
Total VOCs	1215.784

SV-08	10/20/2025 L2566343-04
VOCs	
1,2,4-Trimethylbenzene	2.23
2-Butanone (Methyl Ethyl Ketone)	493
2-Hexanone (Methyl Butyl Ketone)	51.6
Acetone	169
Benzene	1.2
Bromodichloromethane	7.03
Carbon disulfide	1.1
Chloroform (Trichloromethane)	136
Dichlorodifluoromethane (CFC-12)	2.29
Ethanol	30.9
Ethylbenzene	1.54
Hexane	1.67
Isopropyl Alcohol (2-Propanol)	3.37
m,p-Xylenes	6.6
N-Heptane	1.1
o-Xylene	1.58
Tert-Butyl Alcohol (tert-Butanol)	6.43
Tetrachloroethene	8.54
Toluene	22.5
Trichlorofluoromethane (CFC-11)	2.69 J
Calculated Totals	
Total BTEXs	33.42
Total CVOCs	8.54
Total VOCs	950.37

SV-07	10/24/2025 L2568127-03
VOCs	
1,2,4-Trimethylbenzene	9.83
1,3,5-Trimethylbenzene	2.51
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	3.28
Acetone	9
Benzene	4.12
Carbon disulfide	3.67
Carbon tetrachloride	3.52
Chloroform (Trichloromethane)	1.87
Cyclohexane	1.84
Dichlorodifluoromethane (CFC-12)	2.24
Ethylbenzene	10.7
Hexane	5.5
Isopropyl Alcohol (2-Propanol)	4.2
m,p-Xylenes	43.9
N-Heptane	4.43
o-Xylene	13.9
Tert-Butyl Alcohol (tert-Butanol)	2.14
Tetrahydrofuran	2.02
Toluene	43.7
Calculated Totals	
Total BTEXs	116.32
Total CVOCs	3.52
Total VOCs	172.37

SV-15	05/28/2026 L2632903-02
VOCs	
1,1,1-Trichloroethane	3.74
Calculated Totals	
Total CVOCs	3.74
Total VOCs	3.74

SV-11	10/23/2025 L2567430-05
VOCs	
1,2,4-Trimethylbenzene	10.4
1,3,5-Trimethylbenzene	2.51
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	2.96
Acetone	13.8
Benzene	3.96
Bromodichloromethane	1.4
Chloroform (Trichloromethane)	7.76
Dichlorodifluoromethane (CFC-12)	2.25
Ethylbenzene	11.1
Hexane	5.82
Isopropyl Alcohol (2-Propanol)	5.7
m,p-Xylenes	46.9
N-Heptane	4.02
o-Xylene	12.6
Tetrachloroethene	4.73
Tetrahydrofuran	5.54
Toluene	56.2
Trichlorofluoromethane (CFC-11)	1.31
Calculated Totals	
Total BTEXs	130.76
Total CVOCs	4.73
Total VOCs	198.96

LEGEND

SOIL VAPOR SAMPLE

SITE BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. RESULTS ARE DISPLAYED IN MICROGRAMS PER CUBIC METER (ug/m3)

3. DEFINITIONS:
   CVOCS: CHLORINATED VOLATILE ORGANIC COMPOUNDS
   TOTAL CVOCS IS THE SUM OF ALL THE DETECTED CONCENTRATIONS OF CARBON TETRACHLORIDE, 1,1-DICHLOROETHENE, CIS-1,2-DICHLOROETHENE, TRICHLOROETHENE, METHYLENE CHLORIDE, TETRACHLOROETHENE, 1,1,1-TRICHLOROETHANE, AND VINYL CHLORIDE
   ND (2.5): NOT DETECTED, NUMBER IN PARENTHESES IS THE LABORATORY REPORTING LIMIT
   J: VALUE IS ESTIMATED

4. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

N

0 80 160

SCALE IN FEET

HALEY ALDRICH

PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
223 - 225, 227 WESTCHESTER AVENUE &
204, 206 - 208, 214 - 220 IRVING AVENUE
PORT CHESTER, NEW YORK

SOIL VAPOR RESULTS SUMMARY MAP

JULY 2026

FIGURE 8

GIS FILE PATH: \\haleyaldrich.com\share\CP\Projects\0206816\GIS\206816_WESTCHESTER_AVE_NY_RAMP.aprx - USER: pdilillo - LAST SAVED: 7/7/2026 10:12 AM



LEGEND

- SITE BOUNDARY
- PARCEL BOUNDARY
- EXCAVATION TO APPROXIMATELY 25 FEET BELOW GROUND SURFACE (I.E. BEDROCK INTERFACE)
- APPROXIMATE LOCATION OF EXISTING BUCKLEY DRAIN (TO REMAIN)
- EXCAVATION TO APPROXIMATELY 10 FEET BELOW GROUND SURFACE (I.E. TOP OF BUCKLEY DRAIN)

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: WESTCHESTER COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025
4. WITHIN THE VICINITY OF THE EXISTING BUCKLEY DRAIN, EXCAVATION WILL EXTEND TO THE TOP OF THE DRAIN (ESTIMATED AT APPROXIMATELY 10 FEET BELOW GRADE SURFACE). EXCAVATION BENEATH THE BUCKLEY DRAIN IS NOT PROPOSED.

N

0 40 80
SCALE IN FEET

HALEY ALDRICH

PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
223 - 225, 227 WESTCHESTER AVENUE &
204, 206 - 208, 214 - 220 IRVING AVENUE
PORT CHESTER, NEW YORK

ALTNERATIVE I SOIL EXCAVATION PLAN

JANUARY 2026

FIGURE 9

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LEGEND

- SITE BOUNDARY
- PARCEL BOUNDARY
- PROPOSED CONFIRMATION SAMPLE/PHOTO DOCUMENTATION LOCATION

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: WESTCHESTER COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

N

0 40 80
SCALE IN FEET

HALEY ALDRICH

PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
223 - 225, 227 WESTCHESTER AVENUE &
204, 206 - 208, 214 - 220 IRVING AVENUE
PORT CHESTER, NEW YORK

CONFIRMATION SAMPLE LOCATION PLAN

JANUARY 2026

FIGURE 10

GIS FILE PATH: \\haleyaldrich.com\share\CFI\Projects\0206816\GIS\206816_WESTCHESTER_AVE_NY_RIR.aprx - USER: pdilillo - LAST SAVED: 1/21/2026 11:09 AM



LEGEND

- PARCEL BOUNDARY
- SITE BOUNDARY
- EXCAVATION TO APPROXIMATELY 1 FOOT BELOW GROUND SURFACE
- EXCAVATION TO APPROXIMATELY 6 FEET BELOW GROUND SURFACE
- APPROXIMATE LOCATION OF EXISTING BUCKLEY DRAIN (TO REMAIN)

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: WESTCHESTER COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025
4. WITHIN THE VICINITY OF THE EXISTING BUCKLEY DRAIN, EXCAVATION WILL EXTEND TO THE TOP OF THE DRAIN (ESTIMATED AT APPROXIMATELY 10 FEET BELOW GRADE SURFACE). EXCAVATION BENEATH THE BUCKLEY DRAIN IS NOT PROPOSED.

N

0 40 80
SCALE IN FEET

HALEY ALDRICH

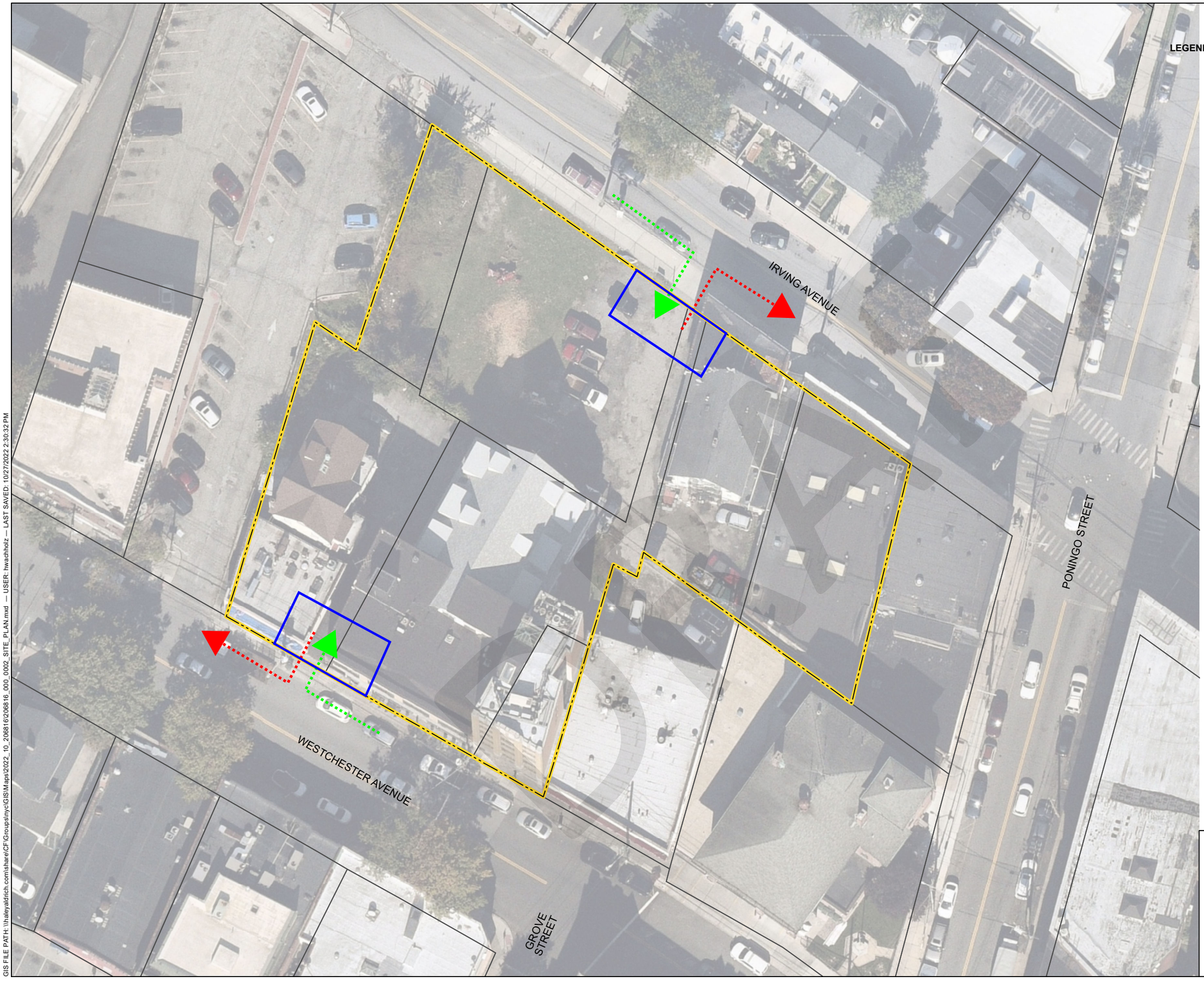
PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
223 - 225, 227 WESTCHESTER AVENUE &
204, 206 - 208, 214 - 220 IRVING AVENUE
PORT CHESTER, NEW YORK

ALTNERATIVE II SOIL EXCAVATION PLAN

JANUARY 2026

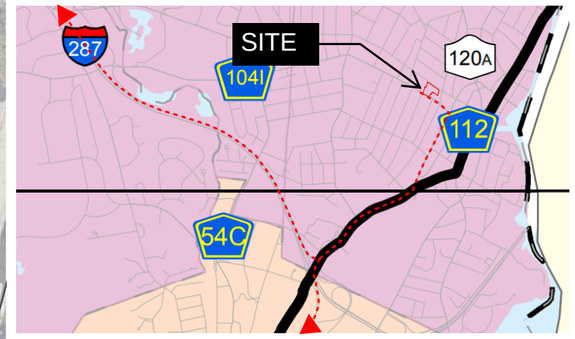
FIGURE 11

GIS FILE PATH: \\haleyaldrich.com\share\CP\Projects\020681\6\GIS\206816_WESTCHESTER_AVE_NY_RIR_aprx - USER: rxtillio - LAST SAVED: 1/21/2026 11:09 AM



LEGEND

- PARCEL BOUNDARY
- SITE BOUNDARY
- STABILIZED TRUCK PAD
- TRUCK INGRESS
- TRUCK EGRESS



NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: PORT CHESTER, NEW YORK
3. AERIAL IMAGERY SOURCE: NEARMAP, 6 SEPTEMBER 2023

N

0 40 80

SCALE IN FEET

HALEY ALDRICH

PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT
223-227 WESTCHESTER AVENUE &
206-208, 214-220 IRVING AVENUE
PORT CHESTER, NEW YORK

TRUCK ROUTE MAP

NOVEMBER 2025

FIGURE 12

GIS FILE PATH: \\haleyaldrich.com\share\CF\Groups\nyc\GIS\Maps\2022_10_206816\206816_000_0002_SITE_PLAN.mxd — USER: hwachholz — LAST SAVED: 10/27/2022 2:30:32 PM

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APPENDIX A
Survey Maps

Coastal Environmental Solutions, Inc.

GEOPHYSICAL INVESTIGATION REPORT

225 Westchester Ave, Port Chester, NY
Date of Investigation: 10/24/2025

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Prepared for:

Haley & Aldrich of New York
70 Blanchard Road, Suite 204
Burlington, MA 01803

Prepared By:

Eric Schnopp
GPR Technician
Coastal Environmental Solutions, Inc.
PO Box 342
Medford, New York 11763

1.0 INTRODUCTION

On 10/24/2025,10/22/25,10/24/25. Coastal Environmental Solutions, Inc (Coastal) personnel performed a limited geophysical investigation at 225 Westchester Ave, Port Chester, NY. The areas of interest included the building located at 225 Westchester Ave as well as a vacant building behind it, and associated lot. As indicated by the client. The purpose of this Geophysical Investigation was to clear soil boring locations. Surface conditions consisted of concrete and asphalt.

2.0 SCOPE OF WORK

1. Locate and mark detectable subsurface anomalies including underground utilities within accessible areas indicated by the client for the purpose of advancing soil borings.

3.0 EQUIPMENT

ImpulseRadar PinPointR Ultra-Wide Band (UWB) Penetrating Radar System

Ground Penetrating RADAR (GPR) is a non-destructive geophysical method that produces a continuous cross-sectional profile of subsurface features in real time. GPR operates by transmitting both high and low frequency electromagnetic wave pulses down into the ground through a transmitter in the antenna. The transmitted electromagnetic waves reflect off materials with contrasting dielectric properties from surrounding medium such as underground storage tanks, utilities, distinct contacts between different earth materials, and other various subsurface objects. The antenna receiver collects the reflected electromagnetic waves which are then interpreted by the operator.

The ImpulseRadar PinPointR UWB GPR utilizes a dual band 400/800 MHz HS antenna mounted to a stroller frame which rolls over the surface. The total depth of penetration achieved with the antenna can be up to 10 feet but widely varies based on site-specific subsurface conditions. Conductive materials in the soil attenuate the GPR signal causing a decrease in effective depth of penetration and clarity.

Proceq GP8000 GPR System

The Proseq GP8000 is a portable concrete scanner capable of inspecting the shallow subsurface below concrete surfaces in areas that larger equipment cannot reach. The GP8000 measures approximately the size of a shoebox and provides a high quality GPR image with its modulated 200-4000Mhz frequency to a maximum depth of approximately 30 inches below grade surface.

Vivax-Metrotech vLoc3-Pro Receiver/Transmitter

The vLoc3-Pro Receiver is a hand-operated antenna capable of detecting electromagnetic (EM) fields emitted from a source. The EM antenna can detect pipes and cables in the ground at depths of up to 20 feet using active or passive tracing techniques. Passive tracing is the act of locating an underground utility through the detection of electrical or radio signals travelling along conductive utilities. Active tracing is used in conjunction with the Transmitter that is directly connected to the target utility or to a conductive rodder within a non-conductive line. A signal is sent through the utility at a specific frequency that can be detected by the Receiver. The detectability of a target

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utility depends on many factors including access to the target utility, grounding, depth of utility, conductivity, and other site-specific factors.

TW-6 Pipe and Cable Locator

The TW-6 Pipe and Cable locator is a handheld magnetometer which utilizes a transmitter-receiver pair attached to opposite ends of a handle and carried approximately 1-2ft from the surface. The magnetometer induces an electromagnetic (EM) field into the ground that is generated by the transmitter. Once the induced EM field passes through a buried metallic object, it generates a secondary EM field which is detected by the receiver, generating an audible tone. Based on the calibration of the magnetometer, the audible tone reflects the strongest response as the highest pitched sound, trailing off on all sides of the peak. This piece of technology can be used to detect subsurface features such as metallic USTs, large diameter conductive pipes, and buried manholes, especially in areas in which traditional GPR methods cannot be utilized, such as overgrown or uneven surfaces.

4.0 METHODOLOGY

1. A subsurface investigation was performed in close proximity to the client proposed soil boring locations. Active and passive detection methods were utilized with the VLoc3-Pro receiver/transmitter. Coastal personnel direct connected to all accessible and traceable pipes, conduits, valve covers, and any other surface feature throughout the site. A passive scan was performed throughout the site to detect any potential underground utilities that could not be located with active scan.
2. The TW-6 was utilized (if applicable) to sweep any accessible areas for suspected UST locations in 3-to-5-foot spacings for readings that may represent a buried metallic anomaly. Upon detection of a reading, the approximate size and shape of the anomalous area was marked on the surface to be investigated further with GPR.
3. GPR was utilized to further characterize the approximate dimensions, depth, and shape of the anomalies located with the TW-6. The remainder of the areas around suspected detections were scanned with GPR in 3-to-5-foot spacing to locate any anomalous features not previously detected such as non-conductive piping and former excavations.
4. All findings were marked on the surface utilizing the American Public Works Association (APWA) recommended color code, seen below:

WHITE	Proposed Excavation
PINK	Temporary Survey Markings (Approximate UST Locations, Soil Boring Locations)
RED	Electric Power Lines, Cables, Conduit and Lighting Cables
YELLOW	Gas, Oil, Steam, Petroleum or Gaseous Materials
ORANGE	Communication, Alarm or Signal Lines, Cables or Conduit
BLUE	Water (Domestic and Fire Lines)
PURPLE	Irrigation, Slurry Lines, Reclaimed Water
GREEN	Sewers and Drain Lines

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5.0 SUMMARY OF FINDINGS

Subsurface Investigation

Coastal personnel conducted a limited Subsurface Investigation within all accessible areas of concern. All detections were marked in the field in accordance with the APWA guide above. During our initial investigation of the site, we began our investigation in the grassy open lot behind 225 Westchester avenue. In this lot no utilities were located, and multiple borings were cleared. Inside of the restaurant an electrical line was detected and marked out. Water and gas were detected entering the building from the sidewalk but did not come in contact with any of the boring locations. In the parking lot near the vacant building multiple drain lines were detected and marked out, one boring location had to be adjusted to avoid the drain lines. Inside of the building all utilities connected overhead and were cleared prior to drilling activities. An electrical line was detected in the basement (Presumed not active) marked out in red paint. All soil boring locations were cleared prior to drilling activities.

Limitations

The effective depth of GPR penetration was limited to approximately 4 feet below the concrete and asphalt grade surfaces. The limiting factor was likely due to soil conductivity attenuating the GPR signal, shallow bedrock containing moisture, or non-conductive materials utilized for the utilities. The GPR and TW-6 are unable to be utilized within close proximity to parked vehicles and exterior walls. The TW-6 is unable to be utilized or metal-reinforced concrete.

Disclaimer

The subsurface investigation was performed by Coastal after considering the limits of the scope of work and the time constraint for the investigation. The investigation that is described in this report was undertaken in accordance with current accepted standards and practices of the geophysical survey industry. The results and interpretations that are presented are based on professional judgment and are as accurate as can reasonably be achieved. However, no geophysical equipment can accurately depict all subsurface features due to the geology and environmental conditions of the subsurface. Any intrusive work in proximity to identified anomalies should be carefully considered and cross-referenced with all available site-specific documentation. Coastal is not liable for the use, interpretation, or application of the data and information in this report.

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PHOTOS & GPR SCREENSHOTS

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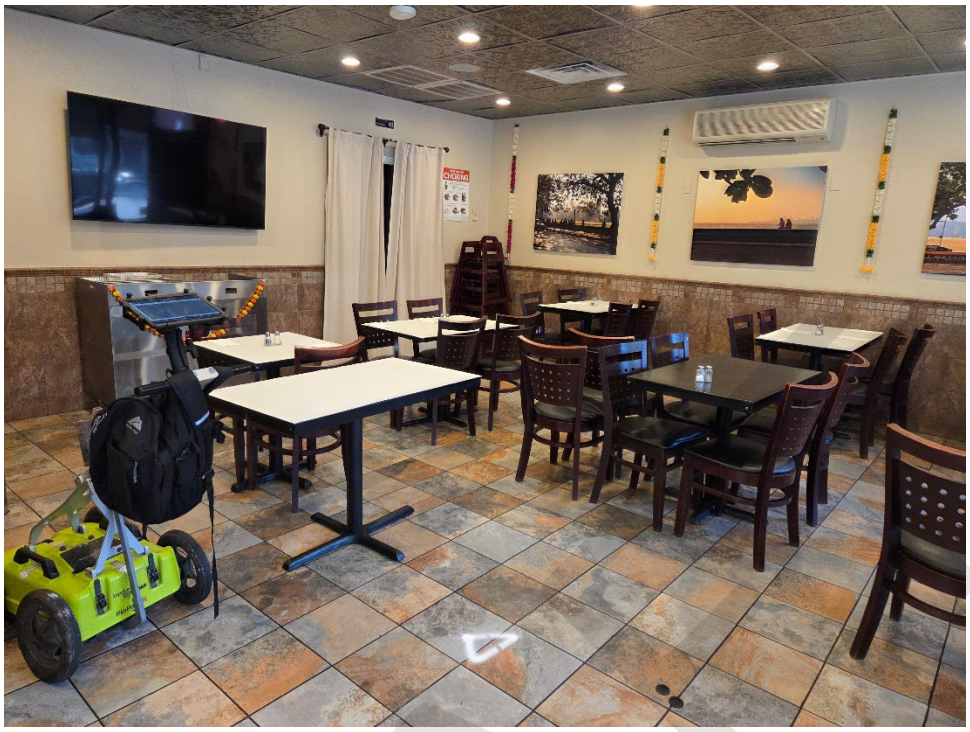
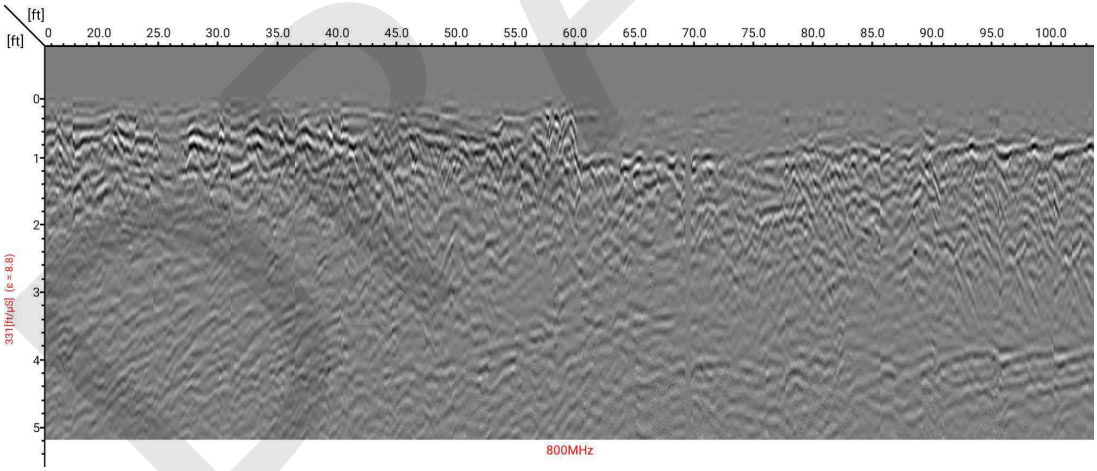


Photo 1 – Soil Vapor location from inside the restaurant.(After returning on 10/24)



GPR Screenshot- This screenshot was taken from inside the vacant building. No utilities were detected in this area.





Photo 2&3 – Drain lines marked out in the parking lot near one of the boring locations.

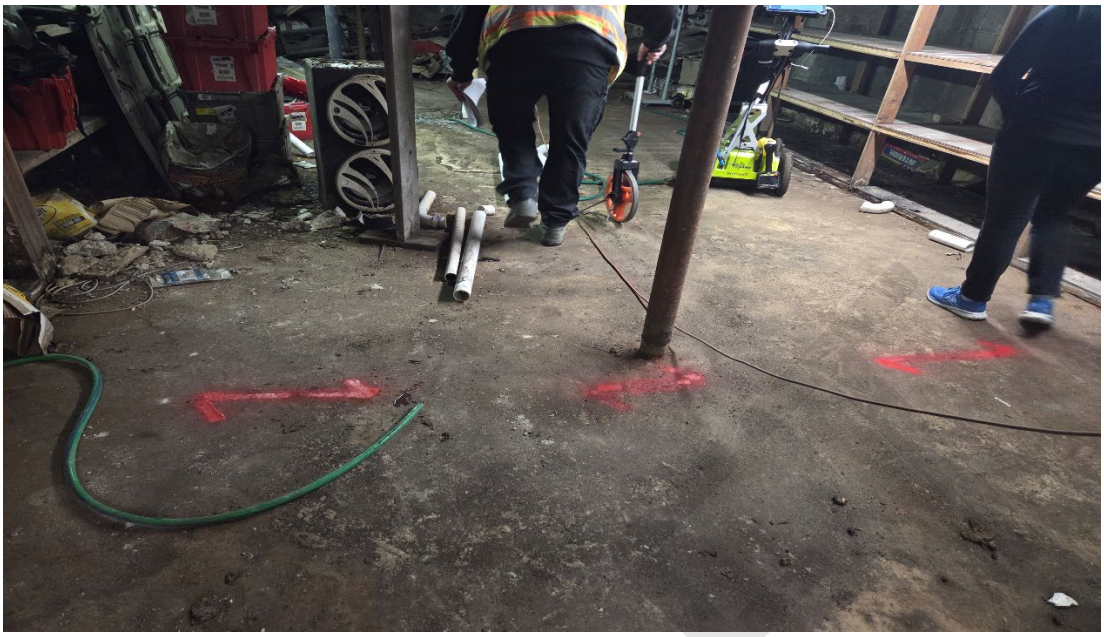


Photo 4- Electrical line marked out in the basement.

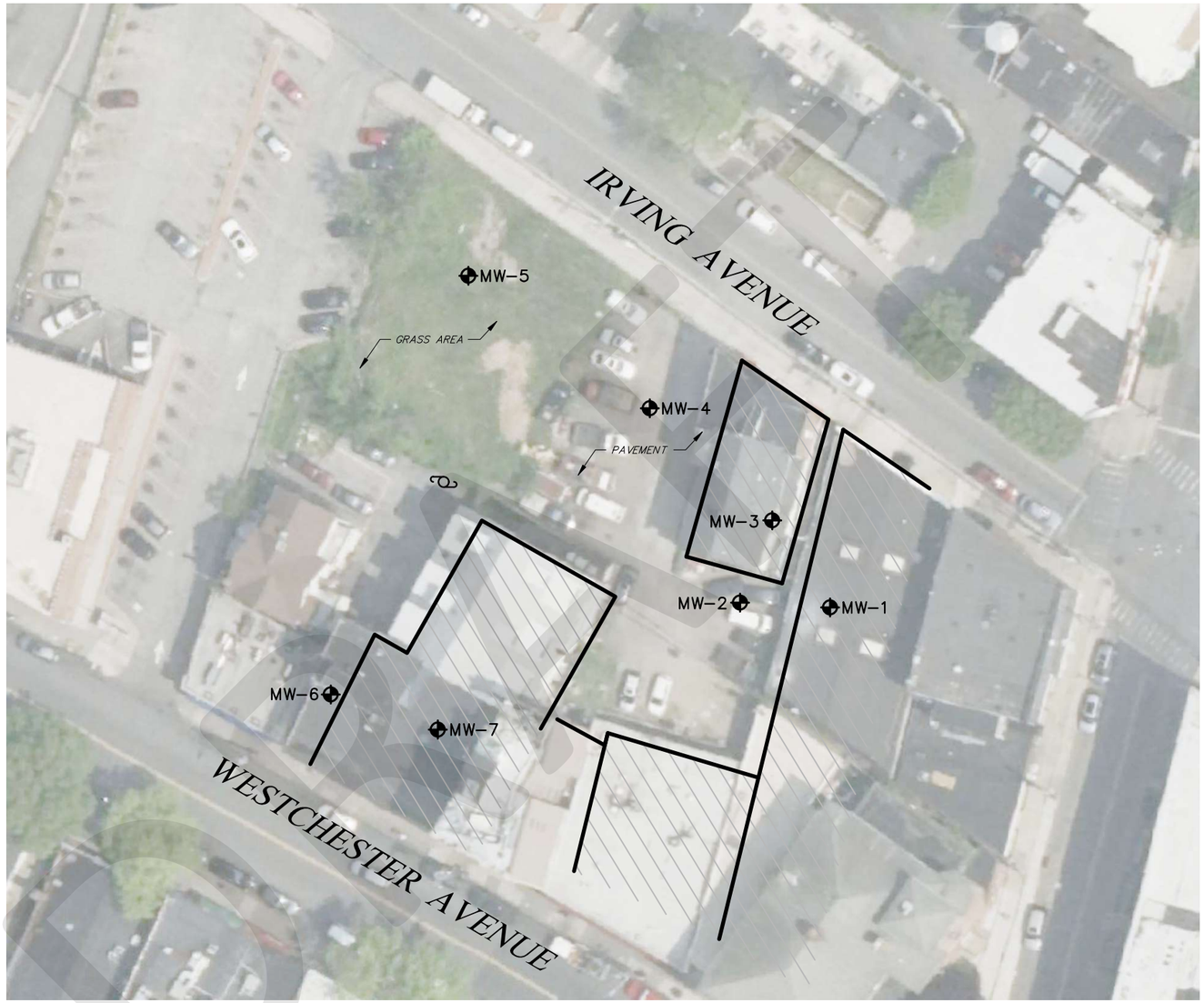


Photo 5- Gas service marked out on the sidewalk, but it did not enter the subject property.

MONITORING WELLS	GROUND	RIM	PVC
MW-1	43.64 CONC	43.62	43.34
MW-2	45.40	45.49	45.19
MW-3	38.22 CONC	38.24	37.97
MW-4	46.29 PAVE	46.30	46.00
MW-5	46.42	46.62	46.37
MW-6	49.13 PAVE	49.15	48.91
MW-7	42.57 CONC	42.58	42.33

NOTES:

1. FIELD WORK PERFORMED ON NOVEMBER 4, 2025.
2. ELEVATION DATUM NAVD 1988 DERIVED USING RTK GPS RECEIVERS AND KEYNET. CORS STATION: NYBR BROOKLYN PIER CORS ARP ELEV=42.13' (NAVD 1988)



NY EAST STATE PLANE
COORDINATE SYSTEM NAD 1983

GRAPHIC SCALE

50 0 25 50

(IN FEET)
1 inch = 50 ft.

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

STATE OF NEW YORK · JAMES J. HEISER · 050932-1 · LICENSED LAND SURVEYOR

DATE 11/06/2025

James J. Heiser
Professional Land Surveyor
JHEISER@DPKCONSULTING.NET

N.J. Lic: 24GS04331100
PA. Lic: SU075616
N.Y. Lic: 050932-1
CT. Lic: 70476
DE. LIC: S6-0010858

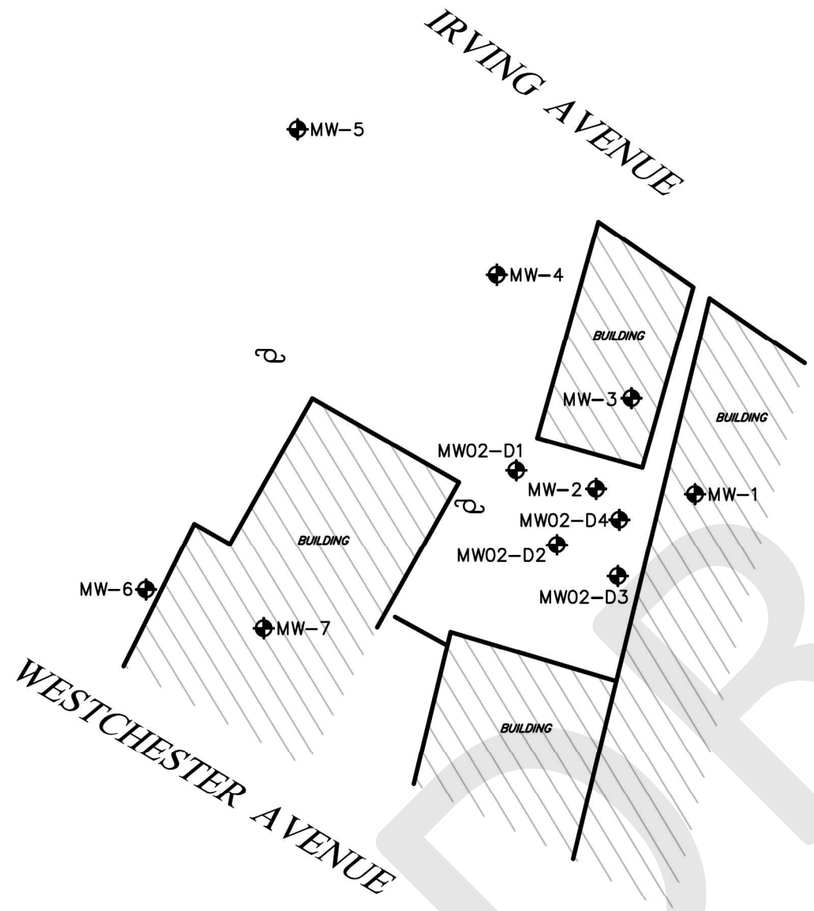
Date: 11/06/25	Dr.: P.C.	Chk.: C.S.	SCALE: 1" = 50'	JOB No. 25-10789	Dwg: 25-10789MW00

DPK LAND SURVEYING
DPK LAND SURVEYING, LLC
200 METROPLEX DRIVE - STE. 285, EDISON, NJ 08817
P:732-764-0100 F: 732-764-0990
NEW YORK CERTIFICATE OF AUTHORIZATION NO. 0012585

MONITORING WELL LOCATION MAP

FOR:
HALEY & ALDRICH OF NEW YORK
SITE:
227 WESTCHESTER AVENUE
PORT CHESTER, NEW YORK

S:_Projects\2025\25-10789\CAD\25-10789MW00.dwg Nov 11, 2025-9:47am BY:(PeterCavado)



DATE OF SURVEY: NOVEMBER 4, 2025

MONITORING WELLS	GROUND	RIM	PVC
MW-1	43.64 CONC	43.62	43.34
MW-2	45.40	45.49	45.19
MW-3	38.22 CONC	38.24	37.97
MW-4	46.29 PAVE	46.30	46.00
MW-5	46.42	46.62	46.37
MW-6	49.13 PAVE	49.15	48.91
MW-7	42.57 CONC	42.58	42.33

DATE OF SURVEY: JUNE 25, 2026

MONITORING WELLS	GROUND	RIM	PVC
MW02-D1	45.42 PAVE	45.43	45.18
MW02-D2	45.57 PAVE	45.60	45.41
MW02-D3	45.32 PAVE	45.45	45.03
MW02-D4	45.35 PAVE	45.36	44.97

NOTES:

1. FIELD WORK PERFORMED ON NOVEMBER 4, 2025 AND JUNE 25, 2026.
2. ELEVATION DATUM NAVD 1988 DERIVED USING RTK GPS RECEIVERS AND KEYNET. CORS STATION: NYBR BROOKLYN PIER CORS ARP ELEV=42.13' (NAVD 1988)

NY EAST STATE PLANE
COORDINATE SYSTEM NAD 1983

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

GRAPHIC SCALE

50 0 25 50

(IN FEET)
1 inch = 50 ft.

REV	DATE	DESCRIPTION	BY	CHKD
1	06/30/2026	ADDED MONITORING WELLS	P.C.	C.S.

STATE OF NEW YORK · JAMES HEISER · 209321 · LICENSED LAND SURVEYOR

DATE 06/30/2026

James J. Heiser
Professional Land Surveyor
JHEISER@DPKCONSULTING.NET

N.J. Lic: 24GS04331100
PA. Lic: SU075616
N.Y. Lic: 050932-1
CT. Lic: 70476
DE. LIC: S6-0010858

Date: 11/06/25 | Dr.: P.C. | Chk.: C.S. | SCALE: 1" = 50' | JOB No. 25-10789 | Dwg: 25-10789MW01

DPK LAND SURVEYING
DPK LAND SURVEYING, LLC
200 METROPLEX DRIVE - STE. 285, EDISON, NJ 08817
P:732-764-0100 F: 732-764-0990
NEW YORK CERTIFICATE OF AUTHORIZATION NO. 0012585

MONITORING WELL LOCATION MAP

FOR:
HALEY & ALDRICH OF NEW YORK
SITE:

227 WESTCHESTER AVENUE
PORT CHESTER, NEW YORK

S:_Projects\2025\25-10789\CAD\25-10789MW01.dwg Jul 01, 2026-11:33am BY:(PeterCavada)

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APPENDIX B
Zoning Map

PORT CHESTER ZONING MAP

Adopted
May 20, 2024

Legend

Zones

- C1
- CD-3.R20
- CD-3.R5
- CD-3.R7
- CD-4
- CD-4MU
- CD-5
- CD-5W
- CD-6
- CD-6T
- CV
- R2F
- SD-PMU
- SD-PRD
- CD-5T
- SITE BOUNDARY

740 370 0 740 1,480 2,220 2,960
Feet

N E S W

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APPENDIX C
Proposed Development Plans

UNIT COUNT BREAKDOWN

Name	Units Per Floor	Total Count	Name	Units Per Floor	Total Count
LEVEL 1 - S			0BR	14	84
TOWNHOUSE	7	7	1BR	18	108
LEVEL 2			2BR	5	30
0BR	15	15	LEVEL 11		
1BR	13	13	1BR	4	4
2BR	2	2	2BR	17	17
LEVEL 3			LEVEL 12		
0BR	16	16	1BR	5	5
1BR	18	18	2BR	14	14
2BR	3	3	185	185	370
LEVEL 4					
0BR	12	12			
1BR	17	17			
2BR	5	5			
LEVEL 5					

UNIT COUNT SUMMARY

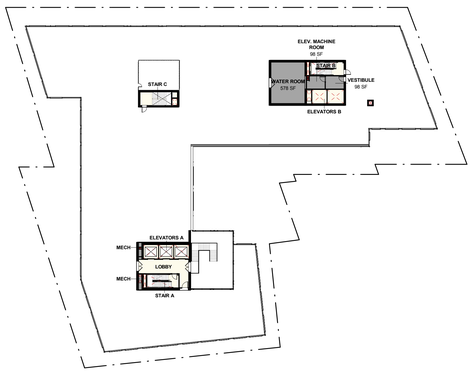
Name	Total Count	Area Calculated	% Based on Count
0BR	127	62489 SF	34%
1BR	165	125130 SF	45%
2BR	71	78024 SF	19%
TOWNHOUSE	7	6686 SF	2%
	370	272330 SF	

LEGEND

CORE
PARKING
RESI - 2BR
RESI - TOWNHOUSE
TERRACE
LOGGIA
RESI - 0BR
RESI - LOBBY/CIRCULATION
RESI -AMENITY
MECH
RESI - 1BR
RESI - STORAGE
RETAIL
EXISTING BUILDING DIMENSIONS
PROPOSED BUILDING DIMENSIONS



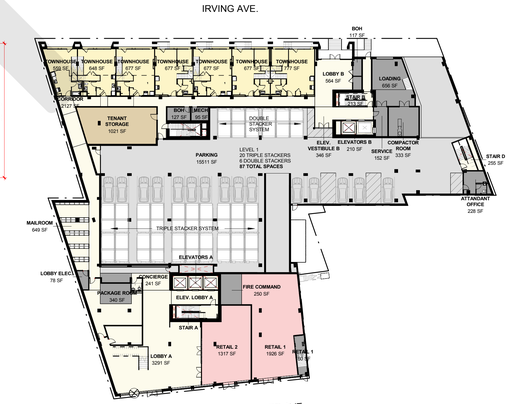
12 PH
1/32" = 1'-0"



11 ROOF
1/32" = 1'-0"



6 LEVEL 3
1/32" = 1'-0"



3 LEVEL 1 - S
1/32" = 1'-0"



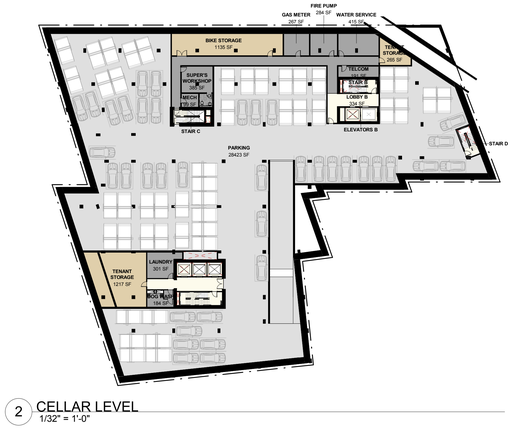
10 LEVEL 12
1/32" = 1'-0"



8 LEVEL 5
1/32" = 1'-0"



5 LEVEL 2
1/32" = 1'-0"



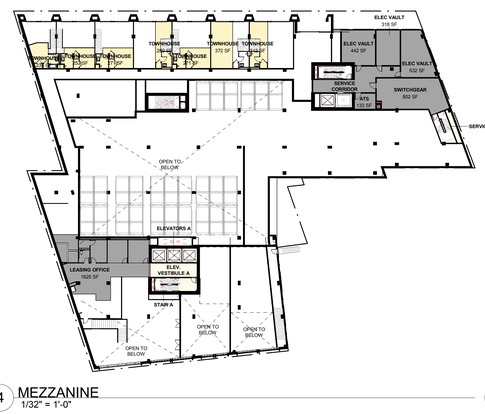
2 CELLAR LEVEL
1/32" = 1'-0"



9 LEVEL 11
1/32" = 1'-0"



7 LEVEL 4
1/32" = 1'-0"



4 MEZZANINE
1/32" = 1'-0"



1 SUB CELLAR
1/32" = 1'-0"

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TRINITY CONSULTANTS

1001 Avenue of Americas
New York, NY 10018
212.370.1776

SEAL / SIGNATURE

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05/22/26

PROJECT:

227 Westchester Ave

223-227 Westchester Avenue
& 204-220 Irving Avenue,
Port Chester, NY 10573

Lincoln Property Company,
Hudson Realty Capital

REVISIONS:

No.	Date	Description

SUBMISSIONS:

Date	Issued For:
05/22/26	Schematic Design

SCALE	**As indicated**
DATE ISSUED	**05/22/26**
PROJECT NO	**5989**
DRAWN BY	**AUTHOR**
CHECKED BY	**CHECKER**

SHEET TITLE:

AREA SCHEDULES AND FLOOR PLANS

Z-003 (1)

GROSS FLOOR AREA		FLOOR AREA BREAKDOWN									UNIT COUNTS				
Floor	Gross Floor Area	Use	Parking GSF	Commercial GSF	Mechanical / Core/ BOH GSF	Residential RSF	Lobby/ Circulation	Indoor Amenity	Storage	Efficiency	Townhouse	0BR	1BR	2BR	Total
Bulkhead	1,594 sf	Residential			700 sf		894 sf								
Roof	2,420 sf	Residential			848 sf		1572 sf								
Level 12	25,010 sf	Residential			514 sf	19,031 sf	3,149 sf	2,316 sf		76%	0	0	5	14	19
Level 11	25,844 sf	Residential			514 sf	22,202 sf	3,128 sf			86%	0		4	17	21
Level 10	29,818 sf	Residential			568 sf	25,733 sf	3,517 sf			86%	0	14	18	5	37
Level 9	29,818 sf	Residential			568 sf	25,733 sf	3,517 sf			86%	0	14	18	5	37
Level 8	29,818 sf	Residential			568 sf	25,733 sf	3,517 sf			86%	0	14	18	5	37
Level 7	29,818 sf	Residential			568 sf	25,733 sf	3,517 sf			86%	0	14	18	5	37
Level 6	29,818 sf	Residential			568 sf	25,733 sf	3,517 sf			86%	0	14	18	5	37
Level 5	29,818 sf	Residential			568 sf	25,733 sf	3,517 sf			86%	0	14	18	5	37
Level 4	28,168 sf	Residential			514 sf	24,144 sf	3,510 sf			86%	0	12	17	5	34
Level 3	29,795 sf	Residential			568 sf	25,628 sf	3,599 sf			86%	0	16	18	3	37
Level 2	29,883 sf	Residential			568 sf	20,241 sf	3,310 sf	5,764 sf		68%	0	15	13	2	30
Mezzanine	7,551 sf	Residential			4,172 sf	1,902 sf	1,477 sf				-	-	-	-	-
Level 1	36,021 sf	Residential			3,012 sf	4,692 sf	8,542 sf		1,021 sf		7	0	0	0	7
		Commercial		3,243 sf											
		Parking	15,511 sf												
Cellar	35,258 sf	Residential			3,137 sf		982 sf		2,441 sf		-	-	-	-	-
		Parking	28,698 sf												
Sub Cellar	36,161 sf	Residential			903 sf		1,720 sf		3,627 sf		-	-	-	-	-
		Parking	29,911 sf												
Total	**436,613 sf**		**74,120 sf**	**3,243 sf**	**18,858 sf**	**272,238 sf**	**52,985 sf**	**8,080 sf**	**7,089 sf**		7	127	165	71	**370**
Efficiency	** excluding parking and below-grade MEP/BOH GSF*									*76%*	**2%**	**34%**	**45%**	**19%**	**100%**
										LPC/HC TARGET	N/A	30.00%	49.00%	21.00%	100.00%

Total RSF	6,686	62,489	125,130	78,024	**272,329**
Average RSF	**955**	**492**	**758**	**1,099**	736
LPC/HC TARGET	N/A	500	750	1050	
	Townhouse	**0BR**	**1BR**	**2BR**	

TOTAL GSF AND RSF REDUCTION FROM SD	**8,687**	SF
TOTAL UNIT COUNT REDUCTION FROM SD	**7**	

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SD DESIGN



FLOOR AREA SUMMARY

UNIT COUNT BREAKDOWN

Level / Range	Area Per Floor	No. Of Floors	Tota Area
PH	1594 SF	1	1594 SF
ROOF	2420 SF	1	2420 SF
LEVEL 12	25357 SF	1	25357 SF
LEVEL 11	26284 SF	1	26284 SF
LEVEL 8 - 10	30779 SF	3	92336 SF
LEVEL 5 - 7	30779 SF	3	92336 SF
LEVEL 4	28724 SF	1	28724 SF
LEVEL 3	30552 SF	1	30552 SF
LEVEL 2	30552 SF	1	30552 SF
MEZZANINE	7906 SF	1	7906 SF
LEVEL 1	36022 SF	1	36022 SF
CELLAR LEVEL	35258 SF	1	35258 SF
SUB CELLAR	36161 SF	1	36161 SF
	322388 SF		445502 SF

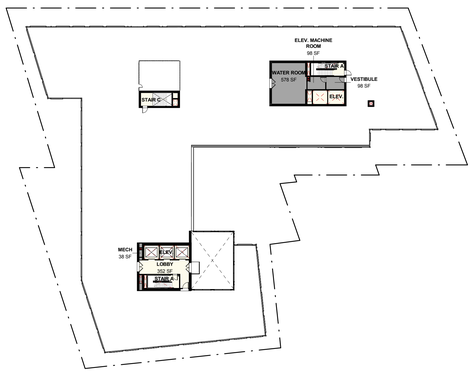
UNIT COUNT SUMMARY

Name	Total Count
0BR	146
1BR	125
1BR+	44
2BR	48
2BR+	7
TOWNHOUSE	7
	377

LEGEND

RESI - TOWNHOUSE | RESI - LOBBY/CIRCULATION | RESI - 1BR+ | RESI - 2BR+
RESI - 0BR | RESI - AMENITY | TERRACE | PARKING
LOGGIA | RESI - STORAGE | RETAIL | CORE
RESI - 1B+DEN | RESI - 1BR | RESI - 2BR | MECH.

13 PH - AREA
1/32" = 1'-0"



12 ROOF LEVEL - AREA
1/32" = 1'-0"



11 LEVEL 12 - UNIT MIX AND AREA
1/32" = 1'-0"



10 LEVEL 11 - UNIT MIX AND AREA
1/32" = 1'-0"



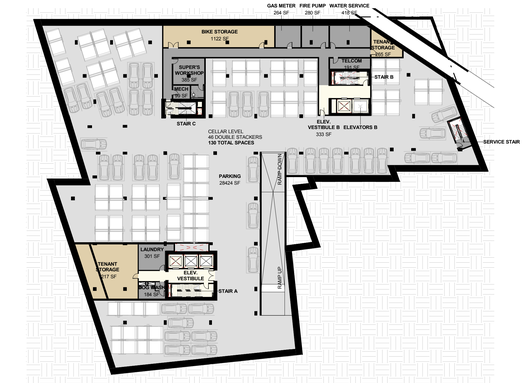
9 LEVEL 8 - UNIT MIX AND AREA
1/32" = 1'-0"



6 LEVEL 3 - UNIT MIX AND AREA
1/32" = 1'-0"



3 LEVEL 1 - UNIT MIX AND AREA
1/32" = 1'-0"



5 LEVEL 2 - UNIT MIX AND AREAS
1/32" = 1'-0"



4 MEZZANINE - UNIT MIX AND AREA
1/32" = 1'-0"

2 CELLAR LEVEL - AREA PLAN (D)
1/32" = 1'-0"

1 SUB CELLAR LEVEL - AREA PLAN
1/32" = 1'-0"

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1001 Avenue of Americas
New York, NY 10018
212.370.1776

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05/22/26

PROJECT:

227 Westchester Ave

223-227 Westchester Avenue
& 204-220 Irving Avenue,
Port Chester, NY 10573

Lincoln Property Company,
Hudson Realty Capital

REVISIONS:

No.	Date	Description

SUBMISSIONS:

Date	Issued For:
05/22/26	Schematic Design

SCALE	**As indicated**
DATE ISSUED	**05/22/26**
PROJECT NO	**5989**
DRAWN BY	**AUTHOR**
CHECKED BY	**CHECKER**

SHEET TITLE:

AREA SCHEDULES AND FLOOR PLANS

Z-003

SD DESIGN

GROSS FLOOR AREA		FLOOR AREA BREAKDOWN									UNIT COUNTS						
Floor	Gross Floor Area	Use	Parking GSF	Commercial GSF	Mechanical / Core/ BOH GSF	Residential RSF	Lobby/ Circulation	Indoor Amenity	Storage	Efficiency	Loggia	Townhouse	0BR	1BR	1BR +	2BR	2BR +	Total
Bulkhead	1,594 sf	Residential			700 sf		894 sf											
		Commercial																
		Parking																
Roof	2,420 sf	Residential			848 sf		1572 sf											
		Commercial																
		Parking																
Level 12	25,358 sf	Residential			490 sf	19,486 sf	3,149 sf	2,233 sf		77%	355 sf	0	0	9	0	9	2	20
		Commercial																
		Parking																
Level 11	26,283 sf	Residential			490 sf	22,665 sf	3,128 sf			86%	407 sf	0	0	8	1	9	4	22
		Commercial																
		Parking																
Level 10	30,779 sf	Residential			490 sf	26,772 sf	3,517 sf			87%	845 sf	0	16	12	4	5	0	37
		Commercial																
		Parking																
Level 9	30,779 sf	Residential			490 sf	26,772 sf	3,517 sf			87%	845 sf	0	16	12	4	5	0	37
		Commercial																
		Parking																
Level 8	30,779 sf	Residential			490 sf	26,772 sf	3,517 sf			87%	845 sf	0	16	12	4	5	0	37
		Commercial																
		Parking																
Level 7	30,779 sf	Residential			490 sf	26,772 sf	3,517 sf			87%	845 sf	0	16	11	6	4	0	37
		Commercial																
		Parking																
Level 6	30,779 sf	Residential			490 sf	26,772 sf	3,517 sf			87%	845 sf	0	16	11	6	4	0	37
		Commercial																
		Parking																
Level 5	30,779 sf	Residential			490 sf	26,772 sf	3,517 sf			87%	845 sf	0	16	11	6	4	0	37
		Commercial																
		Parking																
Level 4	28,723 sf	Residential			489 sf	24,724 sf	3,510 sf			86%	586 sf	0	19	14	3	2	0	38
		Commercial																
		Parking																
Level 3	30,552 sf	Residential			489 sf	26,464 sf	3,599 sf			87%	896 sf	0	19	13	6	1	0	39
		Commercial																
		Parking																
Level 2	30,552 sf	Residential			488 sf	20,453 sf	3,310 sf	6,301 sf		67%	310 sf	0	12	12	4	0	1	29
		Commercial																
		Parking																
Mezzanine	7,551 sf	Residential			4,172 sf	1,902 sf	1,477 sf					-	-	-	-	-	-	-
		Commercial																
		Parking																
Level 1	36,021 sf	Residential			3,012 sf	4,692 sf	8,542 sf		1,021 sf			7	0	0	0	0	0	7
		Commercial		3,243 sf														
		Parking	15,511 sf															
Cellar	35,258 sf	Residential			3,137 sf		982 sf		2,441 sf			-	-	-	-	-	-	-
		Commercial																
		Parking	28,698 sf															
Sub Cellar	36,161 sf	Residential			903 sf		1,720 sf		3,627 sf			-	-	-	-	-	-	-
		Commercial																
		Parking	29,911 sf															
Total	**445,147 sf**		**74,120 sf**	**3,243 sf**	**18,158 sf**	**281,018 sf**	**52,985 sf**	**8,534 sf**	**7,089 sf**		**7,624 sf**	**7**	**146**	**125**	**44**	**48**	**7**	**377**
												2%	39%	33%	12%	13%	2%	100%
Efficiency	* excluding parking and below-grade MEP/BOH GSF									77%								

Total RSF	**6,594**	**77,167**	**93,192**	**40,660**	**53,725**	**9,678**	**281,016**
Average RSF	942	529	746	924	1,119	1,383	745

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APPENDIX D
Construction Health and Safety Plan

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H & A OF NEW YORK ENGINEERING AND GEOLOGY, LLP
CONSTRUCTION HEALTH AND SAFETY PLAN

FOR

Proposed 227 Westchester Avenue Development Site

223-227 Westchester Avenue & 204, 206-208, 214-220 Irving Avenue

Port Chester, Westchester County, New York 10573

Project/File No. 0206816

Gensuite EZ Scan®

BI - Developers

Prepared By: Calvin Jackson	**Date: 11/19/2025**
Approvals: The following signatures constitute approval of this Health & Safety Plan.	
Insert Field Safety Managers electronic signature.	
Field Safety Manager: Brian Ferguson	**Date:** Click or tap to enter a date.
Insert Project Manager's electronic signature.	
Project Manager: Elizabeth Fitzerald	**Date:** Click or tap to enter a date.
HASP Valid Through: 12-31-2026	

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Note: This HASP has been developed for Haley & Aldrich purposes only and is not for use by others.

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Attachment A HASP Amendment Form
Attachment B Training Requirements
Attachment C Roles and Responsibilities
Attachment D Job Safety Analyses
Attachment E Project Site Forms
Attachment F Site-Specific Operating Procedures

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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.
- An 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.

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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.

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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.

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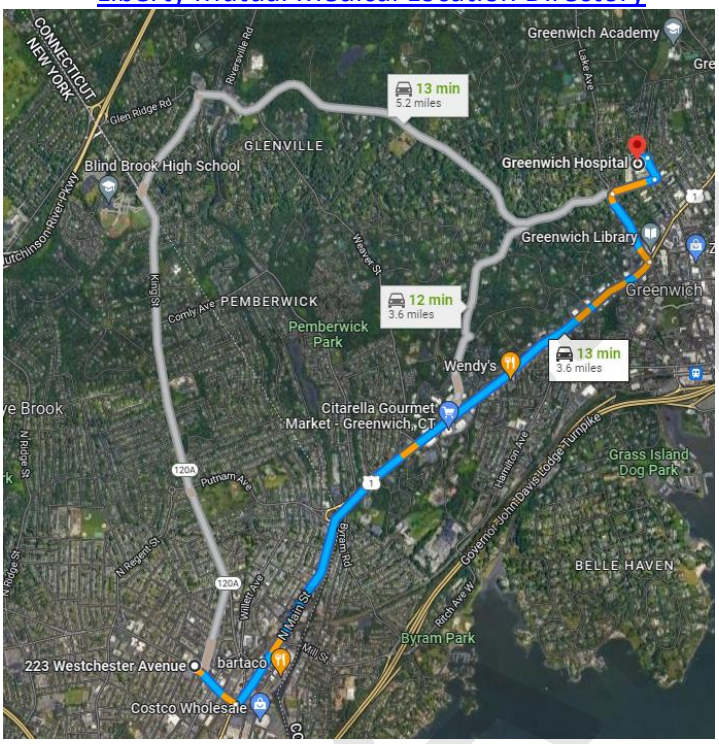
PROJECT INFORMATION AND CONTACTS	
Project Name: Proposed 227 Westchester Avenue Development Site	**Haley & Aldrich File No.:** 0206816
Location:	
Client/Site Contact: Phone Number:	Richard Ortiz 212.336.5265
Haley & Aldrich Field Representative: Phone Number: Emergency Phone Number:	Kaitlyn Moses 917.782.3892 646.413.6970
Haley & Aldrich Project Manager: Phone Number: Emergency Phone Number:	**Elizabeth Fitzerald** 917.765.7145 508.918.8558
Field Safety Manager: Phone Number: Emergency Phone Number:	Brian Ferguson 617.886.7439 617.908.2761
Nearest Hospital: Address: (see map on next page) Phone Number:	Greenwich Hospital 5 Perryridge Road Greenwich, CT 06830 203.863.3000
Nearest Occ. Health Clinic: http://www.talispoint.com/liberty/ext/ Address: (see map on next page) Phone Number:	CityMD Rye Brook Urgent Care 108 S Ridge Street Rye Brook, NY 10573 914.219.0187
Liberty Mutual Claim Policy	**WC6Z11254100035**
Acuity Injury Illness Hotline	**888.397.8099**
Emergency Response Number:	**911**
Other Local Emergency Response Number:	N/A
Other Ambulance, Fire, Police, or Environmental Emergency Resources:	911

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DIRECTIONS TO THE NEAREST HOSPITAL

Liberty Mutual Medical Location Directory



Directions to the Nearest Hospital:

223 Westchester Ave
Port Chester, NY 10573

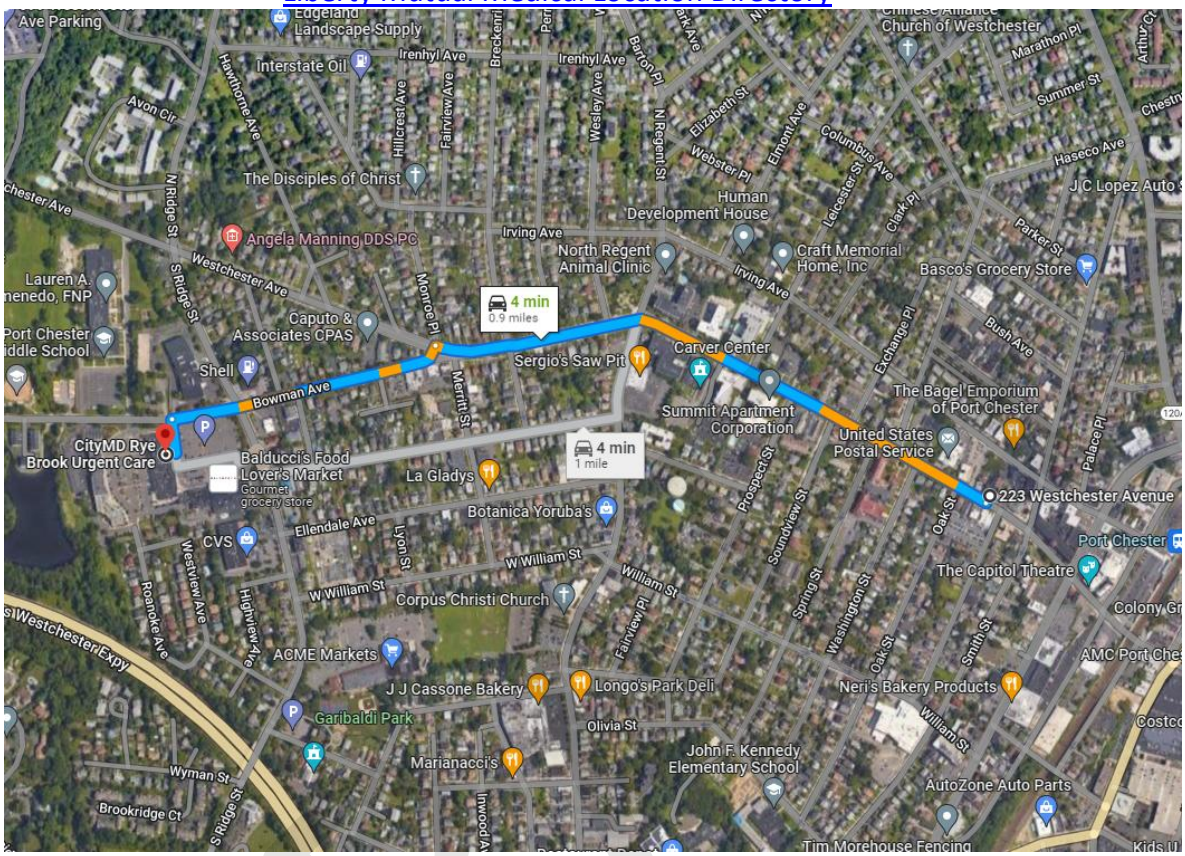
- Head southeast on Westchester Ave toward Grove St
  0.2 mi
- Turn left onto US-1 N/N Main St
  - Continue to follow US-1 N
  - Pass by McDonald's (on the right in 2.3 mi)
  - Entering Connecticut
  2.7 mi
- Turn left onto Dearfield Dr
  0.3 mi
- At the traffic circle, take the 1st exit onto Lake Ave
  0.2 mi
- At the traffic circle, take the 2nd exit onto Perryridge Rd
  0.1 mi
- Turn left
  - Destination will be on the right
  138 ft

Greenwich Hospital
5 Perryridge Rd, Greenwich, CT 06830

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DIRECTIONS TO THE NEAREST URGENT CARE

[Liberty Mutual Medical Location Directory]



Directions to the Nearest Occupational Clinic:

223 Westchester Ave
Port Chester, NY 10573

↑ Head northwest on Westchester Ave toward Oak St
0.6 mi

↰ Turn left onto Bowman Ave
0.3 mi

↰ Turn left onto Rye Ridge Plaza
ⓘ Destination will be on the right
180 ft

CityMD Rye Brook Urgent Care
108 S Ridge St, Rye Brook, NY 10573

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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:

Enter a complete description of the project work scope and breakdown the types of activities involved. For construction monitoring projects, specify the types of field control activities to be performed. Summarize general work activities and testing, sampling and handling requirements and intensity of contact with site media.)

Project Task Breakdown

Task No.	Task Description	Employee(s) Assigned	Work Date(s) or Duration
1.	Remedial Oversight	Kaitlyn Moses	5-6 Months
2.	Soil Sampling	Kaitlyn Moses	5-6 Months

Subcontractor(s) Tasks

Firm Name	Work Activity	Work Date(s) or Duration
N/A	Enter task description.	Enter dates/duration.

Projected Start Date: Click or tap to enter a date.

Projected Completion Date: Click or tap to enter a date.

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2. SITE OVERVIEW / DESCRIPTION

Site Classification

Commercial, Manufacturing/Industrial, and Residential

Site Description

The Site, identified as parcels 142.22-1-24, 25, 30, 31, 32 and 33 on the Rye Tax Map, is located in a commercial zoning district and is approximately one acre. The site is currently improved by 1-story commercial /retail building occupied by a dry cleaner with an adjoining paved alleyway (Lot 24), a two- to three-story mixed-use building with a full basement and rear yard occupied by office/retail spaces on the upper floors and a restaurant on the first floor (Lot 25), a one- to two-story commercial/manufacturing building with a roll up door (Lot 30), a three-story mixed-use building occupied by an auto body shop on the first floor and residential spaces on upper floors (Lot 31) and undeveloped vacant land (Lots 32 and 33).

Background and Historic Site Usage

The Site was first developed in the late 1800s and has historically been utilized for mixed commercial and residential use.

Site Status

Indicate current activity status and describe operations at the site:

Partially Active

Lot 24 – Currently utilized as a dry cleaner
Lot 25 – Currently used as a restaurant and office/retail spaces
Lot 30 – Currently Utilized as a commercial/manufacturing building
Lot 31 – Currently utilized as an auto body shop and residential spaces
Lots 32 and 33 - Undeveloped

Site Plan

Is a site plan or sketch available? Yes

Work Areas

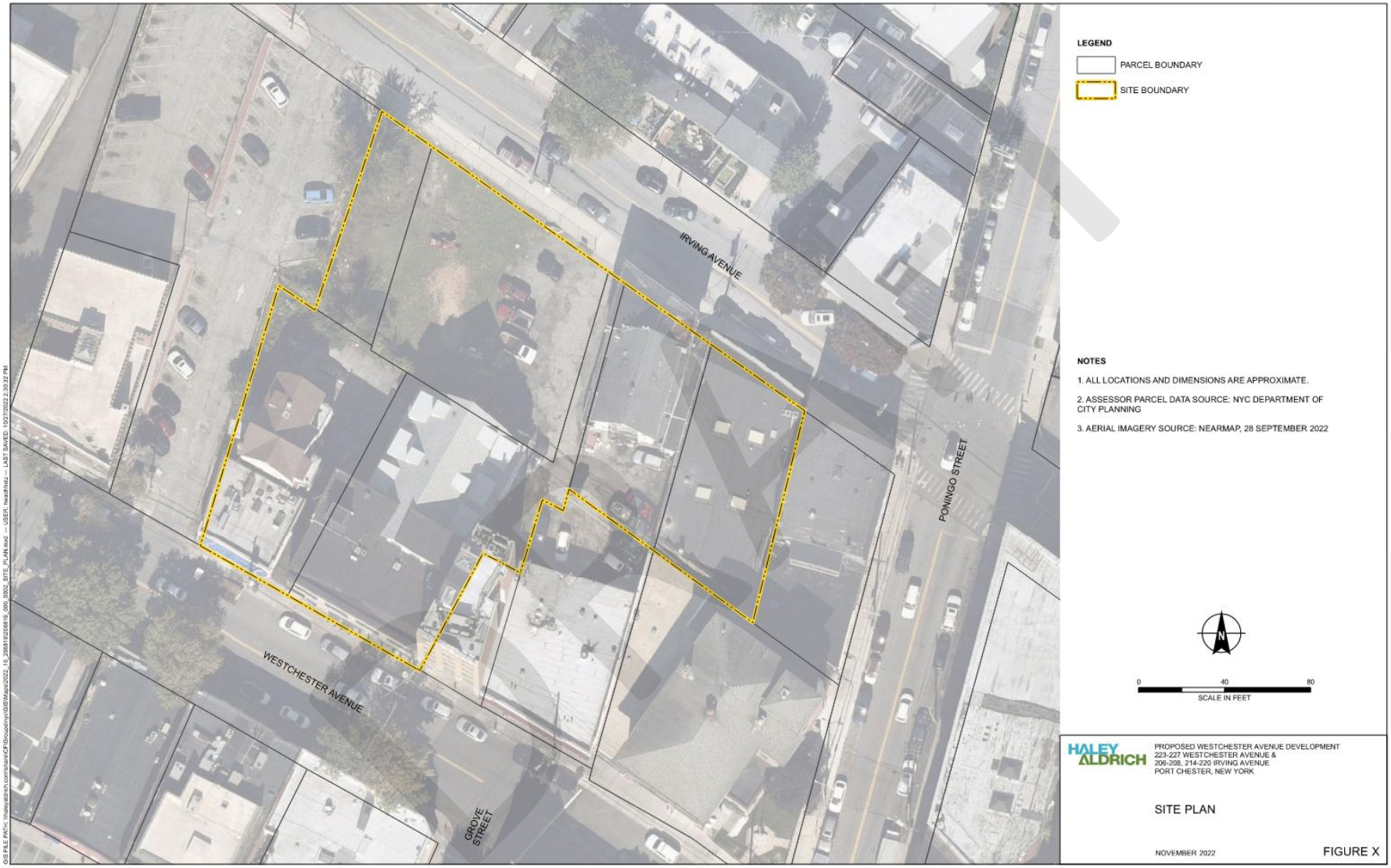
List and identify each specific work areas(s) on the job site and indicate its location(s) on the site plan:

The entire Site will be utilized as an active work area

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Site Plan



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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
Lead	**Soil**	**10500**	**mg/kg**
Mercury	**Soil**	**0.869**	**mg/kg**
Arsenic	**Soil**	**65.9**	**mg/kg**
Nickel	**Soil**	**81.1**	**mg/kg**
Zinc	**Soil**	**391**	**mg/kg**
Copper	**Soil**	**332**	**mg/kg**
Cadmium	**Soil**	**213**	**mg/kg**
Acetone	**Soil**	**0.31**	**mg/kg**
Dibenz(a.h)anthracene	**Soil**	**0.66**	**mg/kg**
Indeno(1,2,3-cd)pyrene	**Soil**	**1.7**	**mg/kg**
PFOS	**Soil**	**2.93**	**ug/kg**
VOCs	**Soil Vapor**	**1905.853**	**ug/m3**
BTEX	**Soil Vapor**	**178.89**	**ug/m3**
CVOCs	**Soil Vapor**	**509.36**	**ug/m3**

Lead: The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in your body. The main target for lead toxicity is the nervous system. Long-term exposure to lead can result in decreased performance in some tests measuring functions of the nervous system in adults. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and

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older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys and ultimately cause death.

Mercury: is an odorless, silver metallic liquid. It can be inhaled or absorbed through the skin. Contact may cause irritation to the skin or eyes. Toxic if ingested. Fume inhalation may cause irritation in the nose, throat or lungs. This is a corrosive chemical. Symptoms of poisoning include, muscle tremors, loss of appetite, and nausea. Long-term exposure may have effects on the central nervous system and kidneys. The PEL is 0.1 mg/m^3 averaged over an 8 hour shift.

Arsenic: The Occupational Safety and Health Administration has set limits of 10 microgram arsenic per cubic meter of workplace air (10 µg/m3) for 8 hour shifts and 40 hour work weeks. Several studies have shown that inorganic arsenic can increase the risk of lung cancer, skin cancer, bladder cancer, liver cancer, kidney cancer, and prostate cancer. The World Health Organization (WHO), the Department of Health and Human Services (DHHS), and the EPA have determined that inorganic arsenic is a human carcinogen.

Breathing high levels of inorganic arsenic can give you a sore throat or irritated lungs. Ingesting high levels of inorganic arsenic can result in death. Lower levels of arsenic can cause nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of "pins and needles" in hands and feet.

Nickel: is silvery-white metal with a gold tinge. It is used in batteries and making of alloys and is found in Earth's core and crust. If reduced to dust particles it can cause chronic bronchitis, reduced lung function and potential cancer of lung and sinus if overexposed.

Zinc: is an odorless, bluish-white powder. It is typically used in paints and can be mixed with other metals to make bass and other types of alloys. Zinc can produce flammable gases when in contact with water, sometimes creating vigorous or explosive reactions. It can also create gaseous hydrogen in contact with water or moist air. Inhalation will cause irritation to eyes and respiratory system. Exposures cause flu-like symptoms, called "metal fume fever", which can sometimes be delayed up to 48 hours after initial exposure.

Cadmium: Cadmium became an important metal in the production of nickel-cadmium (Ni-Cd) rechargeable batteries and as a sacrificial corrosion-protection coating for iron and steel. Common industrial uses for cadmium today are in batteries, alloys, coatings (electroplating), solar cells, plastic stabilizers, and pigments. Acute (short-term) exposure to Cadmium fumes is irritating to the respiratory tract. Inhalation of fumes may cause a buildup of fluid in the lungs. Inhalation of fumes may cause

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metal fume fever. The effects may be delayed, and medical observation is recommended. Prolonged (chronic) exposure to Cadmium dust may result in impairment of lungs. Cadmium and its compounds are highly toxic and exposure to this metal is known to cause cancer and targets the body's cardiovascular, renal, gastrointestinal, neurological, reproductive, and respiratory systems. Cadmium is a carcinogen.

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.

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.

Tetrachloroethylene: is a colorless liquid with a sharp sweet odor. Tetrachloroethylene vapor is heavier than air and will be found in low lying areas.

Trichloroethylene: is a nonflammable colorless liquid with a sweet odor. Trichloroethylene vapor is heavier than air and is found in low lying areas.

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

Hot Temperatures

Heat stress may occur at any time work is being performed at elevated ambient temperatures. Because heat stress is one of the most common and potentially serious illnesses associated with outdoor work during hot seasons, regular monitoring and other preventative measures are vital. Site workers must learn to recognize and treat the various forms of heat stress. The best approach is preventative heat stress management.

H&A employees and their subcontractors should be aware of potential health effects and/or physical hazards of working when there are hot temperatures or a high heat index. Refer OP1015-Heat Stress for a discussion on hot weather hazards.

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.

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Biological			
Small Mammals	Mosquitoes	Ticks	Choose an item.

Small Mammals

Rodents, are the most abundant order of mammals. There are hundreds of species of rats; the most common are the black and brown rat. Other rodents you may encounter are mice, beavers, squirrels, guinea pigs, capybaras and coypu.

The Brown Rat has small ears, blunt nose, and short hair. It is approximately 14-18” long (with tail). They frequently infest garbage/rubbish, slaughterhouses, domestic dwellings, warehouses, and supermarkets. They also frequent any space with an easy meal and potential nesting sites. The Black Rat is identified by its tail, that is always longer than the length from the head to the body. It is also slimmer and more agile than the Brown rat. Its size varies according to its environment and food supply.

The House Mouse has the amazing ability to adapt and can frequently be found in human dwellings. In buildings, mice will live anywhere and difficult to keep out. Mice are omnivorous, they will eat anything. Rats and mice often become a serious problem in cold winter months when they seek food and warmth inside buildings. They may suddenly appear in large numbers when excavation work disturbs their in-ground nesting locations or their food source is changed.

Some major problems caused by rats and mice are contaminating the food they eat with urine and excrement. Gnawing into materials such as paper, wood, or upholstery, to use as nest material. Also gnawing plastic, cement, soft metals such as lead and aluminum, and wiring, which may cause a fire hazard. Occasionally biting people and may kill small animals. They, or the parasites they carry, like fleas, mites and worms, spread many diseases such as salmonella, trichinosis, rat bite fever, hantavirus, Weil's disease, and bubonic plague. They damage ornamental plants by burrowing among the roots or feeding on new growth. They also eat garden vegetables, such as corn and squash. These rodents have been a problem for centuries, because of their incredible ability to survive and are so difficult to eliminate. In addition, they are extremely compatible with human behavior and needs.

Avoid contact with rodents, if possible. Avoid contact with rodent excrement. Do not eat food or water that may have encountered rodent excrement. If exposed, wash hands and avoid touching your face with your hands.

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

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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.

Ticks

Ticks are generally found in wooded, brushy, or grassy areas. They favor moist, shaded areas with fallen leaves and low vegetation, often sitting on the tips of tall grass or on shrubs waiting for a host to pass. Adult ticks are approximately the size of sesame seeds and are most active from March to mid-May and mid-August to November. Both nymphs and adults can transmit Lyme disease. Ticks can be active any time the temperature is above freezing. Ticks burrow into the host's skin to position themselves to withdraw blood. Infected ticks pass pathogens to the host through the bloodstream. Once imbedded, they may remain on the host for days. On humans, they frequently crawl to fleshy parts of the body and into difficult to reach spots such as the groin, armpit, or scalp.

A fine-tipped tweezer is recommended for tick removal tool and should be in the first-aid kit. Follow these steps: Pull upward with steady, even pressure. Do not twist or jerk the tick; this can cause mouth parts to break off and remain in the skin. If this happens, remove the parts with tweezers. If unable to remove easily with tweezers, leave them alone and let the skin heal.

After removing the tick, thoroughly clean the bite area and hands with rubbing alcohol, iodine scrub, or soap & water. Dispose of live ticks by submersal in alcohol, placing it in a sealed bag/container, wrap it tightly in tape or flush it down the toilet. Never crush ticks with your fingers. Do not attempt to use nail polish remover, petroleum jelly, lotion or heat to try to get the tick to exit skin. Swift removal is key.

Wear light-colored clothing so ticks stand out and long-sleeved shirts and long pants to reduce skin exposure. Tuck your shirt into your pants and tuck your pants into your socks to close gaps. Use repellent containing 20-30% DEET (N, N-diethyl-m-toluamide) on exposed skin and clothing. Avoid hands, eyes and mouth and wash off repellent when back indoors. Treat clothing with or purchase clothing with products containing 0.5% permethrin. It remains protective through several washings. Conduct frequent tick checks on clothing and skin. Have others check your back, scalp, and behind your ears and check gear for "hitchhikers". As soon as returning indoors, take a bath or shower and do a full-body inspection using a mirror. Wash field clothes and tumble dry on high to kill any ticks that may be

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hidden. If working in an area of significant tick habitat PPE may need to be upgraded to a Tyvek suit. Implementation of controls is crucial to minimize or eliminate the possibility of a tick bite. Should a staff member find an embedded tick they need to report it immediately to Corporate H&S. If a staff member has been bitten contact Corporate H&S and Work Care at 888-449-7787 to initiate the Tick Management Protocol. Once bitten, it takes approximately 48 hours to transmit Lyme Disease.

Location/Terrain			
Slip/Trip/Falls	SIMOPS	Economically Depressed	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.

SIMOPS

SIMOPS are described as the potential class of activities which could bring about an undesired event or set of circumstances, e.g., safety, environment, damage to assets, schedule, commercial, financial, etc. SIMOPS are defined as performing two or more operations concurrently.

SIMOPS should be identified at an early stage before operations commence to understand issues such as schedule and physical clashes, maintenance activities, failure impacts, interferences between vessels, contracts and third part interfaces and environmental impacts.

Coordinate project with site activities. Identify and understand the hazards associated with the host and client's activities. Integrate site emergency response protocols where appropriate and

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communicate to all project staff. Integrate site communication protocols and communicate to all project staff.

Economically Depressed Areas

Economically depressed areas may have high crime rates. Projects involving work in and around inactive industrial sites may bring staff into contact with indigent and homeless persons. Staff could be subjected to crime that includes but may not be limited to thievery, vandalism, and violence. Prior to the start of work staff need to understand the work locations and the potential for exposure to low level crime.

Staff members should never work alone in these areas. A buddy system is required. Conduct during daylight hours. Secure equipment and vehicles. If warranted, contact the local police department for a security detail. Leave the work area immediately and contact the local authorities if staff members feel threatened or are threatened.

Miscellaneous			
Extended Shift	Choose an item.	Choose an item.	Choose an item.

Extended Shift

An extended shift can include extending a workday beyond eight hours. Extended or unusual work shifts may be more stressful physically, mentally, and emotionally. Non-traditional shifts and extended work hours may disrupt the body's regular schedule, leading to increased fatigue, stress, and lack of concentration. This leads to an increased risk of operator error, injuries and/or accidents. The degree to which an individual is exposed to fatigue risk factors depends upon the work schedule. As both the duration of the workday and the number of days worked increase so does the fatigue risk factors. Staff Managers need to be aware of the fatigue risk factors and ensure projects are structured to mitigate these factors. Staff Members also have a responsibility to manage the personal fatigue risk factors that they can control outside of work (e.g, duration and quality of sleep, diet, drugs, and alcohol)

Fatigue is a message to the body to rest and can be eliminated with proper rest. However, if rest is not possible, fatigue can increase and becomes distressing and eventually debilitating. Fatigue symptoms, both mental and physical, vary and depend on the person and degree of overexertion. Examples include: weariness, sleepiness, irritability, reduced alertness, lack of memory, concentration and motivation, increased susceptibility to illness, depression, headache, loss of appetite, and digestive problems.

When possible, managers should limit use of extended shifts and increase the number of days worked. Working shifts longer than 8 hours generally result in reduced productivity and alertness. Additional breaks and meals should be provided when working extended shift periods. Tasks requiring heavy

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physical labor or intense concentration should be performed at the beginning of the shift if possible. This is an important consideration for pre-emergency planning.

Make efforts, when feasible, to ensure that unavoidable extended work shifts and shift changes allow affected employees time for adequate rest and recovery. Project Managers need to plan to have an adequate number of personnel available to enable workers to take breaks, eat meals, relax, and sleep.

Plan for regular and frequent breaks throughout the work shift. If at remote sites, ensure if possible, that there is a quiet, secluded area designated for rest and recuperation. In addition to formal breaks such as lunch or dinner, encourage use of micro breaks to change positions, move about, and shift concentration. Personnel should look to obtain an adequate quantity and quality of sleep.

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Task Hazard Summary

Task 1 – Excavation/Trenching

There are multiple hazards associated with working in and around excavations and trenches including cave-ins, potential running soils, dislodged excavated soils, lack of proper access and egress. Nonfatal, and even fatal, injuries may occur in association with excavation and trenching activities with a greater frequency than one might expect. Causes of bodily injury, illness, or death include asphyxiation, internal injuries due to physical crushing, falling objects and toxic exposures.

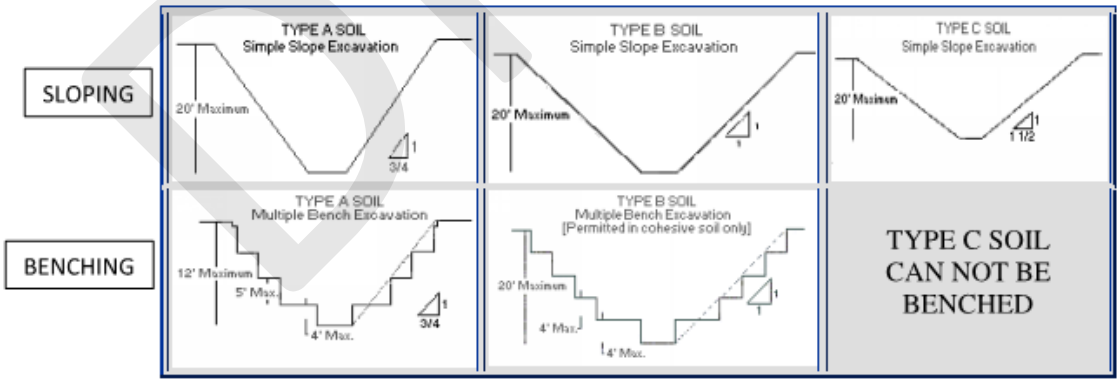
Excavations five (5) feet deep or greater require a protective system unless the excavation is made entirely in stable rock. If the depth is less than five (5) feet deep, a competent person may determine that a protective system is not required. Trenches 20 feet deep or greater require that the protective system be designed by a registered professional engineer or be based on tabulated data prepared and/or approved by a registered professional.

H&A Staff Members shall not enter a trench that is five feet deep or greater unless a protective system is used or the soil(s) have been characterized and benched and/or sloped appropriately.

The following are list identifies the types of protective measures that can be used in the event a staff member is required to enter an excavation or trench.

- **Sloping** involves cutting back the trench wall at an angle inclined away from the excavation.

- **Benching** means a method of protecting workers from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near vertical surfaces between levels. Benching cannot be done in Type C soil. Below is a diagram indicating the appropriate slope angle for both sloping and benching.



- **Shoring** requires installing aluminum hydraulic or other types of supports to prevent soil movement and cave-ins.
- **Shielding** protects workers by using trench boxes or other types of supports to prevent soil cave-ins.

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Designing a protective system can be complex because you must consider many factors: soil classification, depth of cut, water content of soil, changes caused by weather or climate, surcharge loads (e.g., spoil, other materials to be used in the trench) and other operations in the vicinity.

See OP 1001 Excavation and Trenching Safety for more information.

Enter any content that you want to repeat, including other content controls. You can also insert this control around table rows in order to repeat parts of a table.

Task 1 - Hauling Soils Off-site

Hauling Soils Off-site is conducted for a range of services that can include but are not limited to: building, foundation, utility excavation and environmental cleanup. Familiarity with basic heavy construction safety is an essential component of all hauling projects. Potential hazards related to hauling soils off-site operations include, but are not limited to encountering underground or overhead utilities, traffic and heavy equipment, generated waste, and the use or unexpected encountering of toxic or hazardous substances. While staff members do not operate heavy equipment, they may work in close proximity to the equipment and may be exposed to many of the same hazards as the Contractor. Care should be taken during loading of truck/container that the staff is not in the line of fire of the loading equipment (swing radius/traffic pattern) or of the falling spoils/soil from the loading bucket or truck bed. The staff should be aware at all times of subsurface stability as a truck may tip during truck loading and unloading due items such as but not limited to uneven surface, poorly or uncompacted subsurface, thawing soils, saturated soils and proximity to excavation. It is imperative that staff are aware of emergency / communication protocols with the Contractor prior to the start of work.

Task 1 - Soldier Pile and Lagging

Installation of soldier pile and lagging is typically conducted for foundations and utility trenches. Familiarity with basic heavy construction safety is an essential component of all piles installation. Potential hazards related to soldier pile and lagging installation include, but are not limited to encountering line of fire, underground or overhead utilities, noise, traffic and heavy equipment, and overhead work, Cranes or Lifting Equipment. While staff members do not operate heavy equipment, they will work in close proximity to the equipment and may be exposed to many of the same hazards as the Contractor. Care should be taken during unloading of piles from delivery trucks or hoisting of piles onto the rig as staff may often be in the line of fire or swing radius of the cranes. Staff should be aware at all times of all overhead hoisting operations even during pile installation. Staff should always maintain a safe distance to the pile driving rig during installation as the pile/hammer/accessories may break free of the rig due to vibration/impact. Always have an “exit strategy” in mind when working near the pile driving hammer or drill rig. During soil excavation and installation of the lagging the staff should be aware of the slope stability on both the up and down hill side of the excavation if applicable. It is imperative that staff are aware of emergency / communication protocols with the Contractor prior to the start of work.

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Task 1 - Stockpiling

Stockpiling of soils is conducted for a range of services that can include but are not limited to: building, foundation, utility excavation, drilling spoils containment and environmental cleanup. Familiarity with basic heavy construction safety is an essential component of all hauling projects. Potential hazards related to stockpiling operations include, but are not limited to encountering underground or overhead utilities, traffic and heavy equipment, and the use or unexpected encountering of toxic or hazardous substances. While staff members do not operate heavy equipment, they may work in close proximity to the equipment and may be exposed to many of the same hazards as the Contractor. Care should be taken during material stockpiling that the staff is not in the line of fire of the loading equipment (swing radius/traffic pattern). The staff should be aware of any setback requirements of stockpile surcharges near trenches and excavations.

Task 1 - Underground Utility Clearance

Ground disturbance activities such as excavating or drilling have the potential to contact underground utilities and may be considered a hazardous activity and a permit to work may be required. Once the H&A Project Manager has identified the work zone and the areas designated for ground disturbance the PM or designee is required to delineate the area with either white paint or flags so that the appropriate agencies know which area to check for their respective utilities. Haley & Aldrich staff members must ensure that permission has been gained from the property owner to access the property prior to site entry and before marking any proposed exploration or drilling locations.

The Project Manager shall verify that the proposed dig or drill zones are adequately marked or staked prior to the locators site visit, and that the appropriate Line Location Organization/ Contractor has been notified (a minimum of 72 business hours in advance) of all planned ground disturbance activities and a request for line location has been registered with the applicable One Call or dial Before You Dig organization when applicable. Personnel that are required to mark the area need to identify and understand the hazards associated with the project area which can range from a public roadway to a greenspace in a remote location.

See OP1020 Work Near Utilities.

Task 2 – 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

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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 Physical Hazards Checklist				
Potential Task Hazards	**Task 1** **Remedial Oversight**	**Task 2** **Soil Sampling**	**Task 3** Task Name	**Task 4** Task Name
Congested Area	☒	☒	☐	☐
Ergonomics	☒	☒	☐	☐
Excavation/Trenching	☒	☐	☐	☐
Energized Equipment	☒	☐	☐	☐
Generated Wastes	☒	☒	☐	☐
Ground Disturbance	☒	☐	☐	☐
Hand/Power Tools	☒	☐	☐	☐
Heavy Equipment	☒	☐	☐	☐
Hot Work	☒	☐	☐	☐
Ladders (Portable/Fixed)	☒	☐	☐	☐

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Line of Fire	☒	☐	☐	☐
Manual Lifting	☒	☒	☐	☐
Noise	☒	☐	☐	☐
Overhead Utilities	☒	☐	☐	☐
Repetitive Motion	☒	☒	☐	☐
Rotating Equipment	☒	☐	☐	☐
Slippery Surfaces	☒	☒	☐	☐
Sharp Objects	☒	☒	☐	☐
Traffic	☒	☐	☐	☐
Underground Utilities	☒	☐	☐	☐
Other: Specify	☐	☐	☐	☐

Summary of Physical Hazards & Controls

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.

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.

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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

Excavation & Trenches

There are multiple hazards associated with working in and around excavations and trenches including cave-ins, potential running soils, dislodged excavated soils, lack of proper access and egress. Nonfatal, and even fatal, injuries may occur in association with excavation and trenching activities with a greater frequency than one might expect. Causes of bodily injury, illness, or death include asphyxiation, internal injuries due to physical crushing, falling objects and toxic exposures.

See OP1001 Excavation and Trenching Safety for more information.

Controls

- Do not enter an exaction unless it has been inspected and has appropriate protective measures in place: shoring, benching, or sloping.
    - Protective measures are required for excavations that are 5 feet or deeper.
- If entry is required verify with the on-site competent person that:
    - no atmospheric hazards exist or have the potential to exist
    - there is no standing water or water removal operations are in place
    - the daily inspection has occurred
    - spoil piles, equipment or other is at least 2 feet from the edge
    - There is safe access and egress to the excavation which can include ladders, steps, ramps or other safe means. The means of access and egress shall be no more than 25’ away.
- If there is any doubt about the safety of the excavation personnel will not enter the excavation or trench and will contact the PM and the Regional Safety Manager.
- Do not stand on the long side of the cut. If required ensure there are no tension cracks.

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Energized Equipment

Energy sources including electrical, mechanical, hydraulic, pneumatic, or other sources in machines and equipment can be hazardous to workers. During servicing and maintenance of machines and equipment, the unexpected startup or release of stored energy can result in serious injury or death to workers.

Staff members that are required to work on energized equipment must first ensure that the source of energy is isolated and/or de-energized. In addition, any stored energy must also be released. Staff must ensure that the process to de-energize and isolate energy sources is documented and communicated to those who are working on the equipment. Staff must be trained on and understand the procedure.

See OP 1032 Control of Hazardous Energy for more information.

Controls

- Document process to de-energize or isolate energy sources.
- Ensure staff are appropriately trained to conduct work requiring LOTO.
- Affix log or tag to equipment to ensure improper start-up or release of energy.
- Execute an Energy Isolation Permit.

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.

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.

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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.

Hand and Power Tools

Hand and power tools can expose staff to a wide range of hazards depending upon the tool used. Hazards can include but are not limited to: falling, flying, abrasive, and splashing objects, or harmful dusts, fumes, mists, vapors, or gases.

Serious accidents often occur before steps are taken to evaluate and avoid or eliminate tool-related hazards. Staff must recognize the hazards associated with the different types of tools and the safety precautions necessary to prevent those hazards.

See OP 1026 Hand and Power Tools for more information.

Controls

- Keep all tools in good condition with regular maintenance.
- Use the right tool for the job. Do not use a tool for a task which it was not designed for.
- Examine each tool for damage before use and do not use damaged tools.
- For tools that are damaged or defective, red tag the tool and take out of service.
- Operate tools per the manufacturers' instructions.
- Use the appropriate personal protective equipment.
- All electrically powered tools will be connected through a ground fault circuit interrupter (GFCI).
- All personnel must be trained on the use of the tool they are utilizing.

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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.

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- 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.

Ladders (Fixed/Portable)

Working on and around stairways and ladders can be hazardous. They are major sources of injuries and fatalities among construction workers, for example, many of the injuries are serious enough to require time off the job. Rules apply to all stairways and ladders used in construction, alteration, repair, painting, and demolition of worksites.

See OP1027 Ladder Safety for additional information.

Controls

- Always maintain three points of contact when using a ladder.
- Only use ladders on a smooth and level surface.
- Do not exceed the maximum load rating of the ladder.
- Ladders shall always be maintained in good condition.
- Metal bearings of locks, wheels, pulleys, etc., shall be frequently lubricated.
- Frayed or badly worn rope shall be replaced.
- Safety feet and other auxiliary equipment shall be kept in good condition to ensure proper performance.
- Ladders shall be inspected prior to use, any which have developed defects shall be withdrawn from service for repair or destruction and tagged or marked as "Dangerous, Do Not Use."
- Rungs should be kept free of grease and oil.
- Fixed ladders that equal or exceed 24 feet must be equipped with ladder safety devices; or self-retracting lifelines and rest platforms at intervals not to exceed 150 feet; or a cage or well and multiple ladder sections with each ladder section not to exceed 50 feet in length.
- Side rails of through or side-step fixed ladders must extend 42 inches above the top level or landing platform served by the ladder

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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.

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.

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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.

Overhead Utilities

When work is undertaken near overhead electrical lines, the distance maintained from those lines shall also meet the minimum distances for electrical hazards as defined in Table 1 below. Note: utilities other than overhead electrical utilities need to be considered when performing work.

Table 1 Minimal Radial Clearance Distances *

Normal System Voltage Kilovolts (kV)	Required Minimal Radial Clearance Distance (feet/meters)
0 – 50	10/3.05
51 – 100	12/3.66
101 – 200	15/4.57
201 – 300	10/6.1
301 – 500	25/7.62
501 – 750	35/10.67
750 - 1000	45/13.72

* For those locations where the utility has specified more stringent safe distances, those distances shall be observed.

Controls

- To prevent damage, guy wires shall be visibly marked and work barriers or spotters provided in those areas where work is being conducted.
    - When working around guy wires, the minimum radial clearance distances for electrical power shall be observed.
- The PM shall research and determine if the local, responsible utility or client has more restrictive requirements than those stated in Table 1.
- If equipment cannot be positioned in accordance with the requirements established in Table 1 the lines need to be de-energized.

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Repetitive Motion

Repetitive Motion or Strain Injuries are injuries effecting muscles, nerves, and tendons by repetitive movement and overuse. Almost any kind of awkward or repetitive motion you make could lead to an injury over time. Actions like bending or twisting of the wrists, reaching for materials, working with your hands above shoulder level, or grasping objects can increase wear and tear on the body. The condition mostly effects the upper body.

Controls

- Arrange your work zone, supplies and tools as much as possible to avoid reaching, leaning, bending and twisting your waist or wrists.
- During rest breaks, use stretches to loosen up your body.
- Vary tasks if you can so that you are not making the same movement repeatedly over for a long period.

Rotating Equipment

Exposure to rotating parts can occur when working near a drilling rig, or other similar equipment. All rotating parts should be covered with guards to prevent access by workers. When performing maintenance activities that require the rotating parts to be exposed, workers should not allow loose clothing, hands, or tools to approach the rotating parts. Energy isolation procedures must be followed, and guards must be replaced as soon as possible after completing the maintenance task.

Operation of drilling equipment also creates hazards associated with pinch points and rotating equipment. These are hazards where the body and extremities, especially the hands, can be caught in moving equipment and crushed.

Controls

- Evaluate work procedures to avoid placing the body and extremities in the path of rotating equipment and tools to avoid being struck by moving equipment, tools and machinery.
- Evaluate equipment and tool use to identify pinch points and develop procedures to avoid placing body parts in a position where they can be caught in moving equipment, tools and machinery.
- Follow energy isolation procedures if required
- Do not work near rotating equipment with long loose hair, loose clothing or jewelry.

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.

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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.

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.

Traffic

To ensure worker protection and the safe passage of traffic through and around job sites, Site Traffic Control procedures may need to be implemented on project sites. Job zone control and traffic management are necessary when Simultaneous Operations (SIMOPS) or third parties could be at risk of injury by entering the work zone, or when the work crew is at risk of injury by other operations.

Traffic patterns shall be evaluated. Conditions such as high pedestrian traffic, peak periods, daily deliveries or SIMOPS known, Heavy equipment traffic volume and light duty traffic volume shall be evaluated

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Early identification and planning for site operations that require job zone control and traffic management, including SIMOPS, is the responsibility of the Project Manager and primary contractor manager. Traffic control plans shall be consistent with the Manual on Uniform Traffic Control Devices.

See OP1025 Signs, Signals, and Barricades and/or OP1043 Site Traffic Control for more information.

Controls

- Alternate walkways where possible.
- Use of the local police to direct traffic.
- Use of an air horn to alert drivers or other workers.
- Maintain good housekeeping and clean the area as work is completed.
- Use the 'buddy' or 'watchperson' system while performing work.
- Use a spotter for backing, tight maneuvers and bin/tank/equipment drop-offs.
- Use traffic control devices, field vehicles and barricades and avoid the use of caution tape.
- Park all vehicles (with wheels in a safe direction away from work) to block traffic with a flashing yellow light. Park so that access to the vehicle is away from oncoming traffic while working.
- When parking a vehicle and equipment, utilize a 'first move forward' driving practice.
- Work in an upright position, face traffic and make eye contact with drivers when possible.
- Minimize work time in traffic.
- Establish a 'Stop Work' hand signal.
- Personnel shall always wear high visibility vest

If public sites, such as public roads, bicycle paths or footpaths, are closed or rerouted, local and regulatory requirements shall be followed and traffic control permits shall be put in place. Proper traffic guiding equipment includes stop/slow paddle signs, flaggers, flashing lights and directional signs.

All personnel on-site should be aware of the plan of the day and the Traffic Control Plan should be communicated with all parties involved during the pre-shift meeting.

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;

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- 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.

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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**	**Task 4**
	Remedial Oversight	Soil Sampling	Enter task description.	Enter task description.
Hard hat	☒	☒	☐	☐
Safety Glasses	☒	☒	☐	☐
Safety Toed Shoes	☒	☒	☐	☐
Class 2 Safety Vest	☒	☒	☐	☐
Hearing Protection	☒	☐	☐	☐
Nitrile Gloves	☐	☒	☐	☐
Cut Resistant Gloves	☒	☐	☐	☐
Level of protection required	D	D	Select	Select
Required Safety Equipment				
First Aid Kit	☒	☒	☐	☐

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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)
Site Specific Orientation
40-Hour SST

Task Specific Training Requirements				
Required Training Type	**Task 1**	**Task 2**	**Task 3**	**Task 4**
	Remedial Oversight	Soil Sampling	Enter task description.	Enter task description.
DOT HAZMAT Transporter Training	☒	☐	☐	☐
RCRA Haz Waste Generator	☒	☐	☐	☐
Fall Protection	☒	☐	☐	☐

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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? Yes

Is perimeter monitoring required for community protection? Yes

Air monitoring plan not applicable No

Air Monitoring/Screening Equipment Requirements

Photo-Ionization Detector (PID) 10.6eV

Dust Monitor (Aeroqual)

The required equipment listed above must be on site. Work shall not commence unless the equipment is present and in working order.

Monitoring Plans

Parameter/ Contaminant	Equipment	Action Level	Response Activity
VOCs	PID 10.6 eV	< 10 ppm	Continue work and monitoring.
		>10 ppm for 5 minutes	Clear Instrument and Re-Monitor the Area. Implement PPE upgrades
		>10 ppm for >5 minutes	Evacuate the area and call the FSM and/or PM for further guidance. Implement engineering controls.

Zone Location and Monitoring Interval
Breathing zone and edge of Exclusion Zone.

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***If chemical does not have an action level use TLV or REL, whichever is lowest, to be used as an action level. If TLV or REL are the same as PEL, cut the PEL in half for an action level.**

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Parameter/ Contaminant	Equipment	Action Level*	Response Activity
VOCs	PID 10.6 eV	< 10 ppm >10 ppm for 5 Minutes >10 ppm for >5 minutes	Continue work and monitoring. Clear Instrument and Re-Monitor the Area. Implement PPE upgrades Evacuate the area and call the FSM and/or PM for further guidance. Implement engineering controls.

Zone Location		Monitoring Interval
Breathing Zone	Edge of Exclusion Zone	15 Minutes

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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

To be communicated during Site kick-off meeting

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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.

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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.

Standard Disposal Methods for Contaminated Materials

- Excess sample solids, decontamination materials, rags, brushes, poly-sheeting, etc. that are determined to be free of contamination through field 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 containerized separately for offsite disposal.

Any additional requirements that are designated by the workplan or by client specifications should be entered here.

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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. The Site Safety Officer 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 Barricades Temporary Fencing

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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

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Table 9.1 Emergency Equipment and Emergency PPE			
Emergency Equipment	**Specific Type**	**Quantity Stocked**	**Location Stored**
First Aid Kit	ANSI	1	With H & A staff
Emergency PPE	**Specific Type**	**Quantity Stocked**	**Location Stored**
Gloves	Nitrile	1 box	With H & A Staff

EVACUATION ALARM
Will be communicated during the Onsite Kickoff Meeting
EVACUATION ROUTES
Will be given a map after site specific training
EVACUATION MUSTER POINT(S)/ SHELTER AREA(S)
Will be given a locations after site specific training
EVACUTION RESPONSE DRILLS
The Site relies on outside emergency responders and a drill is not required.

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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 To be communicated during Site kick-off meeting		*SHELTER LOCATION* To be communicated during Site kick-off meeting	
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.			

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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

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ATTACHMENT A
HASP AMENDMENT FORM

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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

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ATTACHMENT B
TRAINING REQUIREMENTS

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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

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ATTACHMENT C
ROLES AND RESPONSIBILITIES

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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.

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- 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

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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.

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ATTACHMENT D
JOB SAFETY ANALYSES

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Safety
in everything we do

PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE

KEY TASK ENTER TASK NUMBER.: ENTER TASK NAME.

Subtask Category	Potential Hazards	Controls
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.
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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.
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.

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Note: This HASP has been developed for Haley & Aldrich purposes only and is not for use by others.

Enter subtask information.	Choose category.	• Enter control(s) for each hazard.

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Note: This HASP is developed for Haley & Aldrich purposes only and not for use by others.

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ATTACHMENT E
PROJECT SITE FORMS

Note: This HASP has been developed for Haley & Aldrich purposes only and is not for use by others.

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ATTACHMENT F
SITE-SPECIFIC OPERATING PROCEDURES

Note: This HASP has been developed for Haley & Aldrich purposes only and is not for use by others.

APPENDIX E
NYSDEC Request to Import/Reuse Form

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NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Request to Import/Reuse Fill or Soil

This form is based on the information required by DER-10, Section 5.4(e) and 6NYCRR Part 360.13. Use of this form is not a substitute for reading the applicable regulations and Technical Guidance document.

SECTION 1 – SITE BACKGROUND

The allowable site use is: Choose an item

Have Ecological Resources been identified? Choose an item

Is this soil originating from the site? Choose an item

How many cubic yards of soil will be imported/reused? Choose an item

If greater than 1000 cubic yards will be imported, enter volume to be imported:

SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone? Choose an item

Does it contain less than 10%, by weight, material that passes a size 100 sieve? Choose an item

Is this virgin material from a permitted mine or quarry? Choose an item

Is this material recycled concrete or brick from a DEC registered processing facility? Choose an item

SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.

If the material meets requirements of DER-10 section 5.4(e)5 (other material), no chemical testing needed.

Revised April 2023

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SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.

If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

Location where fill was obtained:

Identification of any state or local approvals as a fill source:

If no approvals are available, provide a brief history of the use of the property that is the fill source:

Provide a list of supporting documentation included with this request:

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The information provided on this form is accurate and complete.

_____ _____

Signature Date

_____

Print Name

_____

Firm

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APPENDIX F
Citizen Participation Plan

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NEW YORK STATE | Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan
for
Proposed 227 Westchester Avenue Development

March 2025

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BCP Site #C360253
223-225, 227 Westchester Avenue & 204, 206-208, 214-220 Irving Avenue
Port Chester
Westchester County, New York

Contents

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5. Investigation and Cleanup Process 12

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Appendix D - Brownfield Cleanup Program Process 22

* * * * *

Note: The information presented in this Citizen Participation Plan was current as of the date of its approval by the New York State Department of Environmental Conservation. Portions of this Citizen Participation Plan may be revised during the site's investigation and cleanup process.

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Applicant: **Yorkland Partners, LLC, 227 Westchester LLC and 204 Irving Two LLC ("Applicants")**
Site Name: **Proposed 227 Westchester Avenue Development ("Site")**
Site Address: **223-225, 227 Westchester Avenue & 204, 206-208, and 214-220 Irving Avenue**
Site County: **Westchester County**
Site Number: **C360253**

1. What is New York's Brownfield Cleanup Program?

New York's Brownfield Cleanup Program (BCP) works with private developers to encourage the voluntary cleanup of contaminated properties known as "brownfields" so that they can be reused and developed. These uses include recreation, housing, and business.

A *brownfield* is any real property that is difficult to reuse or redevelop because of the presence or potential presence of contamination. A brownfield typically is a former industrial or commercial property where operations may have resulted in environmental contamination. A brownfield can pose environmental, legal, and financial burdens on a community. If a brownfield is not addressed, it can reduce property values in the area and affect economic development of nearby properties.

The BCP is administered by the New York State Department of Environmental Conservation (NYSDEC) which oversees Applicants who conduct brownfield site investigation and cleanup activities. An Applicant is a person who has requested to participate in the BCP and has been accepted by NYSDEC. The BCP contains investigation and cleanup requirements, ensuring that cleanups protect public health and the environment. When NYSDEC certifies that these requirements have been met, the property can be reused or redeveloped for the intended use.

For more information about the BCP, go online at:
http://www.dec.ny.gov/chemical/8450.html .

2. Citizen Participation Activities

Why NYSDEC Involves the Public and Why It Is Important

NYSDEC involves the public to improve the process of investigating and cleaning up contaminated sites, and to enable citizens to participate more fully in decisions that affect their health, environment, and social well-being. NYSDEC provides opportunities

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for citizen involvement and encourages early two-way communication with citizens before decision makers form or adopt final positions.

Involving citizens affected and interested in site investigation and cleanup programs is important for many reasons. These include:

- Promoting the development of timely, effective site investigation and cleanup programs that protect public health and the environment;

- Improving public access to, and understanding of, issues and information related to a particular site and that site's investigation and cleanup process;

- Providing citizens with early and continuing opportunities to participate in NYSDEC's site investigation and cleanup process;

- Ensuring that NYSDEC makes site investigation and cleanup decisions that benefit from input that reflects the interests and perspectives found within the affected community; and

- Encouraging dialogue to promote the exchange of information among the affected/interested public, State agencies, and other interested parties that strengthens trust among the parties, increases understanding of site and community issues and concerns, and improves decision making.

This Citizen Participation (CP) Plan provides information about how NYSDEC will inform and involve the public during the investigation and cleanup of the site identified above. The public information and involvement program will be carried out with assistance, as appropriate, from the Applicant.

Project Contacts

Appendix A identifies NYSDEC project contact(s) to whom the public should address questions or request information about the site's investigation and cleanup program. The public's suggestions about this CP Plan and the CP program for the site are always welcome. Interested people are encouraged to share their ideas and suggestions with the project contacts at any time.

Locations of Reports and Information

The locations of the reports and information related to the site's investigation and cleanup program also are identified in Appendix A. These locations provide convenient access to important project documents for public review and comment. Some

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documents may be placed on the NYSDEC web site. If this occurs, NYSDEC will inform the public in fact sheets distributed about the site and by other means, as appropriate.

Site Contact List

Appendix B contains the site contact list. This list has been developed to keep the community informed about, and involved in, the site's investigation and cleanup process. The site contact list will be used periodically to distribute fact sheets that provide updates about the status of the project. These will include notifications of upcoming activities at the site (such as fieldwork), as well as availability of project documents and announcements about public comment periods.
The site contact list includes, at a minimum:

- chief executive officer and planning board chairperson of each county, city, town and village in which the site is located;
- residents, owners, and occupants of the site and properties adjacent to the site;
- the public water supplier which services the area in which the site is located;
- any person who has requested to be placed on the site contact list;
- the administrator of any school or day care facility located on or near the site for purposes of posting and/or dissemination of information at the facility; and
- location(s) of reports and information.

The site contact list will be reviewed periodically and updated as appropriate. Individuals and organizations will be added to the site contact list upon request. Such requests should be submitted to the NYSDEC project contact(s) identified in Appendix A. Other additions to the site contact list may be made at the discretion of the NYSDEC project manager, in consultation with other NYSDEC staff as appropriate.

Note: The first site fact sheet (usually related to the draft Remedial Investigation Work Plan) is distributed both by paper mailing through the postal service and through DEC Delivers, its email listserv service. The fact sheet includes instructions for signing up with the appropriate county listserv to receive future notifications about the site. See http://www.dec.ny.gov/chemical/61092.html .

Subsequent fact sheets about the site will be distributed exclusively through the listserv, except for households without internet access that have indicated the need to continue to receive site information in paper form. Please advise the NYSDEC site project manager identified in Appendix A if that is the case. Paper mailings may continue during the investigation and cleanup process for some sites, based on public interest and need.

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CP Activities

The table at the end of this section identifies the CP activities, at a minimum, that have been and will be conducted during the site's investigation and cleanup program. The flowchart in Appendix D shows how these CP activities integrate with the site investigation and cleanup process. The public is informed about these CP activities through fact sheets and notices distributed at significant points during the program. Elements of the investigation and cleanup process that match up with the CP activities are explained briefly in Section 5.

- **Notices and fact sheets** help the interested and affected public to understand contamination issues related to a site, and the nature and progress of efforts to investigate and clean up a site.

- **Public forums, comment periods and contact with project managers** provide opportunities for the public to contribute information, opinions and perspectives that have potential to influence decisions about a site's investigation and cleanup.

The public is encouraged to contact project staff at any time during the site's investigation and cleanup process with questions, comments, or requests for information.

This CP Plan may be revised due to changes in major issues of public concern identified in Section 3 or in the nature and scope of investigation and cleanup activities. Modifications may include additions to the site contact list and changes in planned citizen participation activities.

Technical Assistance Grant

NYSDEC must determine if the site poses a significant threat to public health or the environment. This determination generally is made using information developed during the investigation of the site, as described in Section 5.

If the site is determined to be a significant threat, a qualifying community group may apply for a Technical Assistance Grant (TAG). The purpose of a TAG is to provide funds to the qualifying group to obtain independent technical assistance. This assistance helps the TAG recipient to interpret and understand existing environmental information about the nature and extent of contamination related to the site and the development/implementation of a remedy.

An eligible community group must certify that its membership represents the interests of the community affected by the site, and that its members' health, economic well-being

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or enjoyment of the environment may be affected by a release or threatened release of contamination at the site.

As of the date the declaration (page 2) was signed by the NYSDEC project manager, the significant threat determination for the site had not yet been made.

To verify the significant threat status of the site, the interested public may contact the NYSDEC project manager identified in Appendix A.

For more information about TAGs, go online at http://www.dec.ny.gov/regulations/2590.html .

Note: The table identifying the citizen participation activities related to the site's investigation and cleanup program follows on the next page.

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Citizen Participation Activities	Timing of CP Activity(ies)
Application Process:	
• Prepare site contact list. • Establish document repository(ies).	At time of preparation of application to participate in the BCP.
• Publish notice in Environmental Notice Bulletin (ENB) announcing receipt of application and 30-day public comment period. • Publish above ENB content in local newspaper. • Mail above ENB content to site contact list. • Conduct 30-day public comment period.	When NYSDEC determines that BCP application is complete. The 30-day public comment period begins on date of publication of notice in ENB. End date of public comment period is as stated in ENB notice. Therefore, ENB notice, newspaper notice, and notice to the site contact list should be provided to the public at the same time.
After Execution of Brownfield Site Cleanup Agreement (BCA):	
• Prepare Citizen Participation (CP) Plan.	Before start of Remedial Investigation. **Note:** Applicant must submit CP Plan to NYSDEC for review and approval within 20 days of the effective date of the BCA.
Before NYSDEC Approves Remedial Investigation (RI) Work Plan:	
• Distribute fact sheet to site contact list about proposed RI activities and announcing 30-day public comment period about draft RI Work Plan. • Conduct 30-day public comment period.	Before NYSDEC approves RI Work Plan. If RI Work Plan is submitted with application, public comment periods will be combined and public notice will include fact sheet. Thirty-day public comment period begins/ends as per dates identified in fact sheet.
After Applicant Completes Remedial Investigation:	
• Distribute fact sheet to site contact list that describes RI results.	Before NYSDEC approves RI Report.
Before NYSDEC Approves Remedial Work Plan (RWP):	
• Distribute fact sheet to site contact list about draft RWP and announcing 45-day public comment period. • Public meeting by NYSDEC about proposed RWP (if requested by affected community or at discretion of NYSDEC project manager). • Conduct 45-day public comment period.	Before NYSDEC approves RWP. Forty-five day public comment period begins/ends as per dates identified in fact sheet. Public meeting would be held within the 45-day public comment period.
Before Applicant Starts Cleanup Action:	
• Distribute fact sheet to site contact list that describes upcoming cleanup action.	Before the start of cleanup action.
After Applicant Completes Cleanup Action:	
• Distribute fact sheet to site contact list that announces that cleanup action has been completed and that NYSDEC is reviewing the Final Engineering Report. • Distribute fact sheet to site contact list announcing NYSDEC approval of Final Engineering Report and issuance of Certificate of Completion (COC).	At the time the cleanup action has been completed. **Note:** The two fact sheets are combined when possible if there is not a delay in issuing the COC.

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3. Major Issues of Public Concern

This section of the CP Plan identifies major issues of public concern that relate to the site. Additional major issues of public concern may be identified during the course of the site's investigation and cleanup process.

Based on the analytical results of the Limited Phase II Environmental Site Investigation (ESI) conducted in February 2024, the primary contaminants of concern for the Site include heavy metals and petroleum-related hydrocarbons in soil; petroleum-related hydrocarbons in groundwater; and chlorinated solvents and petroleum-related contaminants in soil vapor. Additional investigation would be necessary to determine if an on-site/off-site source of contamination exists.

The planned project will consist of demolition of existing structures and development of a new twelve-story mixed commercial/residential use building that will encompass the entire Site. At grade and subgrade parking will also be included within the development. The new development is anticipated to extend to approximately 25 feet below sidewalk grade (ft bgs). During future ground intrusive activities, the community will be protected from contaminant migration using air monitoring protocols as detailed in the Remedial Action Work Plan to be approved by NYSDEC. Additional details provided in Section 4.

The Site is in an Environmental Justice Area (Census Block Group #361190080003). Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and politics. Environmental justice efforts focus on improving the environment in communities, specifically minority and low-income communities, and addressing disproportionate adverse environmental impacts that may exist in those communities.

Future fact sheets will be translated into Spanish and/or other languages as necessary.

For additional information, visit: https://statisticalatlas.com/school-district/New-York/Port-Chester-Rye-Union-Free-School-District/Race-and-Ethnicity .

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4. Site Information

Appendix C contains a map identifying the location of the site.

Site Description

The Site is located at 223-225 and 227 Westchester Avenue, and 204, 206-208, and 214-220 Irving Avenue, Port Chester, NY 10573, in Westchester County. The Site is approximately 38,768 square-feet (sf) or 0.89 acres and is identified as Section 142.22 Block 1, Lots 24, 25, 30, 31, 32, and 33 on the Rye tax map.

The Site is currently composed of six lots, four of which are developed and two undeveloped. Site features include a one-story commercial building occupied by a restaurant and a three-story residential building with a partial basement and an adjoining paved alleyway (Lot 24); a three- to four-story mixed-use building with a full basement and rear yard occupied by office/retail spaces on the upper floors and a restaurant and tap room on the first floor (Lot 25); a one-story commercial building occupied by offices and a woodshop/warehouse (Lot 30); and a three-story mixed-use building occupied by an auto parts retail shop and auto-maintenance garage on the first floor and residential spaces on upper floors (Lot 31).

The table below identifies each Parcel Address and its associated Section, Block, Lot, and Acreage.

Parcel Address	Section	Block	Lot	Acreage
227 Westchester Avenue	142.22	1	24	0.16
223-225 Westchester Avenue	142.22	1	25	0.243
204 Irving Avenue	142.22	1	30	0.11
206-208 Irving Avenue	142.22	1	31	0.11
214 Irving Avenue	142.22	1	32	0.21
220 Irving Avenue	142.22	1	33	0.06

The Site is located between Westchester Avenue and Irving Avenue within a mixed-use area near downtown Port Chester characterized by commercial, residential, and office buildings. Properties next to the Site include the following:

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Direction	Adjoining Property	Surrounding Properties
North	Irving Avenue	Mixed-use residential and commercial buildings
South	Westchester Avenue	Mixed-use residential and commercial buildings
East	Mixed-use residential and commercial buildings	Mixed-use residential and commercial buildings and a fire station
West	Parking lot and mixed use commercial buildings	Mixed-use residential and commercial buildings

History of Site Use, Investigation, and Cleanup

227 Westchester Avenue

Based on the Phase I Environmental Site Assessment (ESA) performed by Haley & Aldrich of NY Geology and Engineering LLP for the Proposed 227 Westchester Avenue Development (Lot 24 on the Rye tax map) in March 2024 and readily available resources, 227 Westchester Avenue was developed as early as 1890 and utilized for residential purposes. By 1950, the lot contained a dwelling, garage, and three storefronts. Historic commercial uses at 227 Westchester Avenue include a laundromat and dry cleaners (early 1970's to early 1990's) and restaurant (2000 to present).

223-225 Westchester Avenue

223-225 Westchester Avenue (Lot 25 on the Rye tax map) was developed as early as 1890 and utilized as a church until 1934 when the property was developed into a commercial building, utilized as a bowling alley, storefronts, and office space. Historic commercial uses at 227 Westchester Avenue include a bowling alley (1934 to1950), dry cleaners (1962 to 1977), dance hall (1990 to 200), cleaners (early 1970's to early 1990's) and restaurant (2000 to present).

204 Irving Avenue

204 Irving Avenue (Lot 30 on the Rye tax map) was undeveloped until 1934 when it was developed to a garage with a reported 38 car capacity and associated office. Historic commercial uses at 204 Irving include Empire Fuel Oil Service (1962 to 1972), a warehouse (1990 to 2012), and a furniture store (2012 to present).

206-208 Irving Avenue

206-208 Irving Avenue (Lot 31 on the Rye tax map) was undeveloped until the early 1900's when the property was developed with two-story residential dwellings. By 1934 the structures were razed and replaced with three-story mixed-use residential and commercial structures. Historic commercial uses at 204 Irving include laundry services

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(1934 to 1962), a plumbing company (1934 to 1950), a grocery store (1962 to 1994), and an auto parts and repair shop (2000 to present).

214-220 Irving Avenue

214-220 Irving Avenue (Lots 32 and 33 on the Rye tax map) was undeveloped until 1895 when it was improved with a two-story dwelling. By 1908 two additional three- to four-story mixed-use commercial and residential structures were established on the site. By 1934 an additional one-story commercial structure utilized as a plumbing shop was constructed at 220 Irving Avenue and was later razed by 1990 for the development of a parking lot. In the early 1990's the structures listed between 212-220 Irving Avenue had been razed and the parcel has remained undeveloped. Historic commercial uses at 214-220 Irving Avenue include a grocery store (1890-1915), National Biscuit Co. (1890-1915), a general store (1890-1950), a candy store (1915-1950), laundry services (1934 to 1962), a plumbing company (1934 to 1950), grocery store (1962 to 1994), a plumbing shop (1950-1962), and a parking lot (1990-present).

Yorkland Partners, LLC and its subsidiaries, 227 Westchester Ave LLC and 204 Irving Two LLC purchased the 227 Westchester Avenue lot in January 2022 from JSN of NY LLC; the 223-225 Westchester Avenue lot in November 2018 from 225 Westchester Corp; and the 204 Irving Avenue lot in December 2023 from 204 Irving Avenue Corp. The purchase of the 206-208 Irving Avenue, 214 Irving Avenue, and 220 Irving Avenue lots from Mario L De Marco are pending.

Based on the analytical results of the Limited Phase II ESI conducted in February 2024, the primary contaminants of concern for the Site include heavy metals and petroleum-related hydrocarbons in soil; petroleum-related hydrocarbons in groundwater; and chlorinated solvents and petroleum-related contaminants in soil vapor. The source of contamination in soil is likely a result of previous operations, including dry cleaning, bowling alley, oil service station, and auto repair. An aboveground storage tank (AST) present at 206-208 Irving Avenue and associated staining and odor surrounding the AST are indications that a potential former release of petroleum product exists.

5. Investigation and Cleanup Process

Application

The Applicant has applied for and been accepted into New York's Brownfield Cleanup Program as a Participant. This means that the Applicant was the owner of the site at the time of the disposal or discharge of contaminants or was otherwise liable for the disposal or discharge of the contaminants. The Participant must fully characterize the nature and extent of contamination on-site, as well as the nature and extent of contamination that has migrated from the site. The Participant also must conduct a

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“qualitative exposure assessment,” a process that characterizes the actual or potential exposures of people, fish and wildlife to contaminants on the site and to contamination that has migrated from the site.

The Applicant in its Application proposes that the site will be used for restricted-residential purposes.

To achieve this goal, the Applicant will conduct investigation and cleanup activities at the site with oversight provided by NYSDEC. The Brownfield Cleanup Agreement executed by NYSDEC and the Applicant sets forth the responsibilities of each party in conducting these activities at the site.

Investigation

The Applicant has completed a partial site investigation before it entered into the BCP. NYSDEC will determine if the data are useable.

The Applicant will conduct an investigation of the site officially called a “remedial investigation” (RI). This investigation will be performed with NYSDEC oversight. The Applicant must develop a remedial investigation workplan, which is subject to public comment.

The site investigation has several goals:

1) define the nature and extent of contamination in soil, surface water, groundwater and any other parts of the environment that may be affected;
2) the source(s) of the contamination;
3) assess the impact of the contamination on public health and the environment; and
4) provide information to support the development of a proposed remedy to address the contamination or the determination that cleanup is not necessary.

The Applicant submitted a draft “Remedial Investigation Work Plan” to NYSDEC for review and approval. NYSDEC made the draft plan available for public review during a 30-day public comment period.

When the investigation is complete, the Applicant will prepare and submit a report that summarizes the results. This report also will recommend whether cleanup action is needed to address site-related contamination. The investigation report is subject to review and approval by NYSDEC.

NYSDEC will use the information in the investigation report to determine if the site poses a significant threat to public health and/or the environment. If the site is a “significant threat,” it must be cleaned up using a remedy selected by NYSDEC from an

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analysis of alternatives prepared by the Applicant and approved by NYSDEC. If the site does not pose a significant threat, the Applicant may select the remedy from the approved analysis of alternatives.

Interim Remedial Measures

An Interim Remedial Measure (IRM) is an action that can be undertaken at a site when a source of contamination or exposure pathway can be effectively addressed before the site investigation and analysis of alternatives are completed. If an IRM is likely to represent all or a significant part of the final remedy, NYSDEC will require a 30-day public comment period.

Remedy Selection

When the investigation of the site has been determined to be complete, the project likely would proceed in one of two directions:

1. The Applicant may recommend in its investigation report that no action is necessary at the site. In this case, NYSDEC would make the investigation report available for public comment for 45 days. NYSDEC then would complete its review, make any necessary revisions, and, if appropriate, approve the investigation report. NYSDEC would then issue a “Certificate of Completion” (described below) to the Applicant.

or

2. The Applicant may recommend in its investigation report that action needs to be taken to address site contamination. After NYSDEC approves the investigation report, the Applicant may then develop a cleanup plan, officially called a “Remedial Work Plan”. The Remedial Work Plan describes the Applicant’s proposed remedy for addressing contamination related to the site.

When the Applicant submits a draft Remedial Work Plan for approval, NYSDEC would announce the availability of the draft plan for public review during a 45-day public comment period.

Cleanup Action

NYSDEC will consider public comments, and revise the draft cleanup plan, if necessary, before approving the proposed remedy. The New York State Department of Health (NYSDOH) must concur with the proposed remedy. After approval, the proposed remedy becomes the selected remedy. The selected remedy is formalized in the site Decision Document.

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The Applicant may then design and perform the cleanup action to address the site contamination. NYSDEC and NYSDOH will oversee the cleanup activities. When the Applicant completes cleanup activities, it will prepare a final engineering report that certifies that cleanup requirements have been achieved or will be achieved within a specific time frame. NYSDEC will review the report to be certain that the cleanup is protective of public health and the environment for the intended use of the site.

Certificate of Completion

When NYSDEC is satisfied that cleanup requirements have been achieved or will be achieved for the site, it will approve the final engineering report. NYSDEC then will issue a Certificate of Completion (COC) to the Applicant. The COC states that cleanup goals have been achieved and relieves the Applicant from future liability for site-related contamination, subject to certain conditions. The Applicant would be eligible to redevelop the site after it receives a COC.

Site Management

The purpose of site management is to ensure the safe reuse of the property if contamination will remain in place. Site management is the last phase of the site cleanup program. This phase begins when the COC is issued. Site management incorporates any institutional and engineering controls required to ensure that the remedy implemented for the site remains protective of public health and the environment. All significant activities are detailed in a Site Management Plan.

An *institutional control* is a non-physical restriction on use of the site, such as a deed restriction, that would prevent or restrict certain uses of the property. An institutional control may be used when the cleanup action leaves some contamination that makes the site suitable for some, but not all uses.

An *engineering control* is a physical barrier or method to manage contamination. Examples include caps, covers, barriers, fences, and treatment of water supplies.

Site management also may include the operation and maintenance of a component of the remedy, such as a system that pumps and treats groundwater. Site management continues until NYSDEC determines that it is no longer needed.

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Appendix A -
Project Contacts and Locations of Reports and Information

Project Contacts

For information about the site's investigation and cleanup program, the public may contact any of the following project staff:

New York State Department of Environmental Conservation (NYSDEC):

Daniel Lanners
Project Manager
NYSDEC
Division of Environmental Remediation
625 Broadway, Albany, NY 12233-7014
(518) 402-9652
daniel.lanners@dec.ny.gov

Stephanie Mossey
Public Participation Specialist
NYSDEC Region 3
21 South Putt Corners Rd
New Paltz, NY 12561
(845) 256-3154
stephanie.mossey@dec.ny.gov

New York State Department of Health (NYSDOH):

Michael Izdebski
Public Health Specialist
NYSDOH – Bureau of Environmental
Exposure Investigation
Corning Tower, 17th Flr., Albany, NY 12237
(518) 402-7860
BEEI@health.ny.gov

Locations of Reports and Information

DECInfo Locator Link: https://dec.ny.gov/maps/interactive-maps/decinfo-locator

The facilities identified below are being used to provide the public with convenient access to important project documents:

Port Chester-Rye Brook Public Library 1 Haseco Avenue, Port Chester, NY 10573 Attn: Robin Lettieri Phone: (914) 939-6710 Email: pcrbref@pcrblibrary.org	Rye Free Reading Room 1061 Boston Post Road, Rye, NY 10580 Attn: Chris Shoemaker Phone: (914) 967-0480 Email: cshoemaker@ryelibrary.org

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Appendix B - Site Contact List

Executive

Role	Name	Phone	Mailing Address	Email / Contact
Port Chester Mayor	Mayor Luis A. Marino	914-939-5201	222 Grace Church Street Port Chester, NY 10573	https://www.portchesterny.gov/formcenter/Contact-Staff-4/Contact-Mayor-Luis-A-Marino-49
Port Chester Department of Planning & Economic Development Director	Gregory Cutler	914-937-6780	222 Grace Church Street Suite 202 Port Chester, NY 10573	planning@portchesterny.gov
Westchester County Board of Legislators District 6	Nancy E. Barr	914-995-2834	148 Martine Avenue, 8th Floor White Plains, NY 10601	https://westchesterlegislators.com/e-mail-district-6
NY Senate District 37 Senator	Shelley B. Mayer	914-934-5250	222 Grace Church Street Suite 300Port Chester, NY 10573	smayer@nysenate.gov
NY State Assembly District 091 Member	Steven Otis	914-939-7028	222 Grace Church Street Port Chester, NY 10573	OtisS@nyassembly.gov

Owners, Residents, Occupants

Owner	Contact Name	Phone	Mailing Address	Email
Yorkland Partners, LLC (Lot 25)	Richard Ortiz	(212) 336-5265	570 Lexington Avenue, 22nd Floor New York, NY 10022	rortiz@hudsoncap.com
227 Westchester Ave LLC (Lot 24)	Richard Ortiz	(212) 336-5265	570 Lexington Avenue, 22nd Floor New York, NY 10022	rortiz@hudsoncap.com
204 Irving Two LLC (Lot 30)	Richard Ortiz	(212) 336-5265	570 Lexington Avenue, 22nd Floor New York, NY 10022	rortiz@hudsoncap.com
Mario L De Marco (Lots 31, 32, 33)	Mario L De Marco	(914) 937-2213	1 Gateway Plaza, 2nd Floor, Port Chester, NY 10573	N/A

Operator	Contact Name	Phone	Mailing Address	Email
Ruchiras Corp. (Lot 24)	Not Available	(914) 305-3990	227 Westchester Avenue Port Chester, NY 10573	N/A
Residential (Lot 24)	Not Available	N/A	227 Westchester Avenue Port Chester, NY 10573	N/A
Run N Hide Tap Room (Lot 25)	Not Available	(914) 305-1352	223 Westchester Avenue Port Chester, NY 10573	T_a@rhbrewing.com
Tandoori Restaurant (Lot 25)	Not Available	(914) 937-2727	223 Westchester Avenue Port Chester, NY 10573	N/A
Offices (Lot 25)	Not Available	N/A	223-225 Westchester Avenue Port Chester, NY 10573	N/A
Carpentry Workshop/Warehouse (Lot 30)	Not Available	N/A	204 Irving Avenue Port Chester, NY 10573	N/A
Carquest Auto Parts (Lot 31)	Not Available	(914) 935-3272	206 Irving Avenue Port Chester, NY 10573	N/A
Residential (Lot 31)	Not Available	N/A	206-208 Irving Avenue Port Chester, NY 10573	N/A
N/A – Vacant (Lots 32, 33)	Not Available	N/A	214-220 Irving Avenue Port Chester, NY 10573	N/A

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Adjacent Properties

Below is a list of the adjoining properties.

Owner/Entity Name	Contact Name	Site Use	Property Address	Owner Mailing Address
Village of Port Chester	Not Available	Parking Lot	N/A Irving Avenue	222 Grace Church Street, Suite 220 Port Chester, NY 10573
Branca Realty LLC	Not Available	Multi-Family Residential	223 Irving Avenue	78 S Regent St, Port Chester, NY 10573
H & H Property Corp	Not Available	Commercial, Parking Lot	211 Irving Avenue	33 New Broad Street Port Chester, NY 10573
Irving Building LLC	Not Available	Commercial	199 Irving Avenue	P.O. Box 225 Thornwood, NY 10594
200 Irving Avenue Holdings LLC	Not Available	Commercial	200 Irving Avenue	29 Grandview Avenue Rye, NY 10580
Village of Port Chester	Not Available	Commercial	209 Irving Avenue	222 Grace Church Street, Suite 220 Port Chester, NY 10573
211-217 Westchester Ave Corp	Not Available	Commercial	211-217 Westchester Avenue	213 Westchester Avenue Port Chester, NY 10573
219 Westchester Avenue LLC	Not Available	Commercial, Offices	219 Westchester Avenue	44 South Broadway, Suite 100 White Plains, NY 10601
Charles Maselli, Anna R Killeen	Not Available	Commercial	216 Westchester Avenue	1936 Narragansett Avenue Bronx, NY 10461
220 Westchester Corp	Not Available	Commercial	220 Westchester Avenue	220 Westchester Avenue Port Chester, NY 10573
R & D Realty Management Co LLC	Not Available	Commercial	232 Westchester Avenue	235 Elm Place Mineola, NY 11501

Local News and Media:

Owner/Entity Name	Type	Address	Phone	Website
Westmore News	Print Newspaper, Online Media	327 Irving Avenue, Port Chester, NY 10573	914-939-6864	https://westmorenews.com/
news12 Westchester	Television, Online Media	6 Executive Plaza, Yonkers, NY 10701	914-378-4855	https://westchester.news12.com
The Journal News	Print Newspaper, Online Media	2 Westchester Park Drive #B, White Plains, NY 10604	888-426-6388	https://www.lohud.com/
The Examiner News	Print Newspaper, Online Media	PO Box 611, Mount Kisco, NY 10549	914-864-0878	https://www.theexaminernews.com/category/news/examiner/

Public Water Supply:

Public water supply is the shared responsibility of the Village of Port Chester Department of Public Works and the New York-American Water Company.

Owner/Entity Name	Contact	Address	Phone	Email
Village of Port Chester Department of Public Works	Rocco Cambareri – General Foreman	82 Fox Island Road Port Chester, NY 10573	914-939-5207	Not Available
New York-American Water Company	Not Available	131 Purchase Street Rye, NY 10580	914-967-7144	Not Available

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School or Day Care Located on or Proximal to the Site

The following schools or day care facilities are located within a ½-mile radius of the Site:

School/Day Care Name	Approximate distance from Site in feet and (directional)	Administrator	Phone	Address
Port Chester Head Start	500' (West)	Not Available	914-937-5863	17 Spring Street, Port Chester, NY 10573
Corpus Christi-Holy Rosary School – Father Rinaldi Campus	2,150' (Southwest)	Mrs. Dierdre McDermott - Principal	914-937-4407	135 S Regent Street, Port Chester, NY 10573
John F. Kennedy Elementary School	1,980' (Southwest)	Judy Diaz - Principal	914-934-7990	40 Olivia Street, Port Chester, NY 10573
Latinos School	1,375' (Northwest)	Not Available	914-305-5405	388 Westchester Avenue #1K, Port Chester, NY 10573
My Garden Family Day Care	1,875' (Northwest)	Not Available	914-565-6942	394 Irving Avenue, Port Chester, NY 10573
Polska Szkola w Port Chester	1,330' (Northeast)	Dorota Muga - Principal	347-512-9536	239 Willett Avenue, Port Chester, NY 10573
Thomas A Edison School	2,500' (Northeast)	Paul Roncagliolo - Principal	914-934-7980	132 Rectory Street, Port Chester, NY 10573
Zoni Language Centers	1,450' (Southeast)	Not Available	914-515-2045	125 North Main Street, Port Chester, NY 10573
Rossy's Little Angels Family Day Care	917' (Southwest)	Not Available	914-565-6054	43 Soundview Street, Port Chester, NY 10573
Happy Corner Day Care Center Inc	1,953' (Southwest)	Not Available	914-937-5250	80 South Regent Street, Port Chester, NY 10573
Port Chester Children's Place	1,523' (Northwest)	Not Available	914-690-0860	400 Westchester Avenue, Port Chester, NY 10573
Ladybug Family Preschool	1,225' (South)	Not Available	914-305-4687	141 William Street, Port Chester, NY 10573
Sunny Side Daycare Center	502' (South)	Not Available	914-380-9149	27 Smith Street, Port Chester, NY 10573
Magic Clouds Day Care	1,000' (North)	Not Available	914-908-0366	18 Parker Street, Port Chester, NY 10573

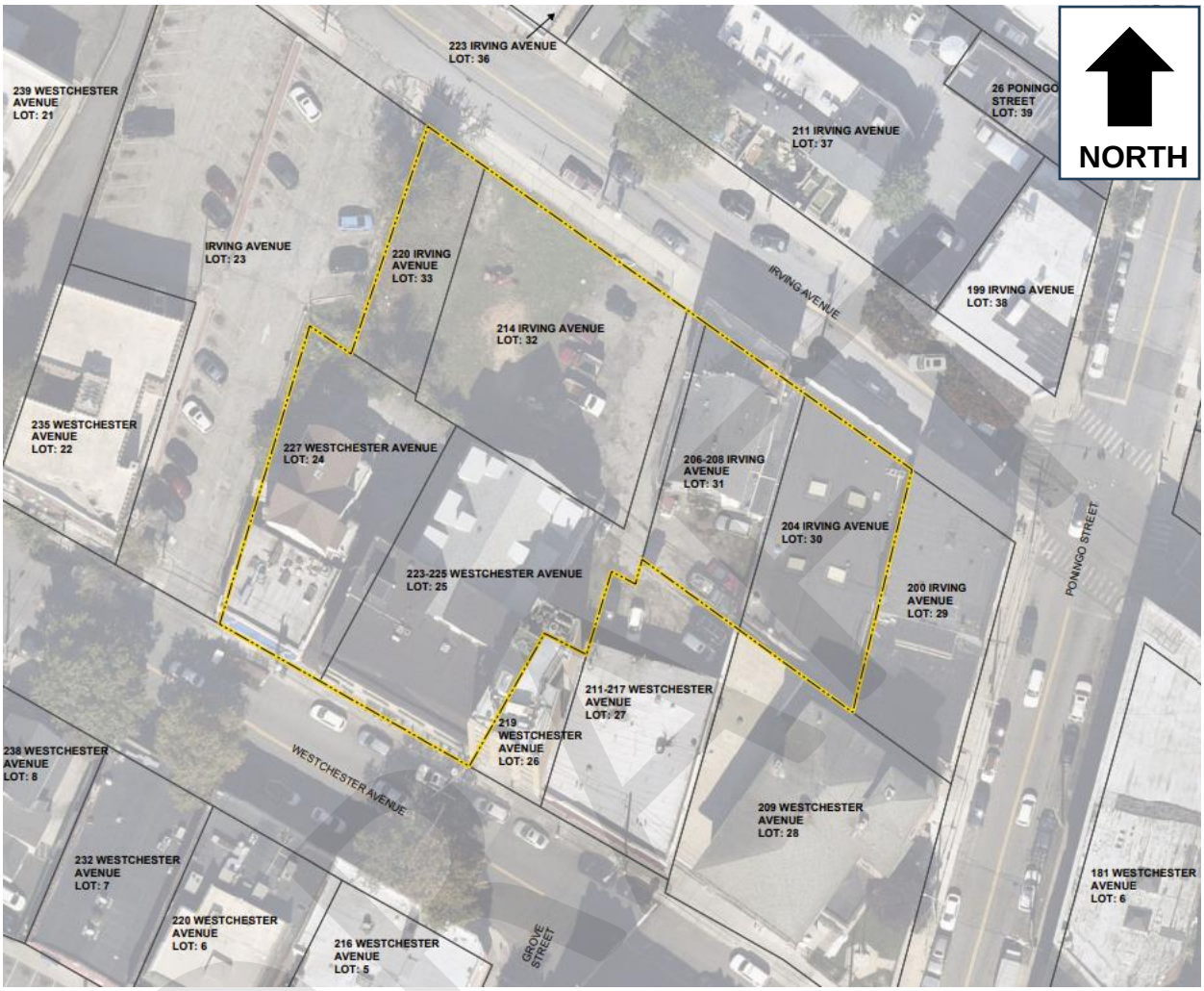
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Community, Civic, Religious and Other Environmental Organizations:

Owner/Entity Name	Contact	Address	Phone	Email
Saint John Bosco Catholic Church	Rev. Franco Pinto, SDB - Administrator	260 Westchester Avenue, Port Chester, NY 10573	914-881-1400	frfrancosdb@donboscopc.org
St George Orthodox Church	Not Available	360 Irving Avenue, Port Chester, NY 10573	914-937-9000	Not Available
El Shaddai Church of God	Not Available	38 Bulkley Avenue, 1st Floor, Port Chester, NY 10573	914-937-8104	Not Available
The Salvation Army Port Chester Corps Community Center	Not Available	36 Bush Avenue, Port Chester, NY 10573	914-939-2725	Not Available
Segunda Iglesia Pentecostal Juan 3:16	Not Available	54 Poningo Street, Port Chester, NY 10573	914-305-1391	2daiglesiajuan316@gmail.com
North Baptist Church	Not Available	284 King Street, Port Chester, NY 10573	914-937-8401	Not Available
Assembly of God World Vision	Pr. Nilson and Marcia Teixeira	201 King Street, Port Chester, NY 10573	914-690-0000	contact@agwvchurch.com
Iglesia Evangelica Apostles Y Profetas Efesios 2:20 | Port Chester – Templo Puerta al Cielo	Not Available	146 Irving Avenue, Port Chester, NY 10573	Not Available	Not Available
Redemption Community Church	Not Available	181 Westchester Avenue, Port Chester, NY 10573	914-698-0456	Not Available
St Peter's Episcopal Church / Community Action Program	Not Available	19 Smith Street, Port Chester, NY 10573	914-939-1244	Not Available
St. Frances A.M.E. Zion Church / Carro Parqueado	Not Available	18 Smith Street, Port Chester, NY 10573	914-939-1056	Not Available
Girtman Memorial Church of the Living God	Not Available	5 New Broad Street, Port Chester, NY 10573	914-937-7181	Not Available
Bethesda Baptist Church	Not Available	136 E William Street, Port Chester, NY 10573	914-939-6541	bethesdabaptistpc@outlook.com
El Olivar Pentecostal Church	Not Available	118 S Main Street, Port Chester, NY 10573	914-937-4693	Not Available
Corpus Christi Church	Ms. Silvia Inocente	136 S Reagent Street, Port Chester, NY 10573	914-881-1400	sinocente@donboscopc.org
Chinese Alliance Church of Westchester	Not Available	59 Glen Avenue, Port Chester, NY 10573	914-937-8931	Not Available
Our Lady the Rosary Church / Parish of Saint John Bosco	Not Available	22 Don Bosco Place, Port Chester, NY 10573	914-939-1860	Not Available
Don Bosco Community Center	Not Available	22 Don Bosco Place, Port Chester, NY 10573	914-939-0323	info@donboscocenter.org
Mt Zion Baptist Church	Not Available	23 Slayter Street, Port Chester, NY 10573	914-939-1653	info@mountzionbc.org
Knights of Columbus	Not Available	327 Westchester Avenue, Port Chester, NY 10573	914-939-4343	Council@KofC503.org
Carver Center	Not Available	400 Westchester Avenue, Port Chester, NY 10573	914-305-6009	fdesk@carvercenter.org
The Sharing Shelf	Not Available	47 Purdy Avenue, Port Chester, NY 10573	914-305-5950	info@sharingshelf.org
Port Chester Fire Department	Nicholas Melillo - Chief	209 Westchester Avenue, Port Chester, NY 10573	914-939-1661	PCFDchiefs@portchesterny.gov
Port Chester Police Department	Christopher Rosabella - Chief	350 N Main Street #1, Port Chester, NY 10573	914-939-1000	Not Available

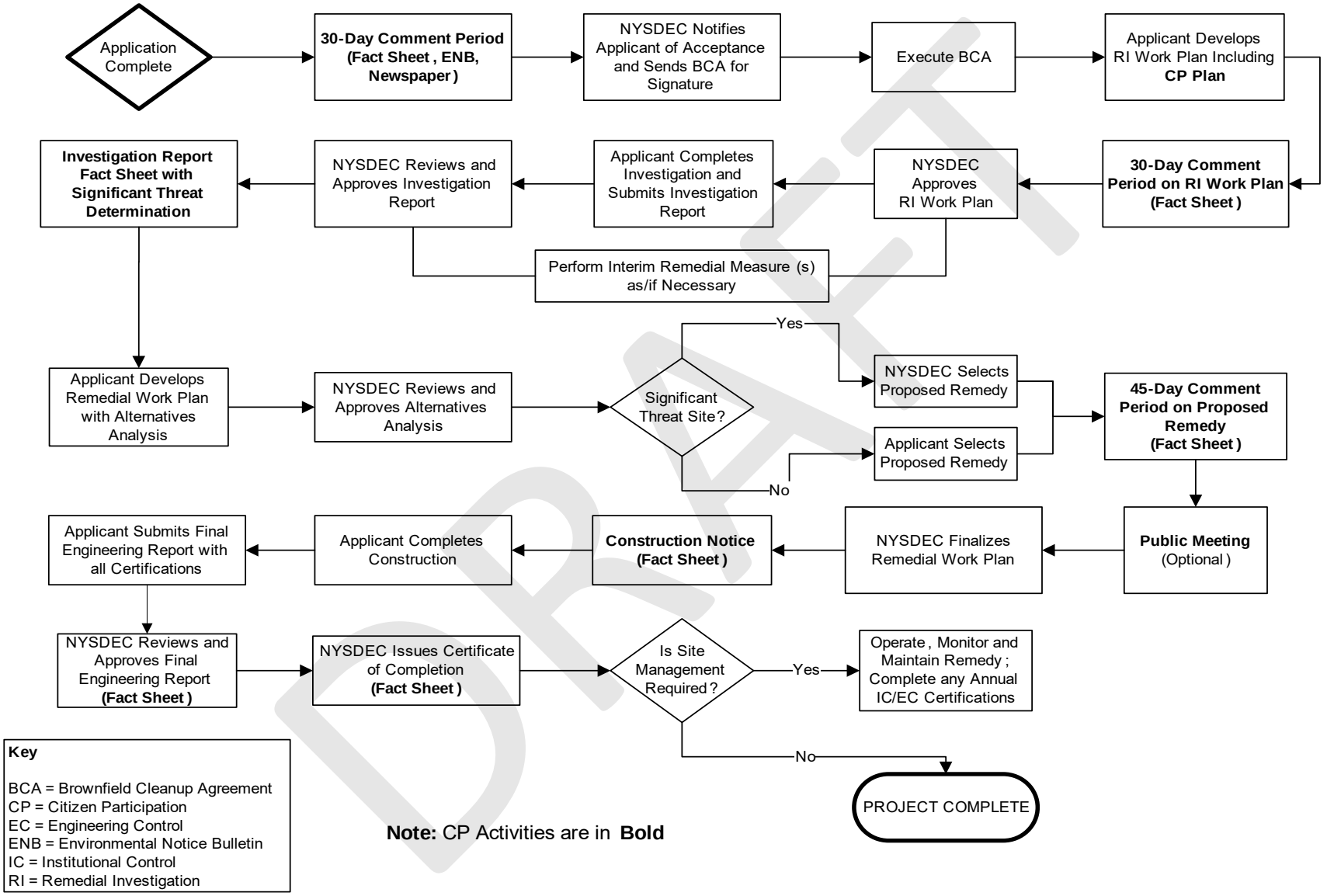
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Appendix C - Site Location Map



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Appendix D– Brownfield Cleanup Program Process



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Division of Environmental Remediation

Remedial Programs
Scoping Sheet for Major Issues of Public Concern

Instructions

This Scoping Sheet assesses major issues of public concern; impacts of the site and its remedial program on the community; community interest in the site; information the public needs; and information needed from the public.

The information generated helps to plan and conduct required citizen participation (CP) activities, and to choose and conduct additional CP activities, if appropriate. The scoping sheet can be revisited and updated as appropriate during the site's remedial process to more effectively implement the site's CP program.

Note: Use the information as an aid to prepare and update the Major Issues of Public Concern section of the site CP Plan.

General Instructions

- When to prepare: During preparation of the CP Plan for the site. It can be revisited and updated anytime during the site remedial process.
- Fill in site name and other information as appropriate.
- The Scoping Sheet may be prepared by DEC or a remedial party, but must be reviewed and approved by the DER site project manager or his/her designee.

Instructions for Numbered Parts

Consider the bulleted issues and questions below and any others that may be unique or appropriate to the site and the community to help complete the five Parts of this Scoping Sheet. Identify the issue stakeholders in Parts 1 through 3 and adjust the site's contact list accordingly.

Part 1. List Major Issues of Public Concern and Information the Community Wants

- Is our health being impacted? (e.g., Are there problems with our drinking water or air? Are you going to test our water, yards, sumps, basements? Have health studies been done?)
- There are odors in the neighborhood. Do they come from the site and are they hazardous?
- Are there restrictions on what we may do (e.g., Can our children play outside? Can we garden? Must we avoid certain areas? Can we recreate (fish, hunt, hike, etc. on/around the site?)
- How and when were the site's contamination problems created?
- What contaminants are of concern and why? How will you look for contamination and find out where it is going? What is the schedule for doing that?
- The site is affecting our property values!
- How can we get more information (e.g., who are the project contacts?)
- How will we be kept informed and involved during the site remedial process?
- Who has been contacted in the community about site remedial activities?
- What has been done to this point? What happens next and when?
- The site is going to be cleaned up for restricted use. What does that mean? We don't want redevelopment on a "dirty" site.

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Part 2. List Important Information Needed From the Community, if Applicable

- Can the community supplement knowledge about past/current uses of the site?
- Does the community have knowledge that the site may be significantly impacting nearby people, properties, natural resources, etc.?
- Are activities currently taking place at the site or at nearby properties that may need to be restricted?
- Who may be interested or affected by the site that has not yet been identified?
- Are there unique community characteristics that could affect how information is exchanged?
- Does the community and/or individuals have any concerns they want monitored?
- Does the community have information about other sources in the area for the contamination?

Part 3. List Major Issues and Information That Need to be Communicated to the Community

- Specific site investigation or remediation activities currently underway, or that will begin in the near future.
- The process and general schedule to investigate, remediate and, if applicable, redevelop the site.
- Current understanding about the site contamination and effects, if any, on public health and the environment.
- Site impacts on the community and any restrictions on the public's use of the site and/or nearby properties.
- Planned CP activities, their schedule, and how they relate to the site's remedial process.
- Ways for the community to obtain/provide information (document repositories, contacts, etc.).

Part 4. Community Characteristics

a. - e. Obtain information from local officials, property owners and residents, site reports, site visits, "windshield surveys," other staff, etc.

f. Has the affected community experienced other **significant** present or past environmental problems unrelated to this site? Such experiences could significantly affect public concerns and perspectives about the site; how the community will relate to project staff; the image and credibility of project staff within the community; and the ways in which project staff communicate with the community.

g. In its remedial programs, DER seeks to integrate, and be consistent with, environmental justice principles set forth in *DEC Commissioner Policy 29 on Environmental Justice* and *DER 23 – Citizen Participation Handbook for Remedial Programs*. Is the site and/or affected community wholly or partly in an Environmental Justice (EJ) Area? Use the Search feature on DEC's public web site for "environmental justice". DEC's EJ pages define an EJ area, and link to county maps to help determine if the site and/or community are in an EJ area.

h. Consider factors such as:

- Is English the primary language of the affected community? If not, provisions should be considered regarding public outreach activities such as fact sheets, meetings, door-to-door visits and other activities to ensure their effectiveness.
- The age demographics of the community. For example, is there a significant number of senior citizens in the community? It may be difficult for some to attend public meetings and use document repositories. This may suggest adopting more direct interaction with the community with activities such as door-to-door visits, additional fact sheets, visits to community and church centers, nursing homes, etc.
- How do people travel about the community? Would most people drive to a public meeting or document repository? Is there adequate public transportation?

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Part 5. Affected/Interested Public

Individuals and organizations who need or want information and input can change during the site's remedial process. This need is influenced by real, potential, or perceived impacts of the site or the remedial process. Some people may want information and input throughout the remedial process. Others may participate only during specific remedial stages, or may only be interested in particular issues.

It is important to revisit this question when reviewing this scoping sheet. Knowing who is interested in the site – and the issues that are important to them – will help to select and conduct appropriate outreach activities, and to identify their timing and the information to be exchanged.

Check all affected/interested parties that apply to the site. **Note: Adjust the site's contact list appropriately.** The following are some ways to identify affected/interested parties:

- Tax maps of adjacent property owners
- Attendees at public meetings
- Telephone discussions
- Letters and e-mails to DER, the remedial party, and other agencies
- Political jurisdictions and boundaries
- Media coverage
- Current/proposed uses of site and/or nearby properties (recreational, commercial, industrial)
- Discussions with community organizations: grass roots organizations, local environmental groups, environmental justice groups, churches, and neighborhood advisory groups

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Division of Environmental Remediation

Remedial Programs
Scoping Sheet for Major Issues of Public Concern (see instructions)

Site Name: Proposed 227 Westchester Avenue Development

Site Number: C360253

Site Address and County: 223-225, 227 Westchester Avenue & 204, 206-208, 214-220 Irving Avenue in Westchester County

Remedial Party(ies): Yorkland Partners, LLC, 227 Westchester Ave LLC, and 204 Irving Two LLC

Note: For Parts 1. – 3. the individuals, groups, organizations, businesses and units of government identified should be added to the site contact list as appropriate.

Part 1. List major issues of public concern and information the community wants. Identify individuals, groups, organizations, businesses and/or units of government related to the issue(s) and information needs. **Use this information as an aid to prepare or update the Major Issues of Public Concern section of the site Citizen Participation Plan.**

The Site is located in a Potential Environmental Justice Area. Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Based on the analytical results of the Limited Phase II ESI conducted in February 2024, the primary contaminants of concern for the Site include heavy metals and petroleum-related hydrocarbons in soil; petroleum-related hydrocarbons in groundwater; and chlorinated solvents and petroleum-related contaminants in soil vapor. Additional investigation would be necessary to determine if an on-site/off-site source of contamination exists. During ground intrusive activities, the community will be protected from contaminant migration using air monitoring protocols and proper management of impacted soil and water.

How were these issues and/or information needs identified?
These issues were identified through the previous subsurface investigation results, correspondence with NYSDEC, and from resources available through the NYSDEC Office of Environmental Justice.

Part 2. List important information needed **from** the community, if applicable. Identify individuals, groups, organizations, businesses and/or units of government related to the information needed.

The source of the contaminants of concern detailed in Part 1 likely has to do with former Site operations, but was not fully identified during the previous investigations completed at the Site. If the community can provide any knowledge regarding previous site use or previous nearby property use it may assist in determining the source(s) of any on-site or off-site impacts.

How were these information needs identified?

This information was identified through review of the results of the previous site assessments and investigations.

Part 3. List major issues and information that need to be communicated **to** the community. Identify individuals, groups, organizations, businesses and/or units of government related to the issue(s) and/or information.

Following acceptance into the BCP and approval of the RIWP, the Remedial Investigation will commence.

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Following implementation of the RIWP, a Remedial Investigation Report will be prepared and will describe the nature and extent of contamination at the site. A Remedial Action Work Plan (RAWP) will then be developed to describe the preferred remedy and alternatives analysis. The RAWP will be subject to a 45-day public comment period prior to NYSDEC approval. Following NYSDEC approval of the RAWP, the remedial contractor will mobilize to the site to begin implementation of the NYSDEC-approved remedy.

How were these issues and/or information needs identified?

These issues were identified through the previous subsurface investigations results and correspondence with NYSDEC

Part 4. Identify the following characteristics of the affected/interested community. This knowledge will help to identify and understand issues and information important to the community, and ways to effectively develop and implement the site citizen participation plan (mark all that apply):

a. Land use/zoning at and around site:
☒ **Residential** ☐ **Agricultural** ☐ **Recreational** ☒ **Commercial** ☐ **Industrial**

b. Residential type around site:
☒ **Urban** ☒ **Suburban** ☐ **Rural**

c. Population density around site:
☐ **High** ☒ **Medium** ☐ **Low**

d. Water supply of nearby residences:
☒ **Public** ☐ **Private Wells** ☐ **Mixed**

e. Is part or all of the water supply of the affected/interested community currently impacted by the site?
☐ **Yes** ☒ **No**

Provide details if appropriate:
NA

f. Other environmental issues significantly impacted/impacting the affected community?
☐ **Yes** ☒ **No**

Provide details if appropriate:
NA

g. Is the site and/or the affected/interested community wholly or partly in an Environmental Justice Area?
☒ **Yes** ☐ **No**

h. Special considerations:
☐ **Language** ☐ **Age** ☐ **Transportation** ☐ **Other**

Explain any marked categories in **h:**
Click here to enter text.

Part 5. The site contact list must include, at a minimum, the individuals, groups, and organizations identified in Part 2. of the Citizen Participation Plan under 'Site Contact List'. Are *other* individuals, groups, organizations, and units of government affected by, or interested in, the site, or its remedial program? (Mark and identify all that apply, then adjust the site contact list as appropriate.)

☐ **Non-Adjacent Residents/Property Owners:** Click here to enter text.

☒ **Local Officials:** Port Chester Mayor Luis A. Marino, Port Chester Department of Planning & Economic Development Director Gregory Cutler, Westchester County Board of Legislators District 6 Nancy E. Barr, NY Senate District 37 Senator Shelley B. Mayer, and NY State Assembly District 091 Member Steven Otis

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☒ **Media:** Westmore News, News12 Westchester, The Journal News, and The Examiner News
☒ **Business/Commercial Interests:** Yorkland Partners, LLC, 227 Westchester Ave LLC, and 204 Irving Two LLC

☐ **Labor Group(s)/Employees:** Click here to enter text.

☐ **Indian Nation:** Click here to enter text.

☒ **Citizens/Community Group(s):** Click here to enter text.

☐ **Environmental Justice Group(s):** Potential Environmental Justice Area: Census Block Group #361190080003

☐ **Environmental Group(s):** Click here to enter text.

☒ **Civic Group(s):** Port Chester-Rye Brook Public Library

☐ **Recreational Group(s):** Click here to enter text.

☐ **Other(s):** Click here to enter text.

Prepared / Updated By: Charlotte Lorthioir **Date:** 09/06/2024

Reviewed / Approved By: Elizabeth Scheuerman **Date:** 04/10/2025

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APPENDIX G
Environmental Footprint Analysis and Climate Screening Checklist

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H & A OF NEW YORK ENGINEERING
AND GEOLOGY, LLP
213 W. 35th Street
7th Floor
New York, NY 10001
646.277.5685

July 17, 2026
File No. 0206816

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233

Attention: Daniel Lanners

Subject: Green Site Remediation
Proposed 227 Westchester Avenue Development
223-225, 227 Westchester Avenue & 204, 206-208, 214-220 Irving Avenue
Port Chester, New York
NYSDEC Site C360253

H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) presents the following environmental footprint analysis[1] in accordance with U.S. Environmental Protection Agency (EPA) 542-R-12-002 for the preferred Track 1 Remedy of the above-referenced site at 223-225, 227 Westchester Avenue & 204, 206-208, 214-220 Irving Avenue, Port Chester, New York (Site).

PROPOSED 227 WESTCHESTER AVENUE DEVEVELOPMENT REMEDY – TRACK 1 CLEANUP

The preferred remedy will result in estimated totals of:

- 45,089.23 Metric Million British Thermal Units (MMBtus) of energy used;
- 3,166.09 tons of total greenhouse gas emissions (CO2e [includes consideration of carbon dioxide, methane, and nitrous oxide emissions]);
  53,053.92 pounds (lbs) of nitrogen oxides (NOx) + sulfur oxides (SOx) + particulate matter (PM) emissions; and
- 373.53 lbs of hazardous air pollutant (HAP) emissions.

Energy

- 12,493.64 MMBtus used for on-Site activities, such as excavation;
- 13.90 MMBtus used for grid electricity generation;
- 5,297.51 MMBtus used for transportation of personnel, remedy materials, and waste disposal; and
- 27,284.18 MMBtus used for off-Site activities.

[1] *Spreadsheets for Environmental Footprint Analysis (SEFA) Version 3.0, November 2019.*

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Greenhouse Gas Emissions (CO2e)

- 906.21 tons of CO2e are estimated to be produced from on-Site activities, such as excavation;
- 1.02 tons of CO2e are estimated to be produced from grid electricity generation;
- 388.90 tons of CO2e are estimated to be produced from transportation of personnel, remedy materials, and waste disposal; and
- 1,576.10 tons are estimated to be produced from off-Site activities.

Water Usage

- 61,750 gallons of water are estimated to be used to wash down trucks and tires on an imported gravel truck wash pad, and for dust suppression.

The preferred Track 1 remedy will result in an estimated 15,265 MMBtus, 1,071.07 tons of CO2e, 30,022 lbs of NOx, SOx, and PM emissions, and 122 lbs of HAP emissions increase compared to the alternative Track 2 remedy due to increased excavation as a means to achieve greater overall protection of human health and the environment.

Roughly 62 percent of the energy use and 55 percent of CO2e generation will originate from off-Site activities for the Track 1 Remedy. Overall, the footprint of the Site Remedy is primarily composed of off-Site activities.

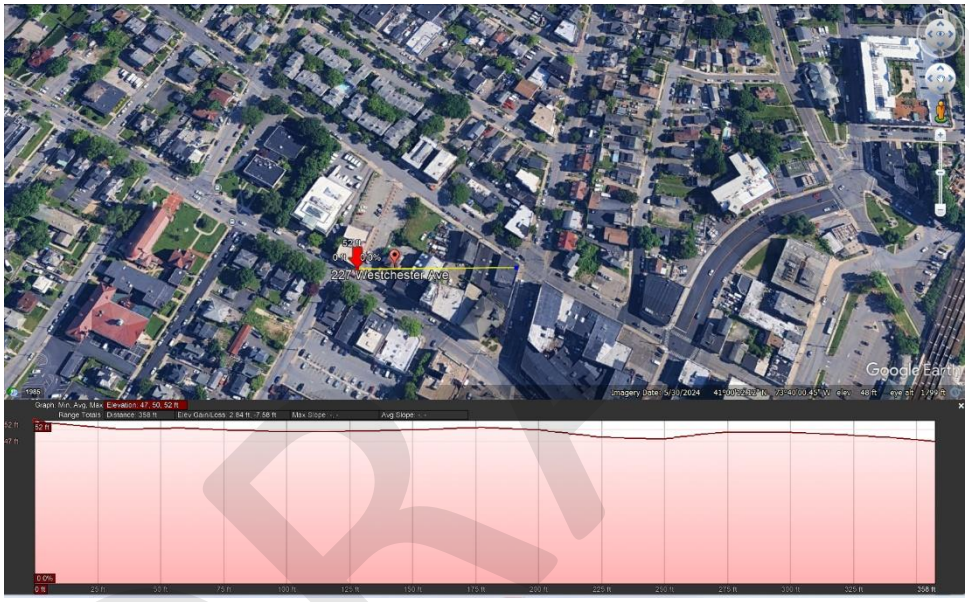
Sincerely yours,
H & A OF NEW YORK ENGINEERING AND GEOLOGY, LLP

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Climate Screening Checklist

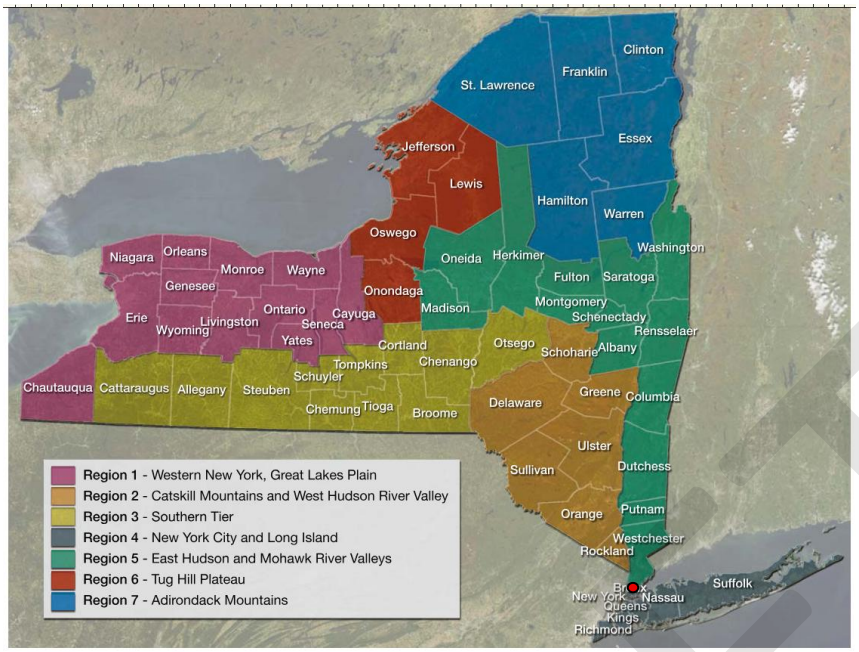
Background Information

- Project Manager: Elizabeth Fitzgerald
- Site Name: Proposed 227 Westchester Avenue Development (the "Site")
- Site Number: C360253
- Site Location: 223-225, 227 Westchester Avenue & 204, 206-208, 214-220 Irving Avenue, Westchester, New York
- Site Elevation (average above sea level): Approximately 27 feet (ft) above sea level (Google Earth)



- ClimAID Region (Responding Climate Change in New York State (ClimAID) - NYSERDA): Region 4 – New York City and Long Island

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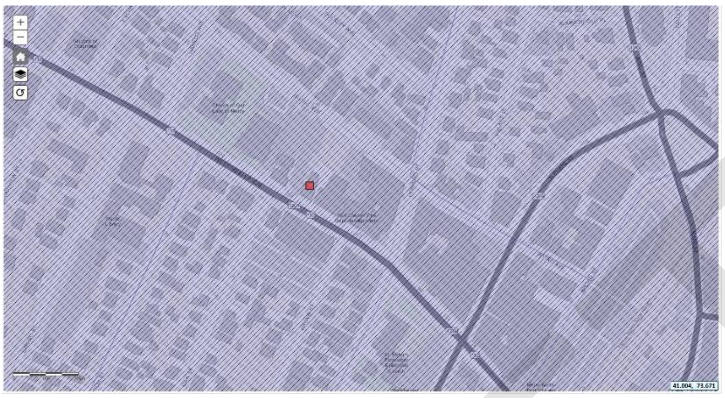


- Remedial Stage/Site Classification: Remediation.
- Contamination - Media Impacted/ Contaminants of Concern: Metals (including heavy metals such as arsenic, copper, lead, and mercury), polycyclic aromatic hydrocarbons (PAHs), and per- and polyfluoroalkyl substances (PFAS) in soil; volatile organic compounds (VOCs; specifically petroleum-related VOCs), semi-volatile organic compounds (SVOCs; specifically PAHs and naphthalene), PFAS, and naturally occurring metals (such as iron, manganese, and sodium) in groundwater; and VOCs in soil vapor.
- Proposed/Current Remedy: The proposed Track 1 remedy will potentially consist of excavation, stockpiling, off-Site transport, and disposal of contaminated historical fill material and contaminated soil below the historic fill interval Site-wide up at 25 ft below ground surface (bgs); removal of aboveground storage tanks (ASTs), and/or underground storage tanks (USTs) and/or associated appurtenances, if encountered, and decommissioning and off-Site disposal.
- What is the predicted timeframe of the remedy? Will components of the remedy still be in place in 10+ years? The proposed Track 1 remedy will take approximately six months to achieve. Components of the remedy will be present in 10+ years.
- Is the site in proximity to any sensitive receptors? (e.g., wetlands, waterbodies, residential properties, hospitals, schools, drinking water supplies, etc.) There are four sensitive receptors within a 500-ft radius of the Site: Port Chester Head Start school located at 17 Spring Street, Port Chester; Sunny Side Daycare Center located at 27 Smith Street, Port Chester; the Port Chester-Rye Brook Public Library located at 1 Haseco Avenue, Port Chester; and the Saavedra Healthcare Center medical clinic located at 216 Westchester Avenue, Port Chester.

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Is the site in a disadvantaged community (DAC) or potential environmental justice area (PEJA) (Use DECinfolocator: DECinfo Locator (ny.gov))?

X Yes ☐ No



If the site is in a DAC or PEJA, will climate impacts be magnified? If yes, list how and why.

☐ Yes X No

Should thresholds of concern be lowered to account for magnification of impacts? If yes, indicate how lower thresholds will be used in the screening.

☐ Yes X No

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Climate Screening Table*

Potential Climate Hazards	**Relevant to the Site Location** (Y/N/NA)[1]	**Projected Change** (Resilience Analysis and Planning Tool (RAPT)/arcgis.com[3]	**Potential to Impact Remedy** (Y/N)	**Is remedy/site already resilient?** (Y/N)[4]
Precipitation	N	N/A	N/A	N/A
Temperature[2] (Extreme Heat or Cold Weather Impacts)	N	N/A	N/A	N/A
Sea Level Rise	N	N/A	N/A	N/A
Flooding	N	N/A	N/A	N/A
Storm Surge	N	N/A	N/A	N/A
Wildfire	N	N/A	N/A	N/A
Drought	N	N/A	N/A	N/A
Storm Severity	N	N/A	N/A	N/A
Landslides	N	N/A	N/A	N/A
Other Hazards:	N/A	N/A	N/A	N/A

* Links to potential data sources can be found on the following page

[1] If the first column is N --> The rest of the columns will be N/A, the hazard is not applicable to the site.

[2] Extreme Heat: periods of three or more days above 90°F- Extreme Cold: Individual days with minimum temperatures at or below 0 degrees F (NYSERDA ClimAID report)

[3] List the projected change in specific terms or units e.g. inches of rainfall, feet of sea level rise, etc.

[4] If final column is Y, provide reasoning, if the final column is N --> Climate Vulnerability Assessment (CVA) required.

Required Next Steps (If no further action is required, provide justification):

Conduct severe weather storm inspections during the active remedy. Inspect dewatering systems prior to anticipated storm events that could result in a power outage, and after storm events.

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Potential Data Sources (not an exhaustive list)- from Superfund Climate Resilience: Vulnerability Assessment | US EPA

NYSERDA ClimAID report- Responding Climate Change in New York State (ClimAID) - NYSERDA

FEMA- National Flood Hazard Layer | FEMA.gov

NOAA- National Storm Surge Risk Maps - Version 3 (noaa.gov)

Department of Agriculture Forest Service Wildfire Risk to Communities

EPA Climate Change Indicators in the United States

EPA Climate Resilience Evaluation & Awareness Tool (CREAT) | U.S. Climate Resilience Toolkit

EPA National Stormwater Calculator

National Integrated Drought Information System U.S. Drought Portal

National Interagency Coordination Center National Interagency Fire Center

National Oceanic and Atmospheric Administration Coastal Services Digital Coast

- Resources to help communities assess coastal hazards, such as the Sea Level Rise Viewer for visualizing community-level impacts of flooding or sea level rise and downloadable LIDAR data

National Oceanic and Atmospheric Administration National Centers for Environmental Information website

National Oceanic and Atmospheric Administration Sea Level Trends

National Weather Service Climate Prediction Center

National Weather Service National Hurricane Center

National Weather Service Sea, Lake, and Overland Surges from Hurricanes (SLOSH)

National Weather Service Storm Surge Hazard Maps

U.S. Federal Government Climate Resilience Toolkit: The Climate Explorer

U.S. Army Corps of Engineers Climate Preparedness and Resilience

U.S. Geological Survey Coastal Change Hazards Portal

U.S. Geological Survey Landslide Hazards Program

U.S. Geological Survey National Ground-water Monitoring Network Data Portal

U.S. Geological Survey National Climate Change Viewer

U.S. Geological Survey National Water Dashboard

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U.S. Geological Survey StreamStats

NYS Department of State- Assess | Department of State (ny.gov)

NYSERDA NY Costal Floodplain Mapper- Home Page (ny.gov)

NYSDEC Coastal Erosion Hazards- Coastal Areas Regulated By The CEHA Permit Program - NYDEC

NYSDOH Heat Index- health.ny.gov/environmental/weather/vulnerability_index/county_maps.htm

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Environmental Footprint Summary

Core Element	Metric		Unit of Measure	Footprint						
				Alternative I - Track 1 Remedy	Alternative II - Track 2 Remedy	< Component 3 >	< Component 4 >	< Component 5 >	< Component 6 >	Total
Materials & Waste	M&W-1	Refined materials used on-site	Tons	17,772.0	17,724.0	0.0	0.0	0.0	0.0	35,496.0
	M&W-2	% of refined materials from recycled or reused material	%	2.7%	2.4%					2.6%
	M&W-3	Unrefined materials used on-site	Tons	0.000	0.000	0.000	0.000	0.000	0.000	0.0
	M&W-4	% of unrefined materials from recycled or reused material	%							
	M&W-5	On-site hazardous waste disposed of off-site	Tons	100.0	100.0	0.0	0.0	0.0	0.0	200.0
	M&W-6	On-site non-hazardous waste disposed of off-site	Tons	37,400.0	4,400.0	0.0	0.0	0.0	0.0	41,800.0
	M&W-7	Recycled or reused waste	Tons	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M&W-8	% of total potential waste recycled or reused	%	0.0%	0.0%					0.0%
Water (used on-site)	W-1	Public water use	MG	0.1	0.0	0.0	0.0	0.0	0.0	0.1
	W-2	Groundwater use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-3	Surface water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-4	Reclaimed water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-5	Storm water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-6	User-defined water resource #1	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-7	User-defined water resource #2	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-8	Wastewater generated	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy	E-1	Total energy used (on-site and off-site)	MMBtu	45,089.2	29,823.9	0.0	0.0	0.0	0.0	74,913.1
	E-2	Energy voluntarily derived from renewable resources								
	E-2A	On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-2B	Voluntary purchase of renewable electricity	MWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-3	Voluntary purchase of RECs	MWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-4	On-site grid electricity use	MWh	2.006	1.664	0.000	0.000	0.000	0.000	3.7
Air	A-1	On-site NOx, SOx, and PM emissions	Pounds	9,951.2	7,809.3	0.0	0.0	0.0	0.0	17,760.6
	A-2	On-site HAP emissions	Pounds	3.6	2.8	0.0	0.0	0.0	0.0	6.4
	A-3	Total NOx, SOx, and PM emissions	Pounds	53,053.9	23,032.4	0.0	0.0	0.0	0.0	76,086.3
	A-3A	Total NOx emissions	Pounds	25,969.5	13,149.7	0.0	0.0	0.0	0.0	39,119.2
	A-3B	Total SOx emissions	Pounds	9,441.2	5,954.6	0.0	0.0	0.0	0.0	15,395.9
	A-3C	Total PM emissions	Pounds	17,643.2	3,928.1	0.0	0.0	0.0	0.0	21,571.3
	A-4	Total HAP emissions	Pounds	373.5	252.0	0.0	0.0	0.0	0.0	625.6
	A-5	Total greenhouse gas emissions	Tons CO2e*	3,166.1	1,985.4	0.0	0.0	0.0	0.0	5,151.5
Land & Ecosystems	Qualitative Description									

** Total greenhouse gases emissions (in CO2e) include consideration of CO2, CH4, and N2O (Nitrous oxide) emissions.*
"MMBtu" = millions of Btus
"MG" = millions of gallons
"CO2e" = carbon dioxide equivalents of global warming potential
"MWh" = megawatt hours (i.e., thousands of kilowatt-hours or millions of Watt-hours)
"Tons" = short tons (2,000 pounds)

The above metrics are consistent with EPA's Methodology for Understanding and Reducing a Project's Environmental Footprint (EPA 542-R-12-002), February 2012

Notes:

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Alternative I - Track 1 Remedy - Energy & Air Compiled Results

Category	Total Energy	GHG	NOx	SOx	PM	NOx + SOx + PM	HAPs
	MMbtus	lbs CO2e	lbs	lbs	lbs	lbs	lbs
On-site (Scope 1)	**12,494**	**1,997,858**	**9,126**	**12**	**814**	**9,951**	**4**
Grid Electricity Generation (Scope 2)	**13.900**	**2,255**	**4**	**9**	**0**	**14**	**0**
Transportation (Scope 3a)	**5,298**	**857,369**	**6,420**	**204**	**130**	**6,754**	**3**
Other Off-Site (Scope 3b)	**27,284**	**3,474,705**	**10,419**	**9,217**	**16,700**	**36,335**	**366**
Remedy Totals	**45,089**	**6,332,188**	**25,969**	**9,441**	**17,643**	**53,054**	**374**

Values that are forwarded to the "Summary" tab are indicated in orange.

Voluntary Renewable Energy Use	Unit	Quantity	
On-site renewable energy generation or use	MMBtu	**0**	
On-site biodiesel use	MMBtu	**0**	
Biodiesel and other renewable resource use for transportation	MMBtu	**0**	
On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	**0**	*(This value is the sum of the three rows above)*
Voluntary purchase of renewable electricity	MWh	**0**	
Voluntary purchase of RECs	MWh	**0**	

This worksheet is not intended for user input. Values on this worksheet are obtained from the following file: SEFA_calculations_(121718).xlsx

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Alternative II - Track 2 Remedy - Energy & Air Compiled Results

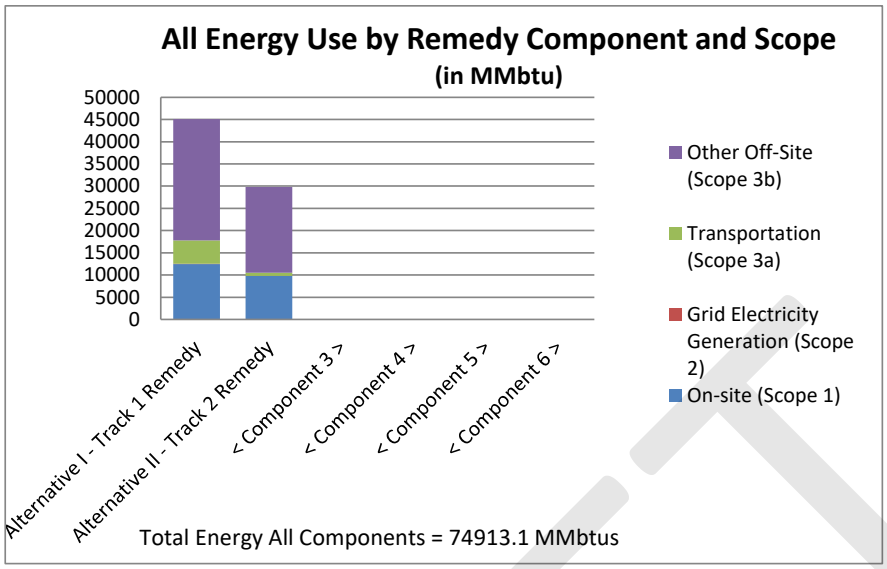
Category	Total Energy	GHG	NOx	SOx	PM	NOx + SOx + PM	HAPs
	MMbtus	lbs CO2e	lbs	lbs	lbs	lbs	lbs
On-site (Scope 1)	**9,787**	**1,565,050**	**7,161**	**9**	**639**	**7,809**	**3**
Grid Electricity Generation (Scope 2)	**12**	**586**	**3**	**2**	**0**	**5**	**0**
Transportation (Scope 3a)	**726**	**117,333**	**843**	**27**	**18**	**887**	**2**
Other Off-Site (Scope 3b)	**19,299**	**2,287,912**	**5,143**	**5,916**	**3,272**	**14,331**	**247**
Remedy Totals	**29,824**	**3,970,881**	**13,150**	**5,955**	**3,928**	**23,032**	**252**

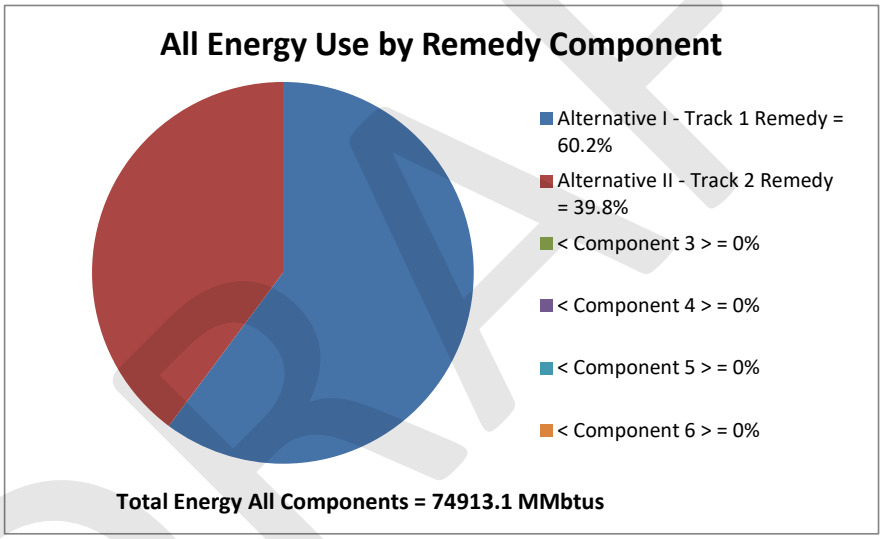
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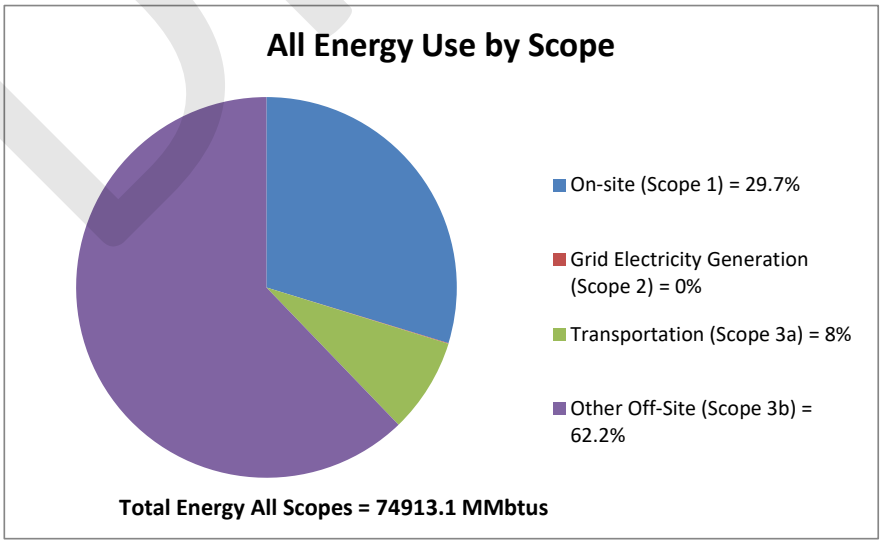
Voluntary Renewable Energy Use	Unit	Quantity	
On-site renewable energy generation or use	MMBtu	**0**	
On-site biodiesel use	MMBtu	**0**	
Biodiesel and other renewable resource use for transportation	MMBtu	**0**	
On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	**0**	*(This value is the sum of the three rows above)*
Voluntary purchase of renewable electricity	MWh	**0**	
Voluntary purchase of RECs	MWh	**0**	

This worksheet is not intended for user input. Values on this worksheet are obtained from the following file: SEFA_calculations_(121718).xlsx

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All Energy Use by Remedy Component and Scope
(in MMbtu)
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
Alternative I - Track 1 Remedy
Alternative II - Track 2 Remedy
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
Total Energy All Components = 74913.1 MMbtus


All Energy Use by Remedy Component
Alternative I - Track 1 Remedy = 60.2%
Alternative II - Track 2 Remedy = 39.8%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
Total Energy All Components = 74913.1 MMbtus


All Energy Use by Scope
On-site (Scope 1) = 29.7%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 8%
Other Off-Site (Scope 3b) = 62.2%
Total Energy All Scopes = 74913.1 MMbtus

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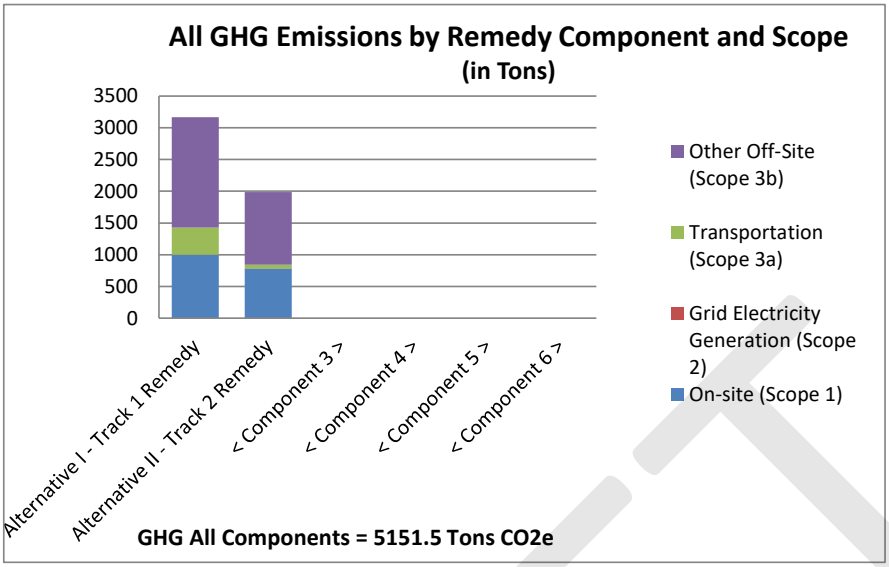
Total Energy MMbtus	Alternative	Alternative	< Compon	< Compon	< Compon	< Compon	Total	
On-site (Scope 1)	12,493.6	9,787.4	0.0	0.0	0.0	0.0	22,281.1	
Generation (Scope 2)	13.9	11.5	0.0	0.0	0.0	0.0	25.4	Electricity
nsportation (Scope 3a)	5,297.5	725.5	0.0	0.0	0.0	0.0	6,023.0	Tran
ner Off-Site (Scope 3b)	27,284.2	19,299.4	0.0	0.0	0.0	0.0	46,583.6	Oth
Total	45,089.2	29,823.9	0.0	0.0	0.0	0.0	74,913.1	

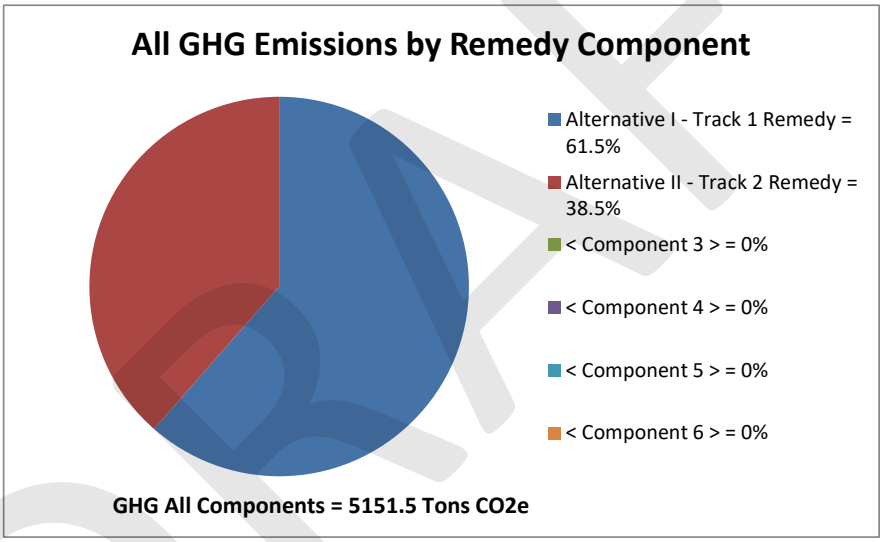
Alternative I - Track 1 Remedy = 60.2%
Alternative II - Track 2 Remedy = 39.8%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

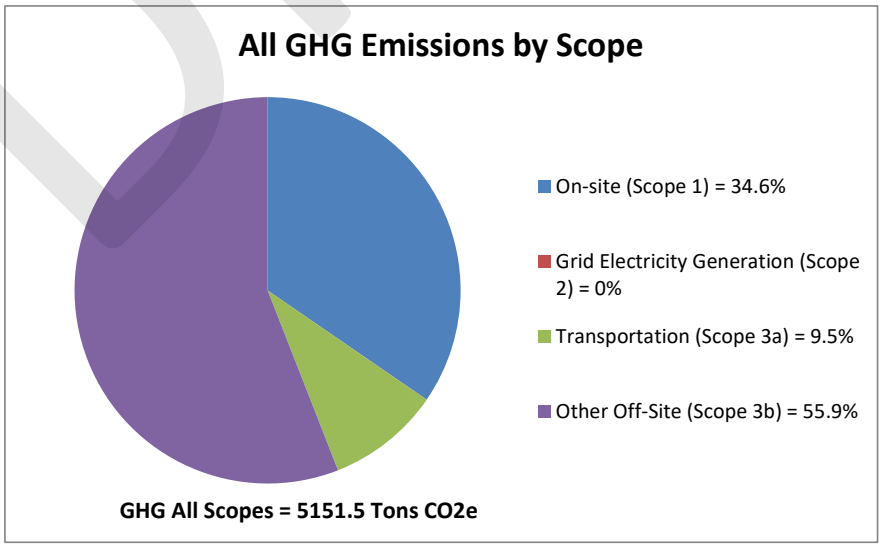
On-site (Scope 1) = 29.7%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 8%
Other Off-Site (Scope 3b) = 62.2%

Total Energy All Components = 74913.1 MMbtus
Total Energy All Scopes = 74913.1 MMbtus

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All GHG Emissions by Remedy Component and Scope
(in Tons)
3500
3000
2500
2000
1500
1000
500
0
Alternative I - Track 1 Remedy
Alternative II - Track 2 Remedy
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
GHG All Components = 5151.5 Tons CO2e


All GHG Emissions by Remedy Component
Alternative I - Track 1 Remedy = 61.5%
Alternative II - Track 2 Remedy = 38.5%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
GHG All Components = 5151.5 Tons CO2e


All GHG Emissions by Scope
On-site (Scope 1) = 34.6%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 9.5%
Other Off-Site (Scope 3b) = 55.9%
GHG All Scopes = 5151.5 Tons CO2e

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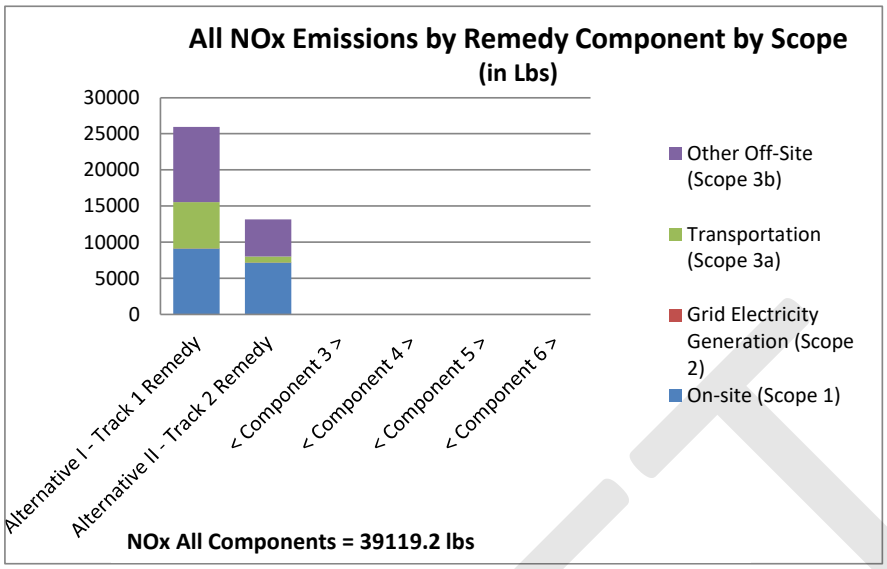
GHG Tons CO2e	Alternative	Alternative	< Compon	< Compon	< Compon	< Compon	Total	
On-site (Scope 1)	998.9	782.5	0.0	0.0	0.0	0.0	1,781.5	
Generation (Scope 2)	1.1	0.3	0.0	0.0	0.0	0.0	1.4	Electricity
sportation (Scope 3a)	428.7	58.7	0.0	0.0	0.0	0.0	487.4	Tran
er Off-Site (Scope 3b)	1,737.4	1,144.0	0.0	0.0	0.0	0.0	2,881.3	Oth
Total	3,166.1	1,985.4	0.0	0.0	0.0	0.0	5,151.5	

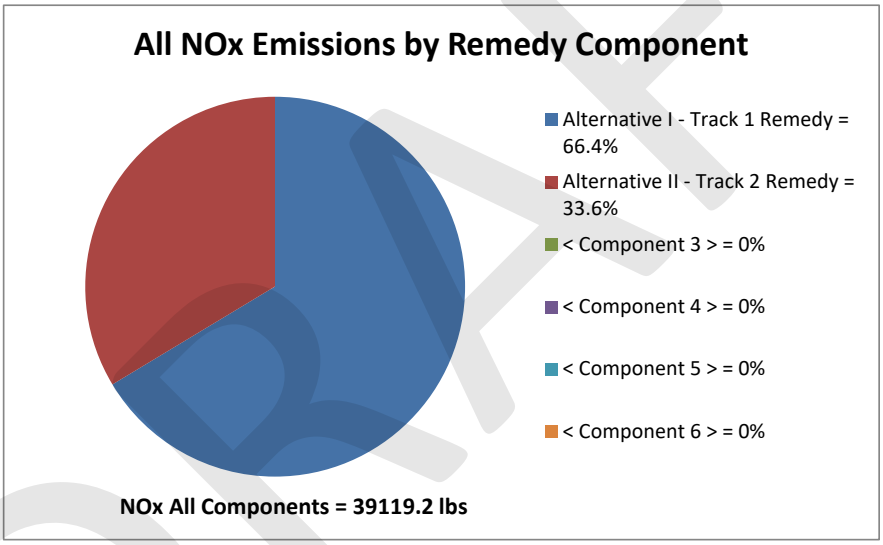
Alternative I - Track 1 Remedy = 61.5%
Alternative II - Track 2 Remedy = 38.5%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

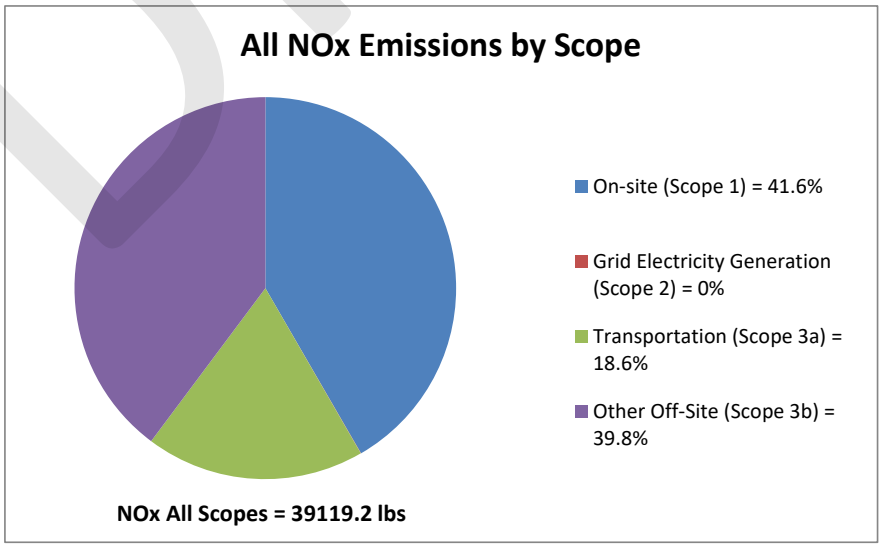
On-site (Scope 1) = 34.6%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 9.5%
Other Off-Site (Scope 3b) = 55.9%

GHG All Components = 5151.5 Tons CO2e
GHG All Scopes = 5151.5 Tons CO2e

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All NOx Emissions by Remedy Component by Scope
(in Lbs)
30000
25000
20000
15000
10000
5000
0
Alternative I - Track 1 Remedy
Alternative II - Track 2 Remedy
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
NOx All Components = 39119.2 lbs


All NOx Emissions by Remedy Component
Alternative I - Track 1 Remedy = 66.4%
Alternative II - Track 2 Remedy = 33.6%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
NOx All Components = 39119.2 lbs


All NOx Emissions by Scope
On-site (Scope 1) = 41.6%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 18.6%
Other Off-Site (Scope 3b) = 39.8%
NOx All Scopes = 39119.2 lbs

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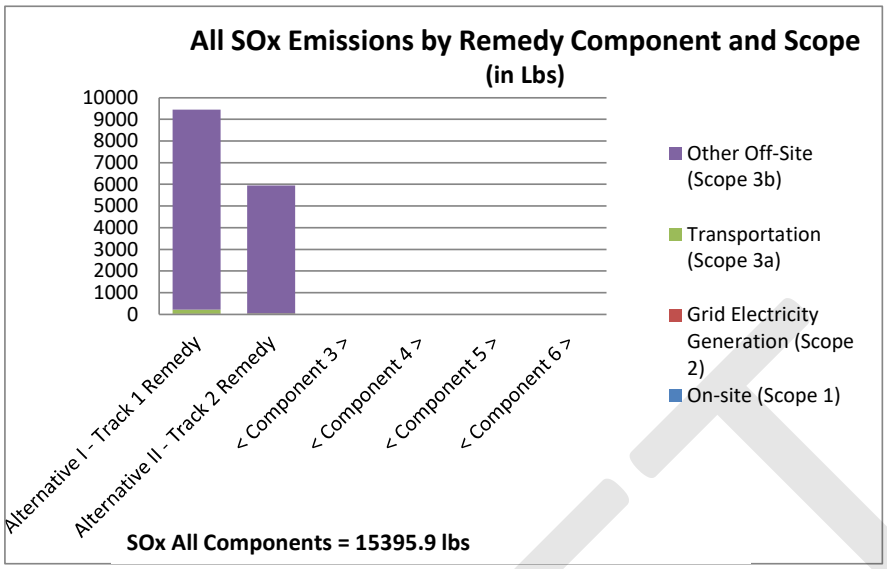
NOx lbs	Alternative	Alternative	< Compon	< Compon	< Compon	< Compon	Total	
On-site (Scope 1)	9,125.8	7,161.5	0.0	0.0	0.0	0.0	16,287.3	
Generation (Scope 2)	4.5	2.5	0.0	0.0	0.0	0.0	7.0	Electricity
sportation (Scope 3a)	6,420.3	842.6	0.0	0.0	0.0	0.0	7,262.9	Tran
er Off-Site (Scope 3b)	10,418.8	5,143.1	0.0	0.0	0.0	0.0	15,561.9	Oth
Total	25,969.5	13,149.7	0.0	0.0	0.0	0.0	39,119.2	

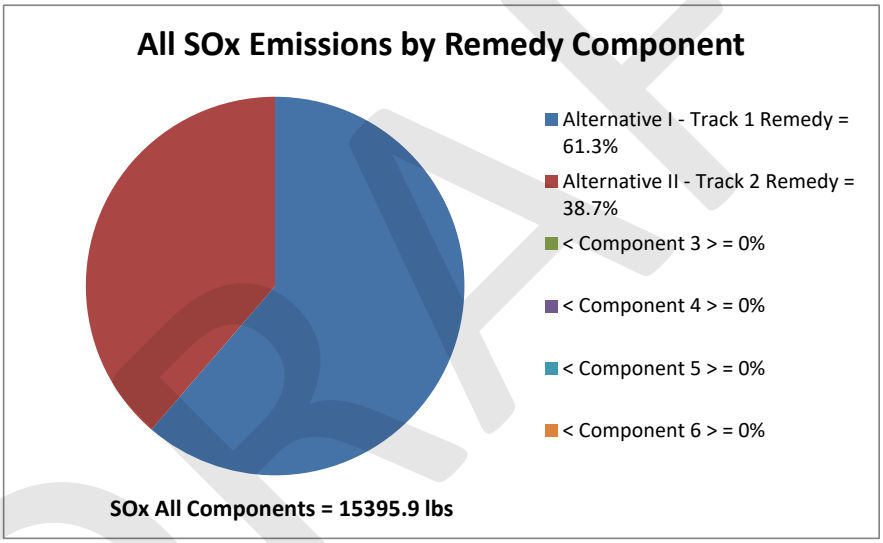
Alternative I - Track 1 Remedy = 66.4%
Alternative II - Track 2 Remedy = 33.6%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

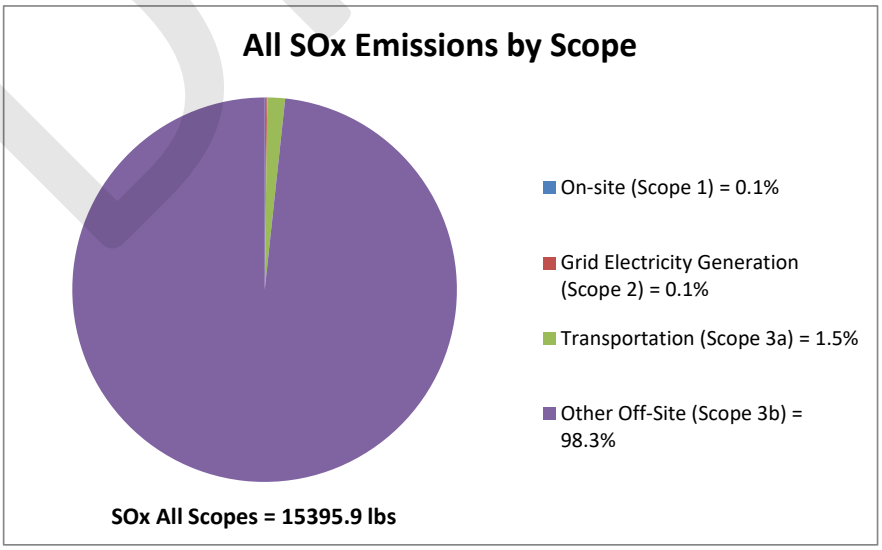
On-site (Scope 1) = 41.6%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 18.6%
Other Off-Site (Scope 3b) = 39.8%

NOx All Components = 39119.2 lbs
NOx All Scopes = 39119.2 lbs

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All SOx Emissions by Remedy Component and Scope
(in Lbs)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Alternative I - Track 1 Remedy
Alternative II - Track 2 Remedy
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
SOx All Components = 15395.9 lbs


All SOx Emissions by Remedy Component
Alternative I - Track 1 Remedy = 61.3%
Alternative II - Track 2 Remedy = 38.7%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
SOx All Components = 15395.9 lbs


All SOx Emissions by Scope
On-site (Scope 1) = 0.1%
Grid Electricity Generation (Scope 2) = 0.1%
Transportation (Scope 3a) = 1.5%
Other Off-Site (Scope 3b) = 98.3%
SOx All Scopes = 15395.9 lbs

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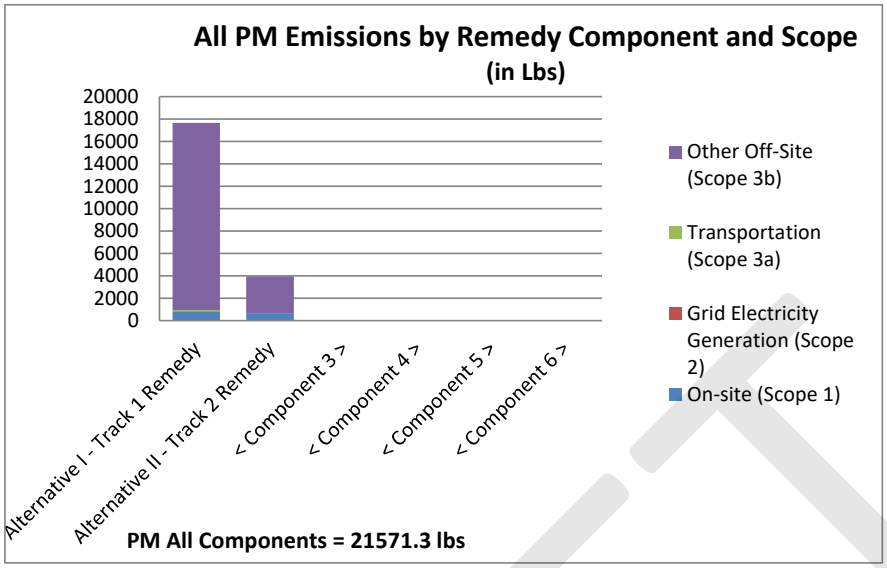
SOx lbs	Alternative	Alternative	< Compon	< Compon	< Compon	< Compon	Total	
On-site (Scope 1)	11.7	9.2	0.0	0.0	0.0	0.0	20.9	
Generation (Scope 2)	9.2	2.4	0.0	0.0	0.0	0.0	11.7	d Electricity
sportation (Scope 3a)	203.6	26.5	0.0	0.0	0.0	0.0	230.2	Tran
er Off-Site (Scope 3b)	9,216.6	5,916.5	0.0	0.0	0.0	0.0	15,133.1	Oth
Total	9,441.2	5,954.6	0.0	0.0	0.0	0.0	15,395.9	

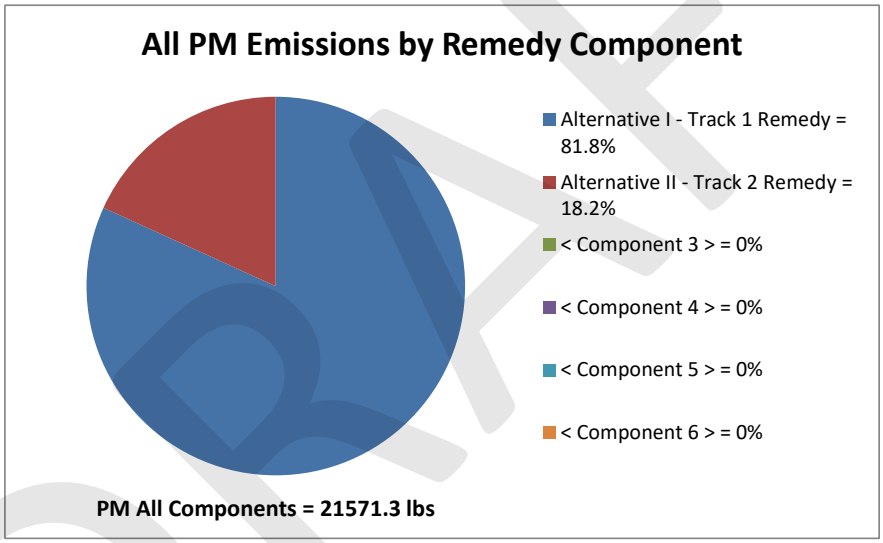
Alternative I - Track 1 Remedy = 61.3%
Alternative II - Track 2 Remedy = 38.7%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

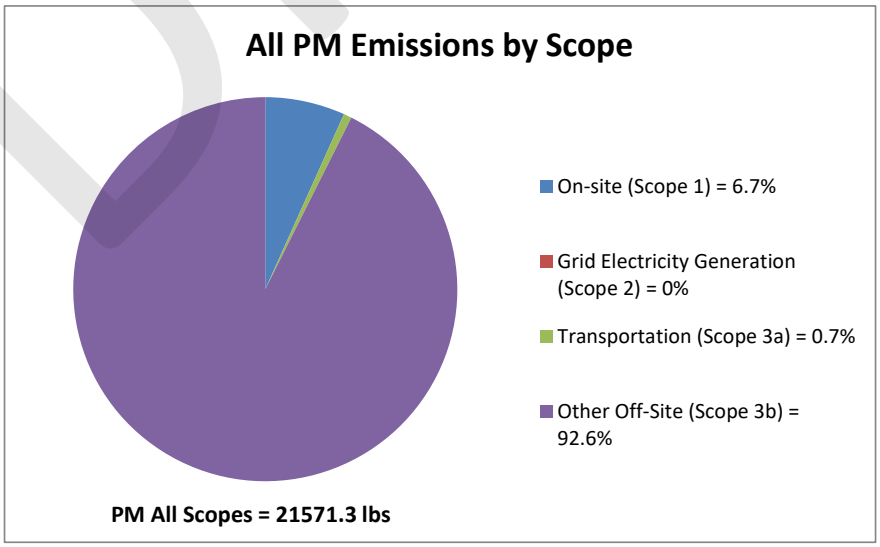
SOx All Components = 15395.9 lbs
SOx All Scopes = 15395.9 lbs

On-site (Scope 1) = 0.1%
Grid Electricity Generation (Scope 2) = 0.1%
Transportation (Scope 3a) = 1.5%
Other Off-Site (Scope 3b) = 98.3%

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All PM Emissions by Remedy Component and Scope
(in Lbs)
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
Alternative I - Track 1 Remedy
Alternative II - Track 2 Remedy
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
PM All Components = 21571.3 lbs


All PM Emissions by Remedy Component
Alternative I - Track 1 Remedy = 81.8%
Alternative II - Track 2 Remedy = 18.2%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
PM All Components = 21571.3 lbs


All PM Emissions by Scope
On-site (Scope 1) = 6.7%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.7%
Other Off-Site (Scope 3b) = 92.6%
PM All Scopes = 21571.3 lbs

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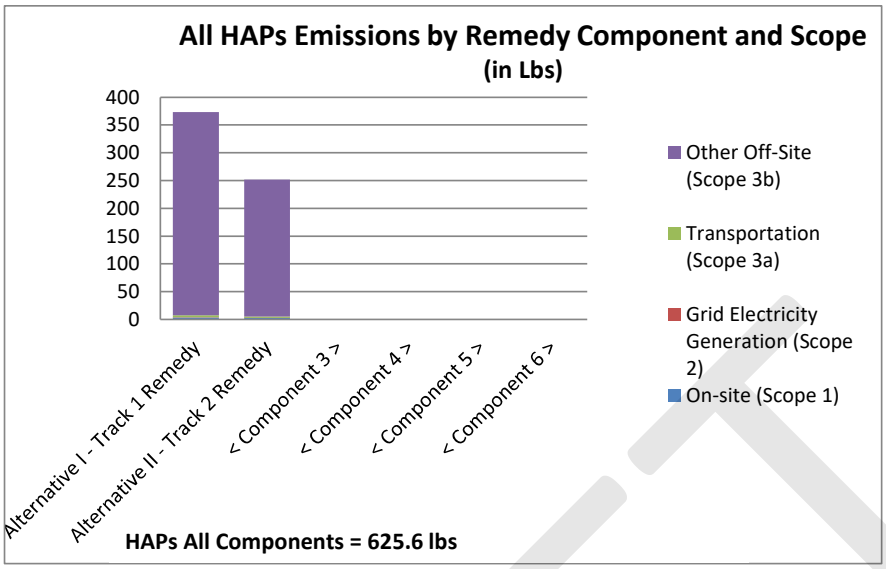
PM lbs	Alternative	Alternative	< Compon	< Compon	< Compon	< Compon	Total	
On-site (Scope 1)	813.7	638.7	0.0	0.0	0.0	0.0	1,452.4	
Generation (Scope 2)	0.1	0.1	0.0	0.0	0.0	0.0	0.2	Electricity
sportation (Scope 3a)	129.6	17.7	0.0	0.0	0.0	0.0	147.3	Tran
er Off-Site (Scope 3b)	16,699.8	3,271.5	0.0	0.0	0.0	0.0	19,971.3	Oth
Total	17,643.2	3,928.1	0.0	0.0	0.0	0.0	21,571.3	

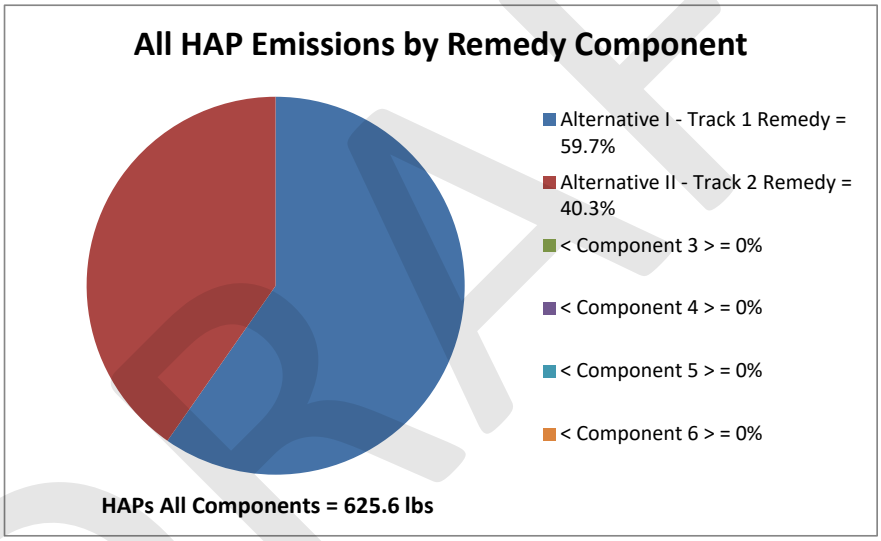
Alternative I - Track 1 Remedy = 81.8%
Alternative II - Track 2 Remedy = 18.2%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

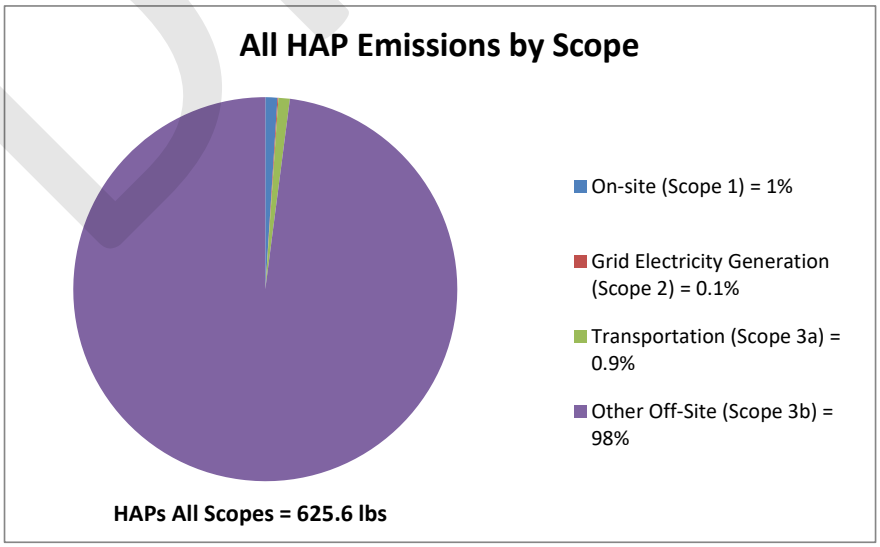
On-site (Scope 1) = 6.7%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.7%
Other Off-Site (Scope 3b) = 92.6%

PM All Components = 21571.3 lbs
PM All Scopes = 21571.3 lbs

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All HAPs Emissions by Remedy Component and Scope
(in Lbs)
400
350
300
250
200
150
100
50
0
Alternative I - Track 1 Remedy
Alternative II - Track 2 Remedy
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
HAPs All Components = 625.6 lbs


All HAP Emissions by Remedy Component
Alternative I - Track 1 Remedy = 59.7%
Alternative II - Track 2 Remedy = 40.3%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
HAPs All Components = 625.6 lbs


All HAP Emissions by Scope
On-site (Scope 1) = 1%
Grid Electricity Generation (Scope 2) = 0.1%
Transportation (Scope 3a) = 0.9%
Other Off-Site (Scope 3b) = 98%
HAPs All Scopes = 625.6 lbs

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HAPs
lbs

	Alternative	Alternative	< Compon	< Compon	< Compon	< Compon	Total
On-site (Scope 1)	3.6	2.8	0.0	0.0	0.0	0.0	6.4
Generation (Scope 2)	0.4	0.1	0.0	0.0	0.0	0.0	0.5
sportation (Scope 3a)	3.4	2.5	0.0	0.0	0.0	0.0	5.9
er Off-Site (Scope 3b)	366.1	246.7	0.0	0.0	0.0	0.0	612.8
Total	373.5	252.0	0.0	0.0	0.0	0.0	625.6

Alternative I - Track 1 Remedy = 59.7%
Alternative II - Track 2 Remedy = 40.3%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

On-site (Scope 1) = 1%
Grid Electricity Generation (Scope 2) = 0.1%
Transportation (Scope 3a) = 0.9%
Other Off-Site (Scope 3b) = 98%

HAPs All Components = 625.6 lbs
HAPs All Scopes = 625.6 lbs

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APPENDIX H
Project Personnel Resumes

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SUZANNE BELL, PE

Program Manager, Environmental Engineer

EDUCATION

BS, Biosystems Engineering, University of Arizona

PROFESSIONAL REGISTRATIONS

AZ: Environmental Engineer (Reg. No. 61995)
NY: Professional Engineer (Reg No. 106301)

PROFESSIONAL COMMITTEES

American Council of Engineering Companies of New York – New York State Department of Environmental Conservation Committee Member – 2024-2025

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste and Operations Emergency Response Training (29 CFR 1910.120 and 40 CFR 265.16)
8-Hour HAZWOPER Refresher Course

Suzanne is a senior project manager with over 17 years of experience in the environmental consulting industry. She has worked on soil and groundwater environmental investigations, remediation projects, and prepared reports for private, industrial, and government clients. Her technical experience includes remediation systems; soil and groundwater feasibility studies; Phase I site investigations; environmental file review and historical research; stormwater assessments and SWPPP preparation; reclamation planning for the sand and gravel mining industry; air permitting; and data interpretation.

In New York, Suzanne has experience as an Engineer of Record in completing site closure documentation including Remedial Closure Reports reviewed by the Office of Environmental Remediation as well as Final Engineering Reports and Site Management Plans reviewed by the New York State Department of Environmental Conservation.

Suzanne has managed the investigation, remedial design, remediation and closeout of sites in the Brownfield Cleanup Program and petroleum spill case sites. Her background also includes developing and complying with approved site management plans overseeing the operation and maintenance of on-site engineering controls, such as soil vapor extraction systems, sub-slab depressurization systems, product recovery systems, and ensuring the protection of human health and the environment.

RELEVANT PROJECT EXPERIENCE

Bedford Beverly Redevelopment Site, Brooklyn, New York. Suzanne served as engineer of record for execution of Remedial Action Work Plans for an approximately 5.31-acre non-contiguous property located in the Flatbush neighborhood in the borough of Brooklyn, New York under the New York State Brownfield Cleanup Program (NYSBCP). The remedy included removal of thirteen undocumented underground storage tanks (USTs), removal of over 115,000 tons of non-hazardous and hazardous soil, hotspot excavations, injections of zerovalent iron to treat tetrachlorethylene in groundwater, injection of alkaline-activated persulfate to treat petroleum-based volatile organic compounds in groundwater and establishing a Site Management Plan (SMP) for Institutional and Engineering Controls. The site is being redeveloped from a vacant auto service center, vast open air parking lots, and a vacant commercial building into a vibrant community development. In addition to new residential housing, which includes affordable units, and commercial spaces, the project has preserved the highly recognizable Sears Roebuck & Company Department Store. This includes maintaining its historical architecture, updating the building to meet modern standards, introducing commercial spaces that were previously underutilizing, and maintaining the character of the neighborhood.

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Development, EPA Site RCRA-02-2009-7306, NYSDEC Site 243016, Former Port Mobil Terminal, Staten Island, New York. Engineer and project manager responsible for the preparation of the feasibility study, preparation of the Interim Remedial Report, completion of the Interim Remedial Measure, completion of the remedial investigation stages, continued execution of the Monitoring and Natural Attenuation Program, preparation of the Remedial Action Work Plan/Remedial Designs, and RCRA Closure procedures for the Port Mobil Terminal Site under an Environmental Protection Agency and New York State DEC Consent Order. The Site has a footprint of approximately 240 acres with a planned development for commercial/industrial uses.

Rogers Snyder Brownfield Site, 858 Rogers Avenue and 2605 Snyder Avenue, Brooklyn, New York. Suzanne served as engineer of record for execution of Remedial Action Work Plan at the Rogers Snyder redevelopment project under the NYSBCP. Responsible for remedial oversight of excavation and removal of non-hazardous and hazardous soil, endpoint sample collection, air monitoring, communication with soil brokerage firm and environmental laboratory, preparation of the FER.

Former Garone Bros Auto Service Center Site, 352-362 Shepherd Avenue, Brooklyn, New York. Suzanne served as engineer of record for execution of Remedial Action Work Plan at the 352-362 Shepherd redevelopment project under the NYSBCP. Responsible for remedial oversight of excavation and removal of non-hazardous soil, removal of USTs, endpoint sample collection, air monitoring, communication with soil brokerage firm and environmental laboratory, preparation of the FER.

Former Fielder Waterproofing & Masonry Site, 91 Bruckner Boulevard, Bronx, New York. Suzanne served as engineer of record for execution of Remedial Action Work Plan at the 91 Bruckner redevelopment project under the NYSBCP. Responsible for remedial oversight of excavation and removal of non-hazardous and hazardous soil, removal of USTs, endpoint sample collection, air monitoring, communication with soil brokerage firm and environmental laboratory, preparation of the FER and SMP.

828 Metropolitan Avenue Site, 808-834 Metropolitan Avenue, Brooklyn, New York. Suzanne served as project manager and engineer of record for execution of Remedial Action Work Plan at the 828 Metropolitan Avenue redevelopment project under the NYSBCP. Responsible for remedial oversight of excavation and removal of non-hazardous soil, removal of USTs, endpoint sample collection, air monitoring, communication with soil brokerage firm and environmental laboratory, preparation of Daily Field Reports (DFRs) and the Final Engineering Report (FER).

Waterfront Property Management, 89-91 Gerry Street and 93 Gerry Street, Brooklyn, New York. Suzanne served as project manager for execution of Remedial Action Work Plans at the former Just4Wheels Site and Just4Wheels Site 2 under the New York State Brownfield Cleanup Program (NYSBCP). Responsible for remedial oversight of excavation and removal of non-hazardous and hazardous soil, endpoint sample collection, removal of USTs, air monitoring, dewatering system installation support, communication with soil brokerage firm and environmental laboratory, preparation of DFRs and the FER.

Multiple Clients, Remedial Investigation Work Plans and BCP Applications, New York City, New York. As project manager and engineer, Suzanne has prepared NYSBCP Applications and Remedial Investigation Work Plans for the New York State Department of Environmental Conservation (NYSDEC) for sites within the New York City boroughs.

Multiple Clients, Remedial Action Work Plans, New York City, New York. As project manager and engineer of record, Suzanne has prepared Remedial Action Work Plans for the NYSDEC for sites within the New York City boroughs.

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Excavation Oversight and CAMP Monitoring, Various Sites, New York City, New York. Suzanne has served as project manager for projects under the New York City Office of Environmental Remediation (NYCOER) program and NYSBCP. Her responsibilities included managing excavation oversight, air monitoring, and logging trucks for off-site disposal.

Aerospace Manufacturing Facility, Feasibility Study and Remedial Action Plan, Chula Vista, CA. Suzanne co-authored feasibility studies for soil and ground water impacted by chlorinated solvents, metals, and PCBs. She screened ex-situ and in-situ remedial alternatives for effectiveness, implementability, and protectiveness of human health. She also assessed alternative cleanup levels for technical and economic feasibility of achieving background concentrations in accordance with State Water Resources Control Board Resolution 92-49. Additionally, she evaluated groundwater remedial alternatives, including bioremediation, monitored natural attenuation (MNA), pump and treat, chemical oxidation, chemical reduction, and engineered and institutional controls. Lastly, she prepared engineering cost estimates and conceptual designs. Assisted with the preparation of remedial action plans: a bioremediation remedy and MNA program for groundwater, and excavation of contaminated soil.

Aerospace Manufacturing Facility, Groundwater Remediation and Bioremediation Pilot Test, Riverside, CA. Suzanne assisted with data analysis and reporting for the bioremediation pilot test study for groundwater impacted by chlorinated solvents, hexavalent chromium, and 1,4-dioxane. She evaluated site data for trends indicative of MNA using statistical analysis.

Goodyear Tire & Rubber Company, Phoenix Goodyear Airport South Superfund Site, Goodyear, Arizona. Suzanne prepared reports and performed data analysis related to the groundwater monitoring program and operation and maintenance of groundwater treatment systems. Currently, two groundwater extraction and remediation systems are capable of treating more than 1 million gallons per day of groundwater contaminated with trichloroethylene. The upper groundwater zone is treated with an air stripper, while the lower zone is treated with granulated activated carbon. Treated groundwater is reinjected into their respective zones.

Soil and Groundwater Remediation Systems, Arizona. Suzanne **p**erformed operation, maintenance, and sampling activities for two soil vapor extraction systems to remove tetrachloroethylene from subsurface soils at two different dry-cleaning facilities. She prepared soil vapor extraction GAC system test reports in accordance with Maricopa County Air Quality Department Permits.

ASTM Phase I Environmental Site Assessments, Arizona. Suzanne assisted with ASTM Phase I ESAs at various industrial facilities in central and southern Arizona. She evaluated site conditions and regulatory implications as they related to the owner's or potential buyer's property development plans.

Phoenix-Goodyear Airport-North Superfund Site, Focused Feasibility Study, Goodyear, Arizona. Suzanne was a member of team that prepared a source area remediation focused feasibility study report. She evaluated several technologies and alternatives to treat groundwater contaminated with trichloroethylene (TCE) and perchlorate. She analyzed remedial alternatives, including in-well air stripping, a hydraulic barrier, nano- and macro-scale zero-valent iron, anaerobic reductive dechlorination, in-situ chemical oxidation (permanganate), and electrical resistive heating. She prepared cost estimates, conceptual designs, remediation technology summaries, and sustainability evaluation of the alternatives.

Enhanced In-Situ Bioremediation (EISB) and Chemical Reduction Using a Nanoscale, Zero-Valent Metallic Alloy to Treat Co-disposed Chloroethanes and Chloroethenes in Groundwater, Manufacturing Facility, Canton, MA. Suzanne performed data analysis and prepared status reports on effectiveness of EISB in treating chlorinated solvents in shallow groundwater. She reported on the performance monitoring results for the permeable reactive barrier in deep zone groundwater.

Hayden Facilities RI/FS, ASARCO LLC, Hayden, Arizona. Suzanne served as Quality Assurance Officer for the air monitoring program at a copper smelting facility. She developed site-specific data validation procedures according EPA guidelines for several analytical methods.

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Market Evaluation for Nanoscale Zero-Valent Iron, Stamford, Connecticut. Suzanne used EPA CERCLIS Public Access Database and select State databases to estimate the market size for potential use of nanoscale zero-valent iron (nZVI) as a remediation technology. She compiled competing vendor information and quotes to estimate the average cost of similar products. She utilized the U.S. Patent and Trademark Office database to analyze competing technologies.

Arizona Pollutant Discharge Elimination System (AZPDES) and National Pollutant Discharge Elimination System (NPDES) Permits, Arizona. Suzanne prepared AZPDES and NPDES) permit renewal applications for a copper mining facility in Southern Arizona, which included updates to the facility's Storm Water Pollution Prevention Plan (SWPPP) and QA Manual.

Spill Prevention, Control and Countermeasure Plans, Aggregate Mining Facilities, Arizona. Suzanne assisted with a Spill Prevention, Control and Countermeasure Plans (SPCC) for aggregate mining facilities in Arizona. She performed site visit, evaluated fuel and oil tanks and secondary containment areas, assisted with calculations to verify compliance, and prepared report.

Copper Mining Facility, Miami, Arizona. Suzanne assisted with Toxic Release Inventory (TRI) and Toxic Substances Control Act (TSCA) reporting, both submitted to the EPA.

Storm Water Pollution Prevention Plan, Franciscan Friars of California, Gila County, Arizona. Suzanne updated the SWPPP for construction activities related to the closure of a historic Gibson copper mine, authorized under the Arizona Pollutant Discharge Elimination System "General Permit for Discharge from Construction Activities to Waters of the United States." The Former Gibson Mine is a small, historic copper mine, located approximately 7 miles southwest of Miami, Arizona, in Gila County. Construction activities covered under the updated SWPPP consisted of the excavation, hauling, and removal of approximately 80,000 tons of soil cover from the Mineral Creek side of the site to mine-scarred areas on the Pinto Creek side of the site. Also included was final grading of the site, which consisted of re-contouring and re-defining any portion of the drainages that were on site; and revegetation.

Stormwater Pollution Prevention Plans, Vulcan Materials Company, Western Division, Arizona. Suzanne prepared SWPPP for 11 aggregate mining facilities in Arizona. Performed site visits, analyzed stormwater flows, prepared reports, and completed Notices of Intent for the Arizona Department of Environmental Quality under a Multi-Sector General Permit.

Uranium Enrichment Facility, Lea County, New Mexico. Suzanne prepared quarterly and annual groundwater monitoring reports, semi-annual radioactive effluent release reports, and radiological environmental monitoring program reports in accordance with New Mexico Environment Department regulations and the Nuclear Regulatory Commission. Performed quarterly data validation on a variety of matrices and analytical methods. She prepared site-specific environmental monitoring procedures, which included field sampling techniques; data collection, management and validation; and an air modeling software package.

Rocket Testing and Research Facility, Western U.S. Suzanne analyzed and evaluated groundwater quality data, prepared reports, and managed data for this Resource Conservation and Recovery Act (RCRA) site. Assisted with management of sampling, analysis, and reporting of constituents of concern for fractured sandstone bedrock aquifer impacted by chlorinated solvents and emergent chemicals 1,4-dioxane, perchlorate, and n-nitrosodimethylamine (NDMA). Performed data validation of water quality data according to U.S. EPA National Functional Guidelines. Queried data from client environmental data management system and prepared summary tables, concentration plots, and water level hydrographs using Microsoft Excel programs. She prepared a quarterly analytical schedule using an Access database application, updated the site-specific Health & Safety Plan, and participated in lean training, which reduced cost of groundwater monitoring tasks by 25 percent.

Federal Superfund Site, Eastern Massachusetts. Suzanne performed data validation and quality assurance/quality control of soil and groundwater data according to U.S. EPA National Functional Guidelines. She performed third-party database updates.

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Great Western Bank, Cortaro Ranch Property, Marana, Arizona. For site characterization of undeveloped land, Suzanne performed surficial soil sampling, analytical laboratory coordination, data analysis, and report preparation.

Twin Buttes Properties, Inc., Southern Arizona. Suzanne assisted with report and analytical table preparation for the characterization and analysis of current and historical hydrologic conditions at an inactive mine site near Sahuarita, Arizona in support of regulatory compliance.

Skyworks Solutions, Inc. Site, Newbury Park, California. Suzanne assisted with report and analytical table preparation for a subsurface investigation characterizing the lateral and vertical extent of soil and groundwater impacts from known releases of TCE, 1,4-dioxane and other organic compounds.

PUBLICATIONS

"Mixed Redox Catalytic Destruction of Chlorinated Solvents in Soils and Groundwater," with S. Gao, E. Rupp, M. Willinger, T. Foley, B. Barbaris, A.E., Saez, R.G. Arnold and E. Betterton. In Environmental Challenges in The Pacific Basin, 2008; Annals of the New York Academy of Sciences, Vol. 1140, pp 435-445. PMID: 18991945

INVITED LECTURER OR SPEAKER

"Catalytic Destruction of Perchloroethylene," with E. Betterton, R. Arnold and Eduardo Saez, Presenter - NASA Space Grant Student Symposium, Phoenix, Arizona. April 2007.

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MARI C. CONLON

Senior Client Account Manager

EDUCATION

MS, Geology, Boston College

BS, Geology with a minor in Economics and Business, Lafayette College

PROFESSIONAL REGISTRATIONS

NY: Professional Geologist (License No. 000769)

PROFESSIONAL SOCIETIES

Big Apple Brownfield Awards, Co-Chair, 2018-2022

Big Apple Brownfield Awards Nomination Committee, 2016-2025

New York City Brownfield Partnership Executive Board, 2021-2025

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)

10-Hour OSHA Construction Safety

8-Hour OSHA Supervisor of Hazardous Waste (29 CFR 1910.120 & 29 CFR 1926.65)

Mari is a senior client account manager with experience in soil, groundwater and soil vapor investigation and a focus on remedial design and implementation. She is also experienced in completion of numerous Phase I Environmental Site Assessments and Phase II Environmental Site Investigations, site characterization, hazardous materials analysis, regulatory closure reports as well as remedial design and implementation.

Mari has experience in composing site closure documentation including Remedial Closure Reports and Noise Installation Reports reviewed by the Office of Environmental Remediation as well as Final Engineering Reports and Site Management Plans reviewed by the New York State Department of Environmental Conservation. Mari has also worked on city rezoning proposals by performing work associated with and composing the Hazardous Materials Analysis chapter included in Final Environmental Impact Statements published by New York City Department of Planning. Analysis methods were performed in accordance with the City Environmental Quality Review (CEQR) guidelines for neighborhoods including East New York, Brooklyn, Jerome Avenue, Brooklyn, Inwood, and Manhattan.

Mari has managed the investigation, remedial design, remediation and closeout of multiple inactive Resource Conservation and Recovery Act (RCRA) hazardous waste sites, New York State Superfund sites and petroleum spill case sites. Her background includes developing and complying with approved site management plans overseeing the operation and maintenance of on-site engineering controls, such as soil vapor extraction systems, sub-slab depressurization systems, product recovery systems, etc., and ensuring the protection of human health and the environment.

RELEVANT PROJECT EXPERIENCE

State and City Agencies

School Construction Authority, Waste Characterization and Excavation Materials Disposal Plan, Brooklyn, New York. Project manager for consulting services for New York Public School 127. Services included composition of an Excavated Materials Disposal Plan, collection of waste characterization samples and preparation of and preparation of a findings and recommendations report.

Department of City Planning, Rezoning Environmental Impact Statement, Bronx, New York. Project lead for analysis and composing the Hazardous Materials Chapter as per City Environmental Quality Review (CEQR) Technical Manual guidelines included in the Final Environmental Impact Statement (FEIS) for an approximately 92-block area primarily along Jerome Avenue and its east-west commercial corridors in the Bronx. The review assessed the potential for the

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presence of hazardous materials in soil and/or groundwater at both the projected and potential development sites identified in the reasonable worst-case development scenario under the proposed East New York Rezoning Proposal. Procedures involved site inspections and review of historic Sanborn fire insurance maps, city directories and city/state regulatory databases. The assessment identified that each of the 146 projected and potential development sites has some associated concern regarding environmental conditions. As a result, the proposed zoning map actions include (E) designations (E-366) for all privately-held projected and potential development sites.

Department of City Planning, Rezoning Environmental Impact Statement, Brooklyn, New York. Project lead for performance analysis and composing the Hazardous Materials Chapter as per CEQR Technical Manual guidelines included in the FEIS for an approximately 190-block area of East New York, Cypress Hills, and Ocean Hill neighborhoods of Brooklyn, New York. The review assessed the potential for the presence of hazardous materials in soil and/or groundwater at both the projected and potential development sites identified in the reasonable worst-case development scenario under the proposed East New York Rezoning Proposal. Procedures involved site inspections and review of historic Sanborn fire insurance maps, city directories and city/state regulatory databases. The assessment identified that each of the 186 projected and potential development sites has some associated concern regarding environmental conditions. As a result, the proposed zoning map actions include (E) designations (E-366) for all privately-held projected and potential development sites.

Redevelopment and Remediation

Titan Equity Group, Hotel Redevelopment, Bronx, New York. Project manager for a hotel redevelopment in the south Bronx. The site has been assigned New York City Office of Environmental Remediation (NYC OER) E-Designation status for hazardous materials, noise, and air quality. Services included completion of a remedial investigation, composition of a Remedial Investigation Report and development of Hazardous Material Remedial Action Work Plan and Air Quality/Noise Remedial Action Plan as per NYC OER requirements.

The Related Companies, Chelsea Mixed-Use Redevelopment, New York, New York. Field geologist for oversight of the remediation of a mixed-use residential and commercial building, the second of a two-building development on 30th Street. Contaminants of concern included volatile and semi-volatile organic compounds associated with historic operations and underground storage tanks (USTs) located on the Site. The Site was given an E-designation (E-142) for hazardous materials and noise as part of the Highline/West Chelsea rezoning proposal. To satisfy the requirements of the E-designation program, soil was excavated to at least 12 feet below grade and bottom endpoint collected showing no contaminants of concern exceeding the New York State Department of Environmental Conservation (NYSDEC) Unrestricted Use Soil Cleanup Objectives (SCO). By achieving Unrestricted Use SCOs, no engineering controls were necessary, although the building slab was included as part of development, and removal of the hazardous materials E-designation was requested.

Tishman Speyer, Long Island City Residential Development, Long Island City, New York. Field geologist for remedial oversight and implementation of a Community Air Monitoring Program during concurrent remediation and development of three Brownfield Cleanup Program (BCP) sites located in Long Island City, New York. The Sites were grossly contaminated with creosote, a carcinogenic chemical formed from the distillation of various tars. Remediation strategies included soil excavation and in-situ soil stabilization. To prevent migration of groundwater off-site, a temporary and later a permanent capture well system was installed on the western boundary of the property. The BCP site located on the western portion of the property left residual contamination in place requiring installation of a sub-slab depressurization system.

Queens West Development Corporation, Queens Waterfront Development, Long Island City, New York. Field geologist for performance of site management post remedial action. Services included annual groundwater monitoring, evaluation of engineering and institutional controls completion and Period Review Reports. In addition to conducting annual site management activities, responsibilities included composing a work plan to evaluate the transition from active sub-slab depressurization systems to passive. Upon NYSDEC approval, active systems were shut down for 30 days prior to a sub-slab vapor sampling event evaluation soil vapor, indoor and outdoor air conditions for

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potential vapor intrusion risk. As results indicated no evidence of vapor intrusion, continued pressure monitoring was conducted for from the existing monitoring ports for one year assessing whether negative pressure was held by the existing slab by stack-effect or other passive processes.

Jim Beam Brands Co., Brownfield Cleanup Program Remediation Site, Long Island City, New York. Field geologist for oversight of the installation of an Electrical Resistive Heating (ERH) system implemented in order to remediate trichloroethylene groundwater plumes in shallow/intermediate and deep groundwater on- and off-site. The Site, a former stapler manufacturing facility, underwent various remedies, including a Soil Vapor Extraction system, air sparging, ozone injection and chemical oxidation using potassium permanganate injections, which resulted in little reduction to contamination levels and rebounding chlorinated solvents. Components of the ERH system installed included electrodes for delivery of steam, vapor recovery wells, and groundwater monitoring wells. The site is currently under remediation in the state BCP program.

Due Diligence and Site Characterization

Manufacturing Plants, Multiple Investors, Environmental and Compliance Assessment Portfolio United States. Project lead for completion of Phase I Environmental Site Assessments (ESAs) and Limited Compliance Reviews for multiple auto parts manufacturing facilities throughout the United States. Services included completion of Phase I ESAs in accordance with the American Society for Testing and Materials E1527-13 requirements and a limited review of each facility's compliance liabilities including issues pertaining to the Resource Conservation and Recovery Act, Greenhouse Gas Emission Standards and Tier II Emergency and Hazardous Chemical Inventory reporting requirements.

ARM Parking, Environmental Site Assessment and Subsurface Investigation, Brooklyn, New York. Project manager for site assessment and subsurface investigation of parking facility in Sunset Park neighborhood, Brooklyn, New York. Services included ground penetrating radar survey for former and current petroleum USTs, completion of a subsurface investigation of soils and composition of Limited Subsurface Investigation Report.

Spill Consulting

The Trump Organization, Spill Consulting Services, New York, New York. Project manager for consulting services provided after incidental release of calcium carbonate ice rink paint to the Central Park Pond from Wollman Rink. Services included liaising with NYSDEC regarding violations, consent order and required corrective action. Corrective action included designing alterations to the existing on-site drainage plans and routing all meltwater containing paint into the combined sewer system. Coordination was required with property owner, operations personnel, New York City Department of Parks and NYSDEC.

Richmond Gardens Apartments, Spill Management and Closure Services, Staten Island, New York. Project lead responsible for spill closure activities and reporting for Spill 1105661 located at the Richmond Gardens Apartment Complex in the Richmond neighborhood of Staten Island, New York. The spill was opened in 2011 when several underground storage tanks were identified adjacent to the apartments at Jersey Street and Hendricks Avenue. The tanks were cleaned and removed and impacted soils surrounding the tank area excavated to the extent possible. Excavation of all impacted material was not feasible due to the proximity of the tanks to the apartment buildings. Residual contamination in soil and groundwater remained and was monitored through 2016. Upon reviewing the groundwater monitoring data from over 12 consecutive quarters, it was apparent monitored natural attenuation was not a feasible option and an in situ chemical oxidation (ISCO) remedy was approved by NYSDEC. Due to success of the pilot test, the ISCO injection event was implemented utilizing pressure pulse technology to deliver the alkaline activated persulfate solution to the subsurface.

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ELIZABETH R. FITZGERALD

Project Manager

EDUCATION

B.S., Earth Science with a minor in Sustainability Leadership, Pennsylvania State University

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)
8-Hour OSHA HAZWOPER Refresher Training
10-Hour OSHA Construction Safety Training
8-Hour DOT Hazmat Employee & RCRA Hazardous Waste Generator Training
American Red Cross First Aid/CPR/AED Training

Elizabeth is an environmental scientist and project manager with broad experience across environmental remediation, due diligence, regulatory compliance, and infrastructure development. She has managed and supported projects under the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup (BCP), NYC Office of Environmental Remediation (NYC OER) Voluntary Cleanup Program (VCP), and New Jersey Department of Environmental Protection (NJDEP), with expertise in remedial construction oversight, regulatory coordination, and technical reporting. Elizabeth has authored numerous technical and regulatory reports and has successfully guided projects to regulatory closure or key milestones with agencies including NYSDEC, NYC OER, and NJDEP. Her project portfolio spans brownfield redevelopment, transportation and airport infrastructure, New York City School Construction Authority (NYCSCA) public school facilities, and resilience initiatives throughout the New York metropolitan area. Known for her strategic coordination, technical accuracy, and cross-disciplinary collaboration, Elizabeth delivers solutions that support regulatory closure, sustainable development, and long-term project success.

RELEVANT PROJECT EXPERIENCE

Remediation and Redevelopment

Elizabeth has managed and supported remedial investigations, remedy implementation, and regulatory coordination under the NYSDEC BCP, NYC OER VCP, and NJDEP oversight. Her experience includes overseeing remedial construction, authoring Final Engineering Reports (FERs) and Site Management Plans (SMPs), developing sampling and analysis strategies, and coordinating with contractors, regulators, and legal counsel throughout all phases of remediation.

Third at Third LLC, NYSDEC BCP site, Third Street Gowanus, Brooklyn, New York. Elizabeth managed remediation for a 0.47-acre former industrial site redeveloped into a 13-story mixed-use building under the BCP. She directed remedial activities, including excavation and off-site disposal of approximately 4,800 tons of impacted soil, in situ chemical oxidation (ISCO) to address arsenic impacts in groundwater, and installation of an active sub-slab depressurization system (SSDS), infiltration gallery, and composite cover system. Elizabeth led preparation of the FER and SMP and coordinated extensively with NYSDEC and legal counsel to support the issuance of the Certificate of Completion in January 2025.

Franklin 33 LLC, NYSDEC BCP site, 33 Franklin Street, Brooklyn, New York. Elizabeth supported a Track 1 unrestricted use remedy for a 0.48-acre former industrial site. She facilitated excavation and off-site disposal activities for over 9,500 tons of impacted soil, including chlorinated volatile organic compound (VOC)-impacted fill. Elizabeth managed post-excavation sampling and backfill approvals and directed field personnel during remedial activities. Elizabeth contributed to daily and monthly reporting to NYSDEC and New York State Department of Health (NYSDOH), prepared the FER and SMP, and supported regulatory communications to ensure issuance of the Certificate of Completion in December 2022.

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Bedford N 1 LLC, NYC OER VCP site, 276 Bedford Avenue, Brooklyn, New York. Elizabeth implemented a Track 2 Residential remedy under the NYC OER VCP for a 2,736-square-foot site historically used for retail and residential purposes. Elizabeth managed transport and disposal operations of more than 2,600 tons of contaminated historical fill, assisted with endpoint sampling, daily reporting, air monitoring, and contractor oversight. Elizabeth helped ensure compliance with the Remedial Action Work Plan (RAWP), including installation of a composite cover system and a multi-layer vapor barrier integrated into the building foundation. She contributed to the Remedial Action Report and supported final certification with NYC OER.

DVL, Inc. Toch Park redevelopment, Kearny, New Jersey. Elizabeth managed polychlorinated biphenyl (PCB) concrete sampling program at a six-story brick-and-concrete warehouse formerly used for linoleum flooring manufacturing. She coordinated a team of six to collect over 800 grab samples on multiple floors, oversaw all decontamination procedures, maintained equipment and inventory, and ensured adherence to health and safety requirements.

S. Hekemian Group Montvale redevelopment, New Jersey. Elizabeth led a remedial investigation and action for a 25-acre former commercial farm property. She advanced 35 soil borings to delineate contamination, conducted synthetic precipitation leaching procedure (SPLP) sampling to establish site-specific cleanup goals, and identified and managed hotspot excavation. She also oversaw dust control during soil movement and supported Response Action Outcome (RAO) documentation to NJDEP to remove environmental restrictions on the property.

Due Diligence

Elizabeth has led environmental due diligence across a range of public and private properties, including commercial, industrial, residential, and institutional sites across all five boroughs of New York City, including NYCSCA school sites, former manufactured gas plant (MGP) sites, and legacy industrial parcels. Elizabeth has authored numerous Phase I Environmental Site Assessment (ESA) reports to support acquisition and redevelopment and has managed Phase II ESIs and Indoor Air Quality to evaluate subsurface conditions and vapor intrusion risks. Her work includes sampling design, regulatory review, and technical reporting to inform client decision-making.

The Jay Group, New York State Superfund site, Former NuHart Plastics site, New York State Superfund site (NuHart West) and BCP site (NuHart East), Brooklyn, New York. Elizabeth authored a Phase I ESA for a 0.6-acre property historically operated as a petroleum filling station and currently listed as a federal Superfund site. The assessment identified multiple Recognized Environmental Conditions (RECs), including historical and ongoing petroleum contamination from leaking underground storage tanks (USTs), improper hazardous material storage, and long-term operation as an auto service facility. Her evaluation included detailed regulatory records review, site reconnaissance, and assessment of historical land use and spill cases. The findings informed the client's acquisition and redevelopment strategy and addressed due diligence requirements under ASTM E1527-13 and the All Appropriate Inquiries (AAI) rule.

New York City Transit (NYCT) Mets/Willets Point Station Renovation Environmental Due Diligence Assessment (EDDA), Queens, New York. Elizabeth assisted with the preparation of an EDDA consistent with the requirements of New York's State Environmental Quality Review Act and City Environmental Quality Review for planned major renovations at NYCT's Mets/Willets Point station on the No. 7 Line as part of the environmental services group. Elizabeth consolidated the data from soil and groundwater sampling events and analyzed for sources of contamination and potential remedial actions prior to construction. In addition, her assessment included the potential impact of noise vibrations and other construction activities on the surrounding environment.

Transportation and Infrastructure

Elizabeth has supported environmental compliance and investigation efforts on high-profile transportation, education, and infrastructure projects in the NYC metro area.

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Metropolitan Transportation Authority (MTA) Capital Construction (MTACC) / NYCT, Second Avenue Subway Phase 2, New York City. Elizabeth contributed to subsurface field investigations for the Supplemental Environmental Assessment and Environmental Impact Statement for Phase 2 of the Second Avenue Subway. Elizabeth conducted on-site soil and groundwater sampling, soil classification, contractor oversight, and soil disposal. Elizabeth also coordinated consultant field staff, managed daily site logistics with drilling contractors, tracked equipment and materials, and communicated field progress to the project team.

Port Authority of New York and New Jersey Newark Liberty (EWR) International Airport Terminal One, redevelopment design-build, Newark, New Jersey. Elizabeth assisted in designing a methane investigation program for the redevelopment of Terminal One at EWR. Her work included historical records review, evaluation of regional environmental conditions, and coordination with engineering and construction teams to support the design-build effort. Elizabeth helped interpret findings and communicate results to inform design planning for this LEED® Silver-certified $1.4 billion terminal redevelopment.

NYCSCA Citywide Lead in Water Testing and Potable Water Piping Disinfection Programs, various public schools, New York City. Elizabeth supported potable water investigation and remediation activities at over 100 public schools under NYCSCA contracts. As project coordinator for the Citywide Lead in Water Testing Program, Elizabeth managed the collection and analysis of more than 6,300 potable water samples at over 70 schools, overseeing complex after-hours scheduling and coordination with field teams, laboratories, and NYCSCA representatives. Elizabeth also supported more than 25 potable water piping disinfection projects, including oversight of bacteriological and lead sampling following system installation. At P.S. 62 in Staten Island, Elizabeth led field efforts to investigate blue-discolored water, collecting over 200 samples, assisting with bench-scale testing of copper corrosion, and implementing a targeted remedy to restore water quality and promote long-term passivation.

New York City Housing Authority (NYCHA), physical needs assessment and energy audit, New York City. Elizabeth analyzed more than 200 field reports to assess the overall quality and accuracy of site inspections during a $23-million physical needs assessment and energy audit of 2,413 buildings on 318 NYCHA developments. As quality control inspector, Elizabeth collaborated with a team of approximately 20 scientists, engineers, and architects to facilitate efficient and thorough quality control reviews. In this capacity, Elizabeth reviewed field reports and revised them as needed to display information in an organized, consistent, and accurate manner. These field reports contained information regarding the presence asbestos, mold, damaged building materials, and other such hazards.

NYCDEP Owl's Head Wastewater Treatment Plant (WWTP) resilience upgrades, Brooklyn, New York. Elizabeth supported the development of sustainability goals for $30 million in flood resilience upgrades at the 120-million gallons per day (mgd) Owl's Head WWTP**.** As sustainability officer, Elizabeth identified strategies to reduce greenhouse gas emissions, energy use, and waste generation across mechanical, electrical, and structural systems. Her work included evaluating opportunities for material reuse, water conservation, and stormwater management through permeable surfaces and topographic optimization. Elizabeth collaborated with the design team to incorporate these measures into the facility plan report, ensuring the project aligned with NYCDEP sustainability and environmental impact goals.

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BRIAN FITZPATRICK, CHMM

Corporate Director, Health and Safety

EDUCATION

M.P.A., Environmental Policy, Syracuse University
B.S., Environmental Science, University of Massachusetts-Amherst
A.S., Chemistry, Valley Forge Military Junior College
Commissioned Officer, United States Army

CERTIFICATIONS

Certified Hazardous Materials Manager (Reg. No. 13454)
Certified Department of Transportation Shipper
Certified International Air Transport Authority Shipper

PROFESSIONAL SOCIETIES

Alliance of Hazardous Materials Professionals
Academy of Certified Hazardous Materials Managers, New England Chapter

SPECIAL STUDIES AND COURSES

Department of Transportation
International Air Transport Authority
Incident Commander
Confined Space Entry and Rescue
Radiation Safety Officer
RCRA Hazardous Waste
Massachusetts Industrial Waste Water Operator Grade 2I (expired)

AWARDS

Presidents Club Award (one million hours worked without a recordable injury), Cabot Corporation
Chancellors Award for Excellence, Syracuse University

Brian ensures the work we do for our clients is done safely – knowing this reduces costs, improves service quality and site conditions, and ultimately protects our clients' reputations. In addition to building the Haley & Aldrich Health & Safety (H&S) culture, Brian is hands-on with clients to help improve their and their partners' safety cultures.

He has extensive expertise in the Occupational Safety and Health Administration (OSHA) general industry, process safety management, and construction safety programs. He is an active member of the Alliance of Hazardous Materials Professionals and the New England chapter of the Academy of Certified Hazardous Materials Managers.

Brian knows an organization's success is predicated on empowering its people to safely work within the complex, living processes in which they operate. He is a student of human factors in the workplace, of the phenomena of human error and drift into failure, and of the safety applications of Lean techniques.

RELEVANT PROJECT EXPERIENCE

Haley & Aldrich, Inc., Burlington, Massachusetts. As Chief Health and Safety Officer, Brian has led and facilitated the development and implementation of corporate health and safety (H&S) improvement plans to enhance compliance and improve H&S performance. In Brian's time with Haley & Aldrich, Inc., the company has realized dramatic improvement on H&S goals and in Key Performance Indicators. Brian is responsible for developing a risk competence culture, where our staff are empowered to look for and engage to address risk before anyone is injured. Brian oversees the development, implementation and continuous improvement of all H&S programs for the company. Additional responsibilities include:

- Developing a safety culture through incident reporting, root cause analysis, behavior-based safety, hazard recognition and risk assessment, communication, and developing leaders;

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- Monitoring proposed and existing SH&E regulations and legislation to determine their impact on operations and to ensure continued compliance;
- Overseeing the safety, industrial hygiene, and toxicology programs for over 600 staff members engaged in remediation, construction, health and safety, consulting, and general office work across 28 offices in the United States and on assignment to international project sites;
- Continuously seeks to improve H&S performance as measured by the OSHA Incident Rating (IR) and Worker's Compensation Experience Modification Rating (EMR), as well as Leading Indicators developed with the management team; and
- Participating in the corporate audit program as an auditor or lead auditor;

Energy Client, California. As Chief Health and Safety Officer, Brian led and facilitated the Alliance Partnership Safety Council in 2017, is still an active contributor to the council, and hosts routine contractor safety forums for the client. Brian is actively involved in the development and implementation of program safety, health, and environmental (SH&E) plans to ensure safe operations on project sites. Brian developed permits and Health and Safety Plans for large projects and routinely audits the site safety. Additional responsibilities include:

- Driving reporting and behavior-based safety initiatives to support our internal safety culture and developing monthly summary reports to illustrate performance to our client.
- Develop, assess and continuously improve site safety plans and practices, including specific safety protocols for working safely over and around water.
- Worked as an extension of the client's organization to provide assurance that the remedy was completed safely and consistent with client-specific requirements.
- Support on-site safety personnel in ensuring the health and safety of the general public, our staff, and our sub-contracted employees.
- Audits and visits sites to ensure compliance with our internal policies and client-specific requirements.

Energy Client, Ohio. As Chief Health and Safety Officer, Brian supports the project team in developing and executing client and project specific health and safety measures, such as a site specific Health and Safety Plan, Job Hazard Analyses, Industrial Hygiene program, and site specific training. Brian also routinely visits the site to assess current practices and condition and to ensure continuous improvement. Additional responsibilities include:

- Develop, assess, and continuously improve site safety plans and practices, including specific safety protocols to comply with supplemental EH&S requirements such as the Duke Health and Safety Handbook, Environmental Supplemental, and EHS Keys to Life.
- Develop, assess, and continuously improve site safety plans and practices to address the risks associated with the work being performed on site, as well as the environmental conditions and simultaneous operations, including trenching and excavation, hot work, work over and near water, heavy equipment, HAZWOPER, etc.
- Worked as an extension of the client's organization to provide assurance that the remedy was completed safely and consistent with client-specific requirements.
- Support on-site safety personnel in ensuring the health and safety of the general public, our staff, and our sub-contracted employees.
- Audits and visits site to ensure compliance with our internal policies and client-specific requirements.

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BRIAN A. FERGUSON

Senior Health & Safety Manager

EDUCATION

MS, Geotechnical Engineering, Tufts University, Medford, Massachusetts
BS, Civil Engineering, State University of New York - Environmental, Science, and Forestry, Syracuse, New York
AS, Applied Science and Technology (Nuclear Engineering), Thomas A. Edison State College, Trenton, New Jersey

CERTIFICATIONS

BCSP Certified Safety Professional (#CSP-45145)
BCSP Associate Safety Professional (#ASP-31270)

PROFESSIONAL SOCIETIES

Associate Safety Professional – 2019
Order of the Engineer – 2000
Boston Society of Civil Engineers (BSCE)
American Society of Civil Engineers (ASCE)

SPECIAL STUDIES AND COURSES

American Concrete Institute – Certified Field Technician Certified Grade 1
Radiation Safety and Operations of Nuclear Testing Equipment – Troxler
40-Hour OSHA Hazardous Waste Operations Training (+ 8-Hour annual refresher)
10-Hour OSHA Construction training
Confined Space Entry Training
16-Hour Asbestos Operations and Maintenance
24-Hour Asbestos Inspector
Asbestos Inspector License (June 2018 and renewed Annually)

ENGINEERING EXPERIENCE

Brian has over 23 years of experience serving as a project engineer on a variety of real estate development projects. His project experience has included monitoring field investigations, performing construction oversight, performing due diligence, engineering analyses, performing geotechnical analyses, developing geotechnical recommendations, and preparing geotechnical reports, and project specifications.

As a project engineer, in addition to providing engineering design support, Brian has managed and participated in many field service activities. Field work has included construction monitoring and documentation of contractors' deep and shallow foundation-related construction, including slurry walls, caissons, pile driving, pile cap installation, earthwork, backfilling and compaction, installation of soldier pile and wood lagging support systems, installation of tie backs and rock anchors, reading inclinometers, conducting in-place field unit weight tests, tie-back load testing, seismograph installation, monitoring, and evaluating, and preparation of footing bearing surfaces. Other responsibilities have included site development activities, including placement of utilities and subgrade preparation for roads; observations and testing to determine that work is completed in compliance with contract documents; on-site soil management; sampling of soil and groundwater for chemical laboratory testing and conducting in situ field screening; maintenance of job records including pile driving logs, results of field density tests, records of caisson and footing installations; preparation of daily field reports; in contact with key personnel; and resolution of field related problems.

RELEVANT PROJECT EXPERIENCE

Fenway Center. Project engineer for the construction of laboratory space constructed over the Massachusetts Turnpike, two residential towers, and the Fenway Area consisting of 8 to 14 stories and multiple levels below grade. Construction responsibilities included coordination of construction monitoring, observing Support of Excavation (SOE) and footing installation, coordination of installation of Slurry Walls, assisting with project management, reviewing

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weekly field construction reports, reviewing, and responding to geotechnical design submittals, and attending project meetings.

Massachusetts Institute of Technology, The Schwarzman College of Computing Project. Project Engineer for a new approximately eight stories above ground and one story below ground building and contains approximately 189,000 gross square feet (gsf) of mixed-use space for: offices, research laboratory, academic, event, collaboration, meetings, café, convening, and associated services. Responsibilities included coordination of construction monitoring, observing SOE, micropile, and Caisson Installation, assisting with project management, reviewing weekly field construction reports, reviewing, and responding to geotechnical design submittals, and attending project meetings. Brian also was the main point of contact for construction-related issues with the project owner and contractors.

Massachusetts Institute of Technology, Graduate Housing Project. Project Engineer for construction of two new five- to eight- story residential buildings with a total gross floor space of approximately 261,000 square feet (sq ft). Responsibilities included coordination of construction monitoring, observing SOE, micropile, and Caisson Installation, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals, and attending project meetings. Brian was the main point of contact for construction-related issues with the project owner and contractors and conducted Health & Safety Audits of Haley & Aldrich personnel during construction.

Edwards Vacuum Project. Project Engineer for a new single-level 101,000-sq ft building with a mezzanine located in the south portion of the proposed building. Responsibilities included developing subsurface exploration program coordination, writing the Geotech Report, and coordinating field staff to observe construction activities, including mass excavation of approximately 100,000 cubic yards of soil, installation of spread footing, and construction dewatering. Brian assisted with project management, reviewing weekly field construction reports, reviewing, and responding to geotechnical design submittals, and attending project meetings. Brian was the main point of contact for construction-related issues with the project owner and contractors and conducted Health & Safety Audits of Haley & Aldrich personnel during construction.

St. Elizabeth's Hospital – **West Campus Forensic Evaluations, Washington, D.C.** Project Engineer for forensic evaluations on the adaptive reuse of former hospital buildings. Responsibilities included coordination of a field exploration program, including test borings and test pits to obtain subsurface information for project design and construction, overseeing multiple field personnel and subcontractors, assisting with project management, reviewing subcontractors invoices, reviewing and summarizing subsurface data, and writing data reports.

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NICOLE MOONEY

Assistant Project Manager | Geologist

EDUCATION

B.S., Earth and Environmental Science with a minor in Oceanography, University of Michigan-Ann Arbor

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)
8-Hour OSHA Hazardous Waste Worker Refresher Training (29 CFR 1910.120)
8-Hour OSHA HAZWOPER Supervisor for Construction Training
OSHA 10-Hour Construction Safety
OSHA 30-Hour Construction
NYC SST-307 8-Hour Fall Prevention for Construction
NYC SST-302 2-Hour Drug and Alcohol Awareness for Construction
DOT Hazmat Employee & RCRA Hazardous Waste Generator Training
American Red Cross Adult First Aid/CPR/AED Training and Bloodborne Pathogens Training
USACE Construction Quality Management for Contractors
Level I Antiterrorism Awareness Training

Nicole is a geologist with over four years of experience in site characterization and investigation, subsurface investigations, preparation of technical reports and work plans, and data collection and analysis. She has extensive experience conducting Phase I Environmental Site Assessments (ESAs), Phase II Environmental Site Investigations (ESIs), and other aspects of environmental due diligence. She has experience with preparation and overseeing execution of remedial investigation and actions at sites within the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) and the New York City Mayor's Office of Environmental Remediation (NYCOER). She has performed soil, groundwater, and soil vapor sampling events and has drafted various site investigation plans and reports.

RELEVANT PROJECT EXPERIENCE

Environmental Investigation, Site Characterization, and Remediation

340 Myrtle Development LLC, 340 Myrtle Avenue, Brooklyn, New York. As a project geologist, Nicole coordinated and managed implementation of the Remedial Action Work Plan (RAWP) at the approximately 8,828 square foot site enrolled in the NYSDEC BCP. The remedial action included excavation and off-site disposal of soil, installation of an active sub-slab depressurization system (including cover system), installation of injection wells, and reinstallation of permanent monitoring wells for post-remedy groundwater monitoring. Nicole was responsible for the preparation of the Final Engineering Report (FER) and the Site Management Plan (SMP) which are undergoing review by the NYSDEC. Construction for the new development is currently ongoing and, when completed, the site will be improved with a new eight-story mixed-use commercial and residential building with a full cellar level.

B Contractors Group, LLC, 711-713 East 214th Street, Bronx, New York. As a project geologist, Nicole was responsible for coordinating and managing the implementation of the NYCOER-approved Remedial Action Plan (RAP) and preparing the Remedial Closure Report (RCR) for the approximately 6,252 square foot site. The redevelopment included a new eight-story residential building with a full cellar level.

650 Southern Blvd Bronx LLC, 650 Southern Boulevard, Bronx, New York. As a project geologist, Nicole was responsible for preparation and implementation of the Remedial Investigation Work Plan (RIWP), which included the installation of eleven soil borings, seven permanent groundwater monitoring wells (some of which extended into

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bedrock), and seven soil vapor points, and the collection of soil, groundwater, and soil vapor samples. Nicole was also responsible for preparation of the Citizen Participation Plan (CPP), Remedial Investigation Report (RIR), and RAWP. The site is in the pre-construction phase.

Degraw Holdings LLC, 563 Sackett Street Site, Brooklyn, New York. As a project geologist, Nicole was responsible for due diligence during acquisition, including preparation of the Phase I ESA and Limited Phase II ESI. The initial Limited Phase II ESI and delineation sampling have been completed and the Limited Phase II ESI Delineation Report, Brownfield Cleanup Agreement (BCA) Major Amendment Application, and Supplemental Remedial Investigation Report (SRIR) are being drafted.

291 Wallabout Realty LLC, 291 Wallabout Street, Brooklyn, New York. As a project geologist, Nicole was responsible for the due diligence during acquisition of the property, including preparation of a Phase I ESA, Phase II ESI, BCP Application, and RIWP.

401 West 207th Realty LLC, 401 West 207th Street, New York, New York. As a project geologist, Nicole was responsible for oversight during implementation of the RAWP under the NYSDEC BCP. During remediation, Nicole observed and documented the excavation and proper disposal of on-site soil required for installation of the foundational elements. Nicole oversaw the proper cleaning and removal of two underground storage tanks encountered during excavation.

BCP Applications and Remedial Investigation Work Plans for NYSDEC. Nicole has prepared several BCP Application packages for various clients in New York State, which requires reviewing the site's history, including any previous investigation reports available, to assist with entry into the BCP to be remediated and redeveloped in accordance with applicable NYSDEC requirements. Nicole also prepares an RIWP to be submitted to the NYSDEC either concurrently or following submittal of the BCP Application for full investigation of the site to facilitate proper remedial action.

Excavation Oversight and CAMP Monitoring, Various Sites, Bronx, Brooklyn, and Queens, New York. As a project geologist, Nicole completed remedial oversight for several projects in the NYCOER cleanup program and NYSDEC BCP. Her responsibilities included excavation oversight, air monitoring, truck logging during off-site disposal of excavated materials, collection of endpoint and/or documentation samples, vapor barrier inspection, and oversight of installation of post-remedy groundwater monitoring wells.

Multiple Clients, Phase I ESAs and Due Diligence, Multiple Locations in New York. As a project geologist, Nicole completed several Phase I ESAs for buyers of properties in New York. She has extensive experience completing site reconnaissance and reviewing historical site documentation to identify potential environmental concerns at properties.

Multiple Clients, Phase II ESIs, Multiple Locations in New York. As a project geologist, Nicole conducted several Phase II ESIs for projects in New York, including oversight of the installation of soil borings, groundwater monitoring wells, and soil vapor points and the collection of soil, groundwater, and soil vapor samples. She assisted with the development of sampling plans based on previous environmental investigations and due diligence findings.

Former Grissom Air Force Base, Kokomo, Indiana. As a project geologist, Nicole was responsible for coordinating and performing quarterly groundwater sampling and/or Land Use Control (LUC) inspections in accordance with the deeds and Decision Documents for nine sites (FT001, FT002, SS190, SS035, SS053, SS058, LF003, LF004, and SS049) located on the 2,722-acre former Grissom Air Force Base under the Base Realignment and Closure (BRAC)/Environmental Construction Optimization Services (BECOS) program. Nicole was also responsible for the coordination and implementation of a Data Gap Investigation (DGI) at the SS035, SS053, and SS058 sites and a Site Investigation (SI) at the former Navy Skeet Range (site SR406). Nicole prepared LUC Inspection reports, Annual Groundwater Monitoring Reports, an SI Report, a DGI Report, and the Five-Year Review Report for this work.

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APPENDIX I
Quality Assurance Project Plan

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HALEY ALDRICH

www.haleyaldrich.com

QUALITY ASSURANCE PROJECT PLAN
PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
223-225, 227 WESTCHESTER AVENUE & 204, 206-208, 214-220 IRVING AVENUE
PORT CHESTER, WESTCHESTER COUNTY, NEW YORK

by
H & A of New York Engineering and Geology, LLP
New York, New York

for
Yorkland Partners, LLC, 227 Westchester Ave LLC, 204 Irving Two LLC
New York, New York

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File No. 0206816
July 2026

Executive Summary

This Quality Assurance Project Plan outlines the scope of the quality assurance and quality control activities associated with the site monitoring activities of the Remedial Action Work Plan for the Proposed 227 Westchester Avenue Development Site in New York, New York (Site).

Protocols for sample collection, sample handling and storage, chain of custody (COC) procedures, and laboratory and field analyses are described herein or specifically referenced to related project documents.

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1. Project Description

This Quality Assurance Project Plan (QAPP) presents the organization, objectives, planned activities, and specific quality assurance/quality control (QA/QC) procedures associated with the Remedial Action (RA) at the Proposed 227 Westchester Avenue Development Site, New York, New York (Site). Protocols for sample collection, sample handling and storage, chain of custody (COC) procedures, and laboratory and field analyses are specifically described or referenced to related investigation documents.

This QAPP addresses the QA/QC elements in the U.S. Environmental Protection Agency (EPA) QAPP policy and other relevant guidance documents.

1.1 INTRODUCTION

The Site is approximately 0.893 acres (38,899 square feet [sq ft]), addressed 223-225, 227 Westchester Avenue & 204, 206-208, 214-220 Irving Avenue, and identified as Parcel Numbers 142.22-1-24,25,30,31,32 & 33 on the Village of Port Chester tax map. The Site is currently vacant and undeveloped.

This QAPP has been prepared on behalf of Yorkland Partners, LLC, 227 Westchester Ave LLC, and 204 Irving Two LLC. The QAPP is a component of the Remedial Action Work Plan (RAWP) that also includes field sampling procedures.

1.1.1 Project Objectives

The primary objective for data collection activities is to document that a Track 1 cleanup was achieved in accordance with the RAWP.

Associated specific objectives for field and laboratory data collection are discussed in Section 1.4 of this plan.

1.2 SITE DESCRIPTION AND SITE HISTORY

The general Site description and Site history are provided in the RAWP and incorporated herein by reference.

1.3 PROJECT OBJECTIVES AND INTENDED DATA USE

1.3.1 Target Parameter List

The remedial program includes the sampling and analysis of environmental media for the presence of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), metals, pesticides, and/or per- and polyfluoroalkyl substances (PFAS) constituents.

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1.3.1.1 Laboratory Parameters

The laboratory parameters for soil include:

- Target Compound List (TCL) VOCs using EPA Method 8260;
- TCL SVOCs using EPA Method 8270;
- Total Analyte List (TAL) metals using EPA Methods 6010/7471;
- TCL pesticides using EPA Method 8081;
- PCBs using EPA Method 8082;
- PFAS using EPA Method 1633; and
- 1,4-dioxane using EPA Method 8270.

1.4 SAMPLING LOCATIONS

The RAWP provides confirmation sample locations. It is possible, however, that depending on the nature of encountered field conditions, sampling locations may change, or additional sampling locations may be added. The person responsible for making such decisions will be the QA Officer, whose responsibilities are described in Section 2 of this QAPP. Any change in the sampling strategy will only be implemented after approval from the Project Manager.

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2. Project Organization and Responsibilities

This section defines the roles and responsibilities of the individuals who will perform the RAWP monitoring activities. A New York State Department of Health (NYSDOH)-certified analytical laboratory will perform the analyses of environmental samples collected at the Site.

2.1 PROJECT TEAM

The following project personnel are anticipated for oversight of the RAWP implementation. Project team resumes are included in Attachment A.

NYSDEC* Case Manager	Daniel Lanners
NYSDOH Case Manager	Kristine Vooris
Qualified Environmental Professional (QEP)	Mari Cate Conlon, P.G.
Project Manager	Elizabeth Fitzgerald
Haley & Aldrich of New York* Health and Safety Director	Brian Fitzpatrick, CHMM
Health and Safety Officer (HSO)	Brian Ferguson
QA Officer	Nicole Mooney
Third-Party Validator	Katherine Miller

**NYSDEC = New York Department of Environmental Conservation*
**H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York)*

2.2 MANAGEMENT RESPONSIBILITIES

The Project Manager is responsible for managing the implementation of the RAWP and monitoring and coordinating the collection of data. The Project Manager is responsible for technical QC and project oversight. The Project Manager's responsibilities include the following:

- Acquire and apply technical and corporate resources as needed to ensure performance within budget and schedule restraints;
- Review work performed to ensure quality, responsiveness, and timeliness;
- Communicate with the client point of contact concerning the progress of the monitoring activities;
- Assure corrective actions are taken for deficiencies cited during audits of RAWP monitoring activities; and
- Assure compliance with the Site Construction Health and Safety Plan (CHASP).

2.3 QA RESPONSIBILITIES

The QA team will consist of a QA Officer and the Data Validation Staff. QA responsibilities are described as follows:

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2.3.1 QA Officer

The QA Officer reports directly to the Project Manager and will be responsible for overseeing the review of field and laboratory data. Additional responsibilities include the following:

- Assure the application and effectiveness of the QAPP by the analytical laboratory and the project staff;
- Provide input to the Project Manager as to corrective actions that may be required as a result of the above-mentioned evaluations; and

The QA Officer will be assisted by the Data Validation Staff in the evaluation and validation of field and laboratory-generated data.

2.3.2 Data Validation Staff

The Data Validation Staff will be independent of the laboratory and familiar with the analytical procedures performed. The validation will include a review of each validation criterion as prescribed by the guidelines presented in Section 9.2 of this document and will be presented in a Data Usability Summary Report (DUSR) for submittal to the QA Officer.

2.4 LABORATORY RESPONSIBILITIES

The Environmental Laboratory Approval Program (ELAP)-approved laboratory to be used will be Alpha Analytical Inc. (Alpha), located in Westborough, Massachusetts. Laboratory services in support of the RAWP monitoring include the following personnel:

2.4.1 Laboratory Project Manager

The Laboratory Project Manager will report directly to the QA Officer and Project Manager and will be responsible for ensuring all resources of the laboratory are available on an as-required basis. The Laboratory Project Manager will also be responsible for the approval of the final analytical reports and adhering to the QAPP.

2.4.2 Laboratory QA Officer

The Laboratory QA Officer will have sole responsibility for the review and validation of the analytical laboratory data generated as part of the investigation. The Laboratory QA Officer will also define appropriate QA procedures, oversee QA/QC documentation, and perform audits.

2.4.3 Laboratory Sample Custodian

The Laboratory Sample Custodian will report to the Laboratory Operations Manager and will be responsible for the following:

- Receive and inspect the incoming sample containers;
- Record the condition of the incoming sample containers;
- Sign appropriate documents;

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- Verify COC and its correctness;
- Notify the Project Manager and Operations Manager of sample receipt and inspection;
- Assign a unique identification number and enter each into the sample receiving log;
- Initiate transfer of samples to laboratory analytical sections; and
- Control and monitor access/storage of samples and extracts.

2.4.4 Laboratory Technical Personnel

The Laboratory Technical Personnel will have the primary responsibility for the performance of sample analysis and the execution of the QA procedures developed to determine the data quality. These activities will include the proper preparation and analysis of the project samples in accordance with the laboratory's Quality Assurance Manual (QAM) and associated Standard Operating Procedures (SOPs).

2.5 FIELD RESPONSIBILITIES

2.5.1 Field Coordinator

The Field Coordinator is responsible for the overall operation of the field team and reports directly to the Project Manager. The Field Coordinator works with the project HSO to conduct operations in compliance with the project Health and Safety Plan (HASP). The Field Coordinator will facilitate communication and coordinate efforts between the Project Manager and the field team members.

Other responsibilities include the following:

- Develop and implement field-related work plans, ensuring schedule compliance, and adhering to management-developed project requirements;
- Coordinate and manage field staff;
- Perform field system audits;
- Oversee QC for technical data provided by the field staff;
- Prepare and approve text and graphics required for field team efforts;
- Coordinate and oversee technical efforts of subcontractors assisting the field team;
- Identify problems in the field, resolve difficulties in consultation with the Project QA Officer and Project Manager, and implement and document corrective action procedures; and
- Participate in preparation of the final reports.

2.5.2 Field Team Personnel

Field Team Personnel will be responsible for the following:

- Perform field activities as detailed in the RAWP and in compliance with the Field Sampling Plan (FSP; Appendix C of the Remedial Investigation Work Plan [RIWP]) and QAPP.
- Immediately report any accidents and/or unsafe conditions to the Site HSO and take reasonable precautions to prevent injury.

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3. Sampling Procedures

The FSP in Appendix C of the RIWP provides the SOPs for sampling required by the RAWP. Sampling will be conducted in general accordance with the NYSDEC Technical Guidance for Site Investigation and Remediation (Division of Environmental Remediation [DER]-10) and the "Sampling, Analysis and Assessment of PFAS under NYSDEC Part 375 Remedial Program" (April 2023) when applicable. Proposed sample locations are shown on Figure 3 of the RAWP.

3.1 SAMPLE CONTAINERS

Sample containers for each sampling task will be provided by the laboratory performing the analysis. The containers will be cleaned by the manufacturer to meet or exceed the analyte specifications established in the EPA's "Specifications and Guidance for Obtaining Contaminant-Free Sample Containers," April 1992, OSWER Directive #9240.0-0.5A.

Certificates of analysis for each lot of sample containers used during the sampling program will be maintained by the laboratory and will be available upon request. The appropriate sample containers, preservation method, maximum holding times, and shipping information for each target parameter and sampling task are provided in Table I.

3.2 SAMPLE LABELING

Each sample will be labeled with a unique sample identifier that will facilitate tracking and cross-referencing of sample information. Field blanks and field duplicate samples will also be numbered with a unique sample identifier to prevent analytical bias in field QC samples.

Refer to the FSP (Appendix C of the RIWP) for the sample labeling procedures.

3.3 FIELD QC SAMPLE COLLECTION

3.3.1 Field Duplicate Sample Collection

3.3.1.1 Soil Samples

Soil field duplicates will be collected as specified in the following procedure:

- Soil for VOC analysis will be removed from the sampling device as specified in the FSP provided as Appendix C of the RIWP.
- Soil for non-VOC analysis will be removed from the sampling device and collected into clean laboratory-provided containers.

3.4 GENERAL DECONTAMINATION PROCEDURES

Care must be taken to minimize the potential for transfer of contaminated materials to the ground or onto other materials. Regardless of the size or nature of the equipment being decontaminated, the process will utilize a series of steps that involve removal of gross material (dirt, grease, oil, etc.), washing

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with a detergent, and multiple rinsing steps. In lieu of a series of washes and rinse steps, steam cleaning with low-volume, high-pressure equipment (i.e., steam cleaner) is acceptable.

Exploration equipment and all monitoring equipment in contact with the sampling media must be decontaminated prior to initiating Site activities, in between exploration locations to minimize cross-contamination, and prior to mobilizing off Site after completion of Site work.

The following specific decontamination procedure is recommended for sampling equipment and tools:

- Brush loose soil off equipment;
- Wash equipment with laboratory-grade detergent (i.e., Alconox or equivalent);
- Rinse with tap water;
- Rinse equipment with distilled water;
- Allow water to evaporate before reusing equipment; and
- Wrap equipment in aluminum foil when not being used.

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4. Custody Procedures

Custody is one of several factors necessary for the admissibility of environmental data as evidence in a court of law. Custody procedures help to satisfy the two major requirements for admissibility: relevance and authenticity. Sample custody is addressed in three parts: field sample collection, laboratory analysis, and final project files. Final evidence files, including all originals of laboratory reports, are maintained under document control in a secure area.

Custody of a sample begins when it is collected by or transferred to an individual and ends when that individual relinquishes or disposes of the sample. A sample is under custody if:

- The item is in actual possession of a person;
- The item is in the view of the person after being in actual possession of the person;
- The item was in actual possession and subsequently stored to prevent tampering; or
- The item is in a designated and identified secure area.

4.1 FIELD CUSTODY PROCEDURES

Field personnel will be required to keep written records of field activities on applicable pre-printed field forms, in a bound field notebook, or in an electronic format. The records provide the means of recording data collecting activities. Non-electronic records will be written legibly in ink and will contain pertinent field data and observations. Written entry errors or changes will be crossed out with a single line, dated, and initialed by the person making the correction. The records will be periodically reviewed by the Field Coordinator.

Each title page will include the field member's name, project name, project start date, project end date, and unique page number.

The beginning of each entry in the record will contain the following information:

- Date;
- Start time;
- Weather;
- Names of field personnel (including subcontractors);
- Level of personal protection used at the Site; and
- Names of all visitors and the purpose of their visit.

For each measurement and sample collected, the following information will be recorded:

- Detailed description of sample location;
- Equipment used to collect a sample or make a measurement, and the date the equipment was calibrated;
- Time sample was collected;

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- Description of the sample conditions;
- Depth sample was collected (if applicable);
- Volume and number of containers filled with the sample; and
- Sampler's identification.

4.1.1 Field Procedures

The data quality can be affected by sample collection activities. If the integrity of collected samples is questionable, the data, regardless of its analytical quality, will also be questionable. The following procedure describes the process to maintain the integrity of the samples:

- Upon collection, samples are placed in the proper containers. In general, samples collected for organic analysis will be placed in pre-cleaned glass containers, and samples collected for inorganic analysis will be placed in pre-cleaned plastic (polyethylene) bottles. Refer to the FSP in Appendix C of the RIWP for sample packaging procedures.
- Samples will be assigned a unique sample number and will be affixed to a sample label affixed to the sample container. Refer to the FSP in Appendix C of the RIWP for sample labeling procedures.
- Samples will be properly and appropriately preserved by field personnel in order to minimize loss of the constituent(s) of interest due to physical, chemical, or biological mechanisms.
- Appropriate volumes will be collected to ensure that the appropriate reporting limits can be successfully achieved and that the required QC sample analyses can be performed.

4.1.2 Transfer of Custody and Shipment Procedures

- A COC record will be completed at the time of sample collection and will accompany each shipment, identifying the contents of the shipment. The COC record will accompany the samples to the laboratory. The field personnel collecting the samples will be responsible for the custody of the samples until the samples are relinquished to the laboratory. Sample transfer will require the individuals relinquishing and receiving the samples to sign, date, and note the time of sample transfer on the COC record.
- Samples will be shipped or delivered in a timely fashion to the laboratory so that holding times and/or analysis times as prescribed by the methodology can be met.
- Soil and groundwater samples will also be transported in containers (coolers) packed with ice. Samples will be packaged for shipment and shipped to the appropriate laboratory for analysis. The samples will be packed to prevent breakage and movement during shipping. The number of coolers must be written on the COC. Samples in polyethylene containers will be placed upright directly in the sample cooler and limited to one layer of samples per cooler. Additional bubble wrap or packaging material will be added to fill the cooler. Shipping containers may be secured with strapping tape and/or custody tape for shipment to the laboratory.
- When samples are split with a regulatory agency and Site representatives, a separate COC will be prepared and marked to indicate with whom the samples are shared. The person relinquishing the samples to the regulatory agency or the Site will require the representative's signature acknowledging sample receipt.

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- If samples are sent by a commercial carrier, a bill of lading will be used. A copy of the bill of lading will be retained as part of the permanent record. Commercial carriers will not sign the custody record as long as the custody record is sealed inside the sample cooler and the custody tape remains intact.
- Samples will be picked up by a laboratory courier or transported to the laboratory the same day they are collected (and never longer than a one-day delay) unless collected on a weekend or holiday. In these cases, the samples will be stored in a secure location until delivery to the laboratory. Additional ice will be added to the cooler as needed to maintain proper preservation temperatures.

4.2 LABORATORY COC PROCEDURES

A full-time Sample Custodian will be assigned the responsibility of sample control. It will be the responsibility of the Sample Custodian to receive all incoming samples. Once received, the custodian will document that the custody tape on the coolers is unbroken, that each sample is received in good condition (i.e., unbroken, cooled, etc.), that the associated paperwork, such as COC forms, has been completed, and will sign the COC forms. In special cases, the custodian will document from appropriate sub-samples that the COC with proper preservation has been accomplished. The custodian will also document that sufficient sample volume has been received to complete the analytical program. The Sample Custodian will then place the samples into secure, limited-access storage (refrigerated storage, if required). The Sample Custodian will assign a unique number to each incoming sample for use in the laboratory. The unique number will then be entered into the sample-receiving log, with the verified time and date of receipt also noted.

Consistent with the analyses requested on the COC form, analyses by the laboratory's analysts will begin in accordance with the appropriate methodologies. Samples will be removed from secure storage, with internal COC sign-out procedures followed.

4.3 STORAGE OF SAMPLES

Sample containers with volume remaining will be returned to secure and limited-access storage. Upon completion of all laboratory analyses for each sample submittal and generation of the laboratory report, samples will be stored by the Sample Custodian. The length of time that samples are held will be at least 30 days after reports have been submitted. Disposal of remaining samples will be completed in compliance with all federal, state, and local requirements.

4.4 FINAL PROJECT FILES CUSTODY PROCEDURES

The final project files will be the central repository for all documents with information relevant to sampling and analysis activities as described in this QAPP. The Haley & Aldrich of New York Project Manager will be the custodian of the project file. The project files, including all relevant records, reports, logs, field notebooks, pictures, subcontractor reports, and data reviews, will be maintained in a secure, limited-access area and under the custody of the Project Director or their designee.

The final project file will include the following:

- Project plans and drawings;

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- Field data records;
- Sample identification documents and soil boring/monitoring well logs;
- All COC documentation;
- Correspondence;
- References, literature;
- Laboratory data deliverables;
- Data validation and assessment reports;
- Progress reports, QA reports; and
- A final report.

The laboratory will be responsible for maintaining analytical logbooks, laboratory data, and sample COC documents, both hard copy and electronic. Raw laboratory data files and copies of hard copy reports will be inventoried and maintained by the laboratory for a period of six years, at which time the laboratory will contact the QA Officer regarding the disposition of the project-related files.

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5. Calibration Procedures and Frequency

This section describes procedures for maintaining the accuracy of all the instruments and measurement equipment, which will be used for conducting field tests and laboratory analyses. These instruments and equipment will be calibrated prior to each use or according to a periodic schedule.

5.1 FIELD INSTRUMENT CALIBRATION PROCEDURES

Field instruments will be used for real-time sample measurement during the sampling of all media and for health and safety monitoring, as described in the CHASP. On-Site air monitoring for health and safety purposes may be accomplished using a vapor detection device, such as a photoionization detector (PID).

Field instruments will be calibrated prior to use, and the calibration will be verified, at a minimum, at the beginning of the day and/or the middle of the day.

Satisfactory completion of the pre-operation inspection will be noted on the Field Sampling Record, along with results of each field measurement.

5.2 LABORATORY INSTRUMENT CALIBRATION PROCEDURES

Calibration procedures for a specific laboratory instrument will consist of initial calibration, initial calibration verification, and continuing calibration verification. The Laboratory SOPs present the specific calibration procedures for each method of analysis. The SOP for each analysis performed in the laboratory describes calibration procedures, their frequency, acceptance criteria, and the conditions that will require calibration. In all cases, the initial calibration will be verified using an independently prepared calibration verification solution.

The use of materials of known purity and quality will be utilized for the analysis of environmental samples. The laboratory will carefully monitor the preparation and use of reference materials, including solutions, standards, and reagents, through well-documented procedures.

All solid chemicals and acids/bases used by the laboratory will be rated as “reagent grade” or better. All gases will be “high” purity or better. All Standard Reference Materials (SRMs) or Performance Evaluation (PE) materials will be obtained from approved vendors of the National Institute of Standards and Technology (NIST, formerly National Bureau of Standards), the EPA Environmental Monitoring Support Laboratories (EMSL), or reliable Cooperative Research and Development Agreement (CRADA)-certified commercial sources.

All materials, including standards or standard solutions, will be dated upon receipt and will be identified by material name, lot number, purity or concentration, supplier, receipt/preparation date, recipient/preparer’s name, expiration date, and all other pertinent information.

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6. Analytical Procedures

Analytical procedures to be utilized for the analysis of environmental samples will be based on referenced EPA analytical protocols and/or project-specific SOPs.

6.1 FIELD ANALYTICAL PROCEDURES

Field analytical procedures include the measurement of pH, temperature, oxidation-reduction potential (ORP), dissolved oxygen (DO), and specific conductivity during sampling of groundwater, and the qualitative measurement of VOCs during the collection of soil samples.

6.2 LABORATORY ANALYTICAL PROCEDURES

Laboratory analyses will be based on the EPA methodology requirements promulgated in:

- "Test Methods for Evaluating Solid Waste," SW-846 EPA, Office of Solid Waste, and promulgated updates, 1986.

6.2.1 List of Project Target Compounds and Laboratory Detection Limits

The method detection limits (MDLs) studies are performed by the laboratories in accordance with the procedures established in the Code of Federal Regulations, Title 40, Part 136.

Laboratory parameters for soil samples are listed in the RAWP. Laboratory parameters for disposal samples will be determined by the disposal facility after an approved facility has been determined.

6.2.2 List of Method-Specific QC Criteria

The laboratory SOPs include a section that presents the minimum QC requirements for the project analyses. Section 7 references the frequency of the associated QC samples for each sampling effort and matrix.

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7. Internal Quality Control Checks

This section presents the internal QC checks that will be employed for field and laboratory measurements.

7.1 FIELD QUALITY CONTROL

Field QC is monitored and enforced by equipment calibration checks, QC samples, a review of QA/QC concerns in the field, and any corrective action(s) required. Haley & Aldrich of New York personnel familiar with the field protocols will perform these tasks. Compliance QC checks will be implemented during the investigations.

Field sampling precision, accuracy, and overall data quality will be evaluated using trip blanks, field blanks, equipment rinsate blanks, and potentially field duplicates and matrix spike (MS)/matrix spike duplicates (MSDs) as necessary, as outlined in Table II.

7.1.1 Field Blanks

Internal QC checks will include analysis of field blanks to validate equipment cleanliness. Whenever possible, dedicated equipment will be employed to reduce the possibility of cross-contamination of samples.

7.1.2 Trip Blanks

Trip blanks will be prepared by the project laboratory using ASTM International (ASTM) Type II or equivalent water placed within pre-cleaned 40-milliliter (mL) VOC vials equipped with Teflon™ septa. Trip blanks will accompany each sample delivery group (SDG) of environmental samples collected for analysis of VOCs.

Trip blank samples will be placed in each cooler that stores and transports project samples that are to be analyzed for VOCs.

7.1.3 Equipment Blanks

Equipment blanks are prepared by pouring analyte-free water into, over, or pumping through the sampling device, collecting in a sample container, and transporting to the laboratory for analysis in the same manner as the environmental samples. Equipment blanks are used to assess the effectiveness of equipment decontamination procedures. One equipment blank sample per type of sampling equipment utilized may be collected at the initiation of each sampling event or when deemed necessary.

7.2 LABORATORY PROCEDURES

Procedures which contribute to maintenance of overall laboratory QA/QC include appropriately cleaned sample containers, proper sample identification and logging, applicable sample preservation, storage and analysis within prescribed holding times, and use of controlled materials.

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7.2.1 Field Duplicate Samples

The precision or reproducibility of the data generated will be monitored through the use of field duplicate samples. Field duplicate analysis will be performed at a frequency of one in 20 project samples.

Precision will be measured in terms of the absolute value of the relative percent difference (RPD) as expressed by the following equation:

$$RPD = [|R1-R2|/[(R1+R2)/2]] \; X \; 100\%$$

Acceptance criteria for duplicate analyses performed on solid matrices will be 100 percent, air matrices will be 35 percent, and aqueous matrices will be 35 percent (or the absolute difference rule was satisfied if detects were less than five times the Reporting Limit [RL] for solid and aqueous matrices only). RPD values outside these limits will require an evaluation of the sampling and/or analysis procedures by the project QA Officer and/or Laboratory QA Director. Corrective actions may include reanalysis of additional sample aliquots and/or qualification of the data for use.

7.2.2 Matrix Spike Samples

Five percent of each project sample matrix for each analytical method performed will be spiked with known concentrations of the specific target compounds/analytes.

The amount of the compound recovered from the sample compared to the amount added will be expressed as a percent recovery. The percent recovery of an analyte is an indication of the accuracy of an analysis within the Site-specific sample matrix. Percent recovery will be calculated for MS/MSD samples using the following equation.

$$\%\ Recovery = \frac{Spiked\ Sample - Background}{Known Value\ of\ Spike}\ x100\%$$

If the QC value falls outside the control limits (Upper Control Limit [UCL] or Lower Control Limit [LCL]) due to sample matrix effects, the results will be reported with appropriate data qualifiers. To determine the effect a non-compliant MS recovery has on the reported results, the recovery data will be evaluated as part of the validation process.

7.2.3 Laboratory Control Sample Analyses

The laboratory will perform laboratory control sample (LCS) analyses prepared from SRMs. The SRMs will be supplied from an independent manufacturer and traceable to NIST materials with known concentrations of each target analyte to be determined by the analytical methods performed. In cases where an independently supplied SRM is not available, the LCS may be prepared by the laboratory from a reagent lot other than that used for instrument calibration.

The laboratory will evaluate LCS analyses in terms of percent recovery using the most recent laboratory-generated control limits.

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LCS recoveries that do not meet acceptance criteria will be deemed invalid. Analysis of project samples will cease until an acceptable LCS analysis has been performed. If sample analysis is performed in association with an out-of-control LCS sample analysis, the data will be deemed invalid.

Corrective actions will be initiated by the Haley & Aldrich of New York QA Officer and/or Laboratory QA Officer to investigate the problem. After the problem has been identified and corrected, the solution will be noted in the instrument run logbook, and re-analysis of project samples will be performed, if possible.

The analytical anomaly will be noted in the SDG Case Narrative and reviewed by the Data Validator. The Data Validator will confirm that appropriate corrective actions were implemented and recommend the applicable use of the affected data.

7.2.4 Surrogate Compound Recoveries

For VOCs, surrogates will be added to each sample prior to analysis to establish purge and trap efficiency.

The recovery of surrogate compounds will be monitored by laboratory personnel to assess possible Site-specific matrix effects on instrument performance.

For SVOC analyses, surrogates will be added to the raw sample to assess extraction efficiency.

Method-specific QC limits are provided in the attached laboratory method SOPs. Surrogate compound recoveries that do not fall within accepted QC limits for the analytical methodology performed will have the analytical results flagged with data qualifiers as appropriate by the laboratory and will not be noted in the laboratory report Case Narrative.

To ascertain the effect non-compliant surrogate compound recoveries may have on the reported results, the recovery data will be evaluated as part of the validation process. The Data Validator will provide recommendations for corrective actions, including but not limited to additional data qualification.

7.2.5 Laboratory Method Blank Analyses

Method blank sample analysis will be performed as part of each analytical batch for each methodology performed. If target compounds are detected in the method blank samples, the reported results will be flagged by the laboratory in accordance with SOPs. The Data Validator will provide recommendations for corrective actions, including but not limited to additional data qualification.

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8. Data Quality Objectives

Sampling that will be performed as described in the RAWP is designed to produce data of the quality necessary to achieve the minimum standard requirements of the field and laboratory analytical objectives described below. These data are being obtained with the primary objective of assessing levels of contaminants of concern associated with the Site.

The overall project data quality objective (DQO) is to implement procedures for field data collection, sample collection, handling, and laboratory analysis and reporting that achieve the project objectives. The following section is a general discussion of the criteria that will be used to measure achievement of the project DQO.

8.1 PRECISION

8.1.1 Definition

Precision is defined as a quantitative measure of the degree to which two or more measurements are in agreement. Precision will be determined by collecting and analyzing field duplicate samples and by creating and analyzing laboratory duplicates from one or more of the field samples. The overall precision of measurement data is a mixture of sampling and analytical factors. The analytical results from the field duplicate samples will provide data on sampling precision. The results from duplicate samples created by the laboratory will provide data on analytical precision. The measurement of precision will be stated in terms of RPD. RPD is defined as the absolute difference of duplicate measurements divided by the mean of these analyses, normalized to a percentage.

8.1.2 Field Precision Sample Objectives

Field precision will be assessed through the collection and measurement of field duplicate samples at a rate of one duplicate per 20 investigative samples. The RPD criteria for the project field duplicate samples will be +/- 100 percent for soil, +/- 35 percent for groundwater for parameters of analysis detected at concentrations greater than five times the laboratory RL, and +/- 35 percent for air for parameters of analysis detected at any concentration.

8.1.3 Laboratory Precision Sample Objectives

Laboratory precision will be assessed through the analysis of LCS and laboratory control duplicate samples (LCSD) and MS/MSD samples for groundwater and soil samples and the analysis of laboratory duplicate samples for air and soil vapor samples. Air and soil vapor laboratory duplicate sample analyses will be performed by analyzing the same Summa canister twice. The RPD criteria for the air/soil vapor laboratory duplicate samples will be +/- 35 percent for parameters of analysis detected at any concentration.

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8.2 ACCURACY

8.2.1 Definition

Accuracy relates to the bias in a measurement system. Bias is the difference between the observed and the "true" value. Sources of error are the sampling process, field contamination, preservation techniques, sample handling, sample matrix, sample preparation, and analytical procedure limitations.

8.2.2 Field Accuracy Objectives

Sampling bias will be assessed by evaluating the results of field equipment rinse and trip blanks. Equipment rinse and trip blanks will be collected as appropriate based on sampling and analytical methods for each sampling effort.

If non-dedicated sampling equipment is used, equipment rinse blanks will be collected by passing ASTM Type II water over and/or through the respective sampling equipment utilized during each sampling effort. One equipment rinse blank will be collected for each type of non-dedicated sampling equipment used for the sampling effort. Equipment rinse blanks will be analyzed for each target parameter for the respective sampling effort for which environmental media have been collected.

Note: If dedicated or disposable sampling equipment is used, equipment rinse samples will not be collected as part of that field effort.

Trip blank samples will be prepared by the laboratory and provided with each shipping container that includes containers for the collection of groundwater samples for the analysis of VOCs. Trip blank samples will be analyzed for each VOC for which groundwater samples have been collected for analysis.

8.3 LABORATORY ACCURACY OBJECTIVES

Analytical bias will be assessed through the use of LCS and Site-specific MS sample analyses. LCS analyses will be performed with each analytical batch of project samples to determine the accuracy of the analytical system.

One set of MS/MSD analyses will be performed with each batch of 20 project samples collected for analysis to assess the accuracy of the identification and quantification of analytes within the Site-specific sample matrices. Additional sample volume will be collected at sample locations selected for the preparation of MS/MSD samples so that the standard laboratory RLs are achieved.

The accuracy of analyses that include a sample extraction procedure will be evaluated through the use of system monitoring or surrogate compounds. Surrogate compounds will be added to each sample, standard, blank, and QC sample prior to sample preparation and analysis. Surrogate compound percent recoveries will provide information on the effect of the sample matrix on the accuracy of the analyses.

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8.4 REPRESENTATIVENESS

8.4.1 Definition

Representativeness expresses the degree to which sample data represent a characteristic of a population, a parameter variation at a sampling point, or an environmental condition. Representativeness is a qualitative parameter that is dependent upon the design of the sampling program. The representativeness criterion is satisfied through the proper selection of sampling locations, the quantity of samples, and the use of appropriate procedures to collect and analyze the samples.

8.4.2 Measures to Ensure Representativeness of Field Data

Representativeness will be addressed by prescribing sampling techniques and the rationale used to select sampling locations. Sampling locations may be biased (based on existing data, instrument surveys, observations, etc.) or unbiased (completely random or stratified-random approaches).

8.5 COMPLETENESS

8.5.1 Definition

Completeness is a measure of the amount of valid (usable) data obtained from a measuring system compared to the total amount anticipated to be obtained. The completeness goal for all data uses is that a sufficient amount of valid data be generated so that determinations can be made related to the intended data use with a sufficient degree of confidence. Valid data are determined by independent confirmation of compliance with method-specific and project-specific DQOs. The calculation of data set completeness will be performed using the following equation.

$$\frac{Number\ of\ Valid\ Sample\ Results}{Total\ Number\ of\ Samples\ Planned}\ X\ 100 = \%\ Complete$$

8.5.2 Field Completeness Objectives

Completeness is a measure of the amount of valid measurements obtained from measurements taken in this project versus the number planned. The field completeness objective for this project will be greater than 90 percent.

8.5.3 Laboratory Completeness Objectives

The laboratory data completeness objective is a measure of the amount of valid data obtained from laboratory measurements. The evaluation of the data completeness will be performed at the conclusion of each sampling and analysis effort. Corrective actions, such as revised sample handling procedures, will be implemented if problems are noted.

The completeness of the data generated will be determined by comparing the amount of valid data, based on independent validation, with the total laboratory data set. The completeness goal will be greater than 90 percent.

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8.6 COMPARABILITY

8.6.1 Definition

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another.

8.6.2 Measures to Ensure Comparability of Laboratory Data

Comparability of laboratory data will be measured from the analysis of SRMs obtained from either EPA CRADA suppliers or the NIST. The reported analytical data will also be presented in standard units of mass of contaminant within a known volume of environmental media. The standard units for various sample matrices are as follows:

- Solid Matrices – micrograms per kilogram (µg/kg) for PFAS analyses, milligrams per kilogram (mg/kg) of media (Dry Weight).

8.7 LEVEL OF QUALITY CONTROL EFFORT

If non-dedicated sampling equipment is used, equipment rinse blanks will be prepared by field personnel and submitted for analysis of target parameters. Equipment rinse blank samples will be analyzed to check for potential cross-contamination between sampling locations that may be introduced during the investigation. One equipment rinse blank will be collected per sampling event to the extent that non-dedicated sampling equipment is used.

If necessary, a separate equipment rinse blank sample will be collected for PFAS to assess potential contamination introduced from utilized equipment.

Note: If dedicated or disposable sampling equipment is used, equipment rinse samples will not be collected as part of that field effort.

Trip blanks will be used to assess the potential for contamination during sample storage and shipment. Trip blanks will be provided with the sample containers to be used for the collection of groundwater samples for the analysis of VOCs. Trip blanks will be preserved and handled in the same manner as the project samples. One trip blank will be included along with each shipping container containing project samples to be analyzed for VOCs.

Method blank samples will be prepared by the laboratory and analyzed concurrently with all project samples to assess potential contamination introduced during the analytical process. Field duplicate samples will be collected and analyzed to determine sampling and analytical reproducibility. One field duplicate will be collected for every 20 or fewer investigative samples collected for off-Site laboratory analysis.

MS will provide information to assess the precision and accuracy of the analysis of the target parameters within the environmental media collected. One MS/MSD will be collected for every 20 or fewer investigative samples per sample matrix.

Note: Soil MS/MSD samples require triple sample volume for VOCs only.

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9. Data Reduction, Validation, and Reporting

All data generated through field activities or by the laboratory operation shall be reduced and validated prior to reporting in accordance with the following procedures:

9.1 DATA REDUCTION

9.1.1 Field Data Reduction Procedures

Field data reduction procedures will be minimal in scope compared to those implemented in the laboratory setting. Only direct read instrumentation will be employed in the field. The pH, conductivity, temperature, turbidity, and PID readings collected in the field will be generated from direct read instruments following calibration per manufacturer's recommendations. The data will be written into field logbooks immediately after measurements are taken. If errors are made, data will be legibly crossed out, initialed and dated by the field member, and corrected in a space adjacent to the original entry. Later, when the results forms required for this study are being filled out, the Project Coordinator will review the forms to determine whether any transcription errors have been made by the field crew.

9.1.2 Laboratory Data Reduction Procedures

Laboratory data reduction procedures are provided by the appropriate chapter of EPA's "Test Methods for Evaluating Solid Waste," SW-846, Third Edition. Errors will be noted, and corrections made with the original notations crossed out legibly. Analytical results for soil samples will be calculated and reported on a dry weight basis.

9.1.3 Quality Control Data

QC data (e.g., laboratory duplicates, surrogates, MS, and MSD) will be compared to the method acceptance criteria or laboratory acceptance criteria when no method criteria are available. Data determined to be acceptable will be entered into the laboratory information management system. Data summaries will be sent to the Laboratory QA Officer for review. If approved, data are logged into the project database format.

Unacceptable data will be appropriately qualified in the project report. Case Narratives will be prepared, which will include information concerning data that fell outside acceptance limits and any other anomalous conditions encountered during sample analysis.

9.2 DATA VALIDATION

Data validation procedures of the analytical data will be performed by the Haley & Aldrich of New York QA Officer or designee using the following documents as guidance for the review process:

- "U.S. EPA National Functional Guidelines for Organic Data Review," "Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15," "Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances Under NYSDEC's Part 375 Remedial Programs," and the "U.S. EPA National Functional Guidelines for Inorganic Data Review."

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- The specific data qualifiers used will be applied to the reported results as presented and defined in the EPA National Functional Guidelines. Validation will be performed by qualified personnel at the direction of the Haley & Aldrich of New York QA Officer. Tier 1 data validation (the equivalent of EPA's Stage 2A validation) will be performed to evaluate data quality.
- The completeness of each data package will be evaluated by the Data Validator. Completeness checks will be administered on all data to determine that the deliverables are consistent with the NYSDEC Analytical Services Protocol (ASP) Category A and Category B data package requirements. The validator will determine whether the required items are present and request copies of missing deliverables (if necessary) from the laboratory.

9.3 DATA REPORTING

Data reporting procedures will be carried out for field and laboratory operations as indicated below:

- Field Data Reporting: Field data reporting will be conducted principally through the transmission of report sheets containing tabulated results of measurements made in the field and documentation of field calibration activities.
- Laboratory Data Reporting: The laboratory data reporting package will enable data validation based on the protocols described above. The final laboratory data report format will include the QA/QC sample analysis deliverables to enable the development of a DUSR based on NYSDEC DER-10, Appendix 2B.

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10. Performance and System Audits

A performance audit is an independently obtained quantitative comparison with data routinely obtained in the field or the laboratory. Performance audits include two separate, independent parts: internal and external audits.

10.1 FIELD PERFORMANCE AND SYSTEM AUDITS

10.1.1 Internal Field Audit Responsibilities

Internal audits of field activities will be initiated at the discretion of the Project Manager and will include the review of sampling and field measurements. The audits will verify that all procedures are being followed. Internal field audits will be conducted periodically during the project. The audits will include an examination of the following:

- Field sampling records, screening results, instrument operating records;
- Sample collection;
- Handling and packaging in compliance with procedures;
- Maintenance of QA procedures; and
- COC reports.

Follow-up audits will be conducted to correct deficiencies and to verify that procedures are maintained throughout the investigation.

10.1.2 External Field Audit Responsibilities

External audits may be conducted by the Project Coordinator at any time during the field operations. These audits may or may not be announced and are at the discretion of the NYSDEC. The external field audits can include (but are not limited to) the following:

- Sampling equipment decontamination procedures;
- Sample bottle preparation procedures;
- Sampling procedures;
- Examination of HASPs;
- Procedures for verification of field duplicates; and
- Field screening practices.

10.2 LABORATORY PERFORMANCE AND SYSTEM AUDITS

10.2.1 Internal Laboratory Audit Responsibilities

The laboratory system audits are typically conducted by the Laboratory QA Officer or designee on an annual basis. The system audit will include an examination of laboratory documentation, including

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sample receiving logs, sample storage, COC procedures, sample preparation and analysis, and instrument operating records.

At the conclusion of internal system audits, reports will be provided to the laboratory's operating divisions for appropriate comment and remedial/corrective action where necessary. Records of audits and corrective actions will be maintained by the Laboratory QA Officer.

10.2.2 External Laboratory Audit Responsibilities

External audits will be conducted as required by the NYSDEC, NYSDOH, or designee. External audits may include any of the following:

- Review of laboratory analytical procedures;
- Laboratory on-site visits; and
- Submission of performance evaluation samples for analysis.

An audit may consist of, but not be limited to:

- Sample receipt procedures;
- Custody, sample security, and log-in procedures;
- Review of instrument calibration logs;
- Review of QA procedures;
- Review of logbooks;
- Review of analytical SOPs; and
- Personnel interviews.

A review of a data package from samples recently analyzed by the laboratory can include (but not be limited to) the following:

- Comparison of resulting data to the SOP or method;
- Verification of initial and continuing calibrations within control limits;
- Verification of surrogate recoveries and instrument timing results;
- Review of extended quantitation reports for comparisons of library spectra to instrument spectra, where applicable; and
- Assurance that samples are run within holding times.

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11. Preventive Maintenance

11.1 FIELD INSTRUMENT PREVENTIVE MAINTENANCE

The field equipment preventive maintenance program is designed to ensure the effective completion of the sampling effort and to minimize equipment downtime. Program implementation is concentrated in three areas:

- Maintenance responsibilities;
- Maintenance schedules; and
- Inventory of critical spare parts and equipment.

The maintenance responsibilities for field equipment will be assigned to the task leaders in charge of specific field operations. Field personnel will be responsible for daily field checks and calibrations and for reporting any problems with the equipment. The maintenance schedule will follow the manufacturer's recommendations. In addition, the field personnel will be responsible for determining that an inventory of spare parts will be maintained with the field equipment. The inventory will primarily contain parts that are subject to frequent failure, have limited useful lifetimes, and/or cannot be obtained in a timely manner.

11.2 LABORATORY INSTRUMENT PREVENTIVE MAINTENANCE

Analytical instruments at the laboratory will undergo routine and/or preventive maintenance. The extent of the preventive maintenance will be a function of the complexity of the equipment.

Generally, annual preventive maintenance service will involve cleaning, adjusting, inspecting, and testing procedures designed to reduce instrument failure and/or extend useful instrument life. Between visits, routine operator maintenance and cleaning will be performed according to manufacturer's specifications by laboratory personnel.

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12. Quality Assurance Reports and Corrective Actions

Critically important to the successful implementation of the QAPP is a reporting system that provides the means by which the program can be reviewed, problems identified, and programmatic changes made to improve the plan.

QA reports to management can include:

- Audit reports, internal and external audits with responses;
- Performance evaluation sample results, internal and external sources; and
- QA/QC exception reports/corrective actions.

QA/QC corrective action reports will be prepared by the Haley & Aldrich of New York QA Officer when appropriate and presented to the project and/or laboratory management personnel so that performance criteria can be monitored for all analyses from each analytical department. The updated trend/QA charts prepared by the laboratory QA personnel will be distributed and reviewed by various levels of laboratory management.

Program activities are properly assessed using a review and evaluation process of field QA/QC forms, nonconformance reports (NCR), and subsequent corrective actions, internal peer review, and laboratory oversight. This process ensures this QAPP is adhered to, the quality of the data is adequate, and corrective actions, when needed, are implemented effectively and in a timely manner.

Any project team member can initiate the field corrective action process by identifying a problem, acting to eliminate the problem, documenting the corrective action, monitoring the effectiveness of the corrective action, and verifying the problem has been eliminated. Some examples of corrective actions for field measurements may include the following:

- Repetition of a measurement to check for error;
- Checking all proper adjustments for ambient conditions such as temperature;
- Checking batteries;
- Checking calibrations;
- Recalibration;
- Replacing instruments or measurement devices;
- Stop work (if necessary);
- Revising information submitted on COC forms; and
- Amending of sampling procedures or Work Plans.

Technical staff and project personnel are responsible for reporting all technical or QA nonconformances or suspected deficiencies of any activity or issued document by reporting the situation to the Haley & Aldrich of New York QA Officer on an NCR. The Haley & Aldrich of New York Project Manager, in coordination with the Haley & Aldrich of New York QA Officer, is responsible for assessing the suspected difficulty and its impact on the data quality in consultation with the Haley & Aldrich of New York

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Program Manager. A corrective action decision, if necessary, will be determined by the Haley & Aldrich of New York Project Manager and QA Officer and implemented by the PM. The Haley & Aldrich of New York Project Manager has the authority to initiate stop work orders, if necessary, and is responsible for initiating a corrective action for a nonconformance, which may include the following actions:

- Evaluating all reported nonconformances;
- Determining disposition or action to be taken;
- Maintaining a log of nonconformances; and
- Reviewing nonconformance reports and corrective actions taken.

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References

1. New York State Department of Environmental Conservation, 1991. NYSDEC Analytical Services Protocol (ASP), Bureau of Environmental Investigation, 1991 with updates.

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

3. New York State Department of Environmental Conservation, 2023. Division of Environmental Remediation, Sampling, Analysis and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) under NYSDEC Part 375 Remedial Program. April.

4. United States Environmental Protection Agency, 1986. Test Methods for Evaluating Solid Waste, Office of Solid Waste, U.S. EPA, SW-846, November 1986, with updates.

5. United States Environmental Protection Agency, 1991. Preparation Aids for the Development of Category I Quality Assurance Project Plans. U.S. EPA/600/8-91/003, Risk Reduction Engineering Laboratory, Office of Research and Development, Cincinnati, Ohio. February.

6. United States Environmental Protection Agency, 1992. Specifications and Guidance for Contaminant-Free Sample Containers. OSWER Directive 9240.0-05A. April.

7. United States Environmental Protection Agency, 1993. Data Quality Objectives Process for Superfund Interim Final Guidance. U.S. EPA/540/R-93-071, Office of Solid Waste and Emergency Response (OSWER). September.

8. United States Environmental Protection Agency, 1999. EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations. EPA QA/R-5 Interim Final. November.

9. United States Environmental Protection Agency, 2014a. Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15, SOP NO. HW-31, Revision. 6. June.

10. United States Environmental Protection Agency, 2020a. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-542-R-20-006. November.

11. United States Environmental Protection Agency, 2020b. National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-20-005. November.

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TABLES

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TABLE I
SUMMARY OF ANALYSIS, PRESERVATION, HOLDING TIME, SAMPLE SIZE, AND SAMPLE CONTAINERS
PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
PORT CHESTER, NEW YORK

Analysis/Method[3]	Sample Type	Preservation	Holding Time	Volume/Weight	Container[4]
Volatile Organic Compounds/8260	Soil	1 - 1 Vial MeOH/2 Vial Water, Cool, 4 ± 2 °C	14 days[1]	120 mL	3 - 40ml glass vials
Semivolatile Organic Compounds/8270	Soil	Cool, 4 ± 2 °C	14 days extraction / 40 days analysis	250 mL	1 - 8 oz Glass
Pesticides/8081	Soil	Cool, 4 ± 2 °C	14 days extraction / 40 days analysis	250 mL	1 - 4 oz Glass
Polychlorinated Biphenyls/8082	Soil	Cool, 4 ± 2 °C	14 days extraction / 40 days analysis	250 mL	1 - 4 oz Glass
TAL Metals/6010, 7471	Soil	Cool, 4 ± 2 °C	180 days	60 mL	1 - 4 oz Glass
PFAS/1633A	Soil	Cool, 4 ± 2 °C	28 days extraction / 40 days analysis	To be determined by laboratory	1 - HDPE container
1,4-Dioxane/8270	Soil	Cool, 4 ± 2 °C	14 days extraction / 40 days analysis	250 mL	1 - 8 oz Glass

Notes:

1. Terra Cores® and En Cores® must be frozen within 48 hours of collection
2. Refer to text for additional information.
3. Equivalent method can be used.
4. Volume may vary by laboratory and/or equivalent method.

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TABLE II
LABORATORY AND FIELD QUALITY CONTROL OBJECTIVES
PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
PORT CHESTER, NEW YORK

Quality Control Sample/Process Assessed	Measurement Quality Indicator	Frequency	Acceptance Criteria	Corrective Action
LABORATORY QA/QC				
Method Blank	Accuracy and Representativeness	1 per analytical batch of 20 samples	No target analyte above one-tenth the amount in any sample	Reanalyze blank and samples. Qualify as necessary.
LCS or LCS/LCSD	Accuracy or Accuracy and Precision	1 per analytical batch of 20 samples	Method Specific Criteria per lab SOP or NYSDEC's Part 375 Remedial Programs	Re-prepare and reanalyze blank and samples. Qualify as necessary.
MS/MSD	Accuracy and Precision	1 per analytical batch of 20 samples	Method Specific Criteria per lab SOP or NYSDEC's Part 375 Remedial Programs	Qualify as necessary.
Laboratory Duplicate	Precision	1 per analytical batch of 20 samples	RPD <20% (or absolute difference <5x RL)	Qualify as necessary.
Surrogate	Accuracy	Each sample	Method Specific Criteria per lab SOP or NYSDEC's Part 375 Remedial Programs	Re-extract and reanalyze. Qualify as necessary.
FIELD QA/QC				
Trip Blank	Accuracy	1 per cooler when submitting samples for volatile analysis	No target analyte above one-tenth the amount in any sample	Qualify as necessary
Field Blank	Accuracy	As necessary	No target analyte above one-tenth the amount in any sample	Qualify as necessary
Equipment Rinse Blank	Accuracy	As necessary	No target analyte above one-tenth the amount in any sample	Qualify as necessary
Field Duplicate	Accuracy and Precision	1 in 20 project samples	RPD <35% for water (or absolute difference <5x RL) RPD <100% for solid (or absolute difference <5x RL) RPD <35% for air	Qualify as necessary

Notes:

% = percent
LCS/LCSD = Laboratory Control Sample/Laboratory Control Sample Duplicate
MDL = Method Detection Limit
ML = Method Minimum Level
MS/MSD = Matrix Spike/Matrix Spike Duplicate
QA/QC = Quality Assurance/Quality Control
RL = Reporting Limit
RPD = Relative Percent Difference
** QA/QC only analyzed as relevant per method requirements*

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ATTACHMENT A
Project Team Resumes

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SUZANNE BELL, PE

Program Manager, Environmental Engineer

EDUCATION

BS, Biosystems Engineering, University of Arizona

PROFESSIONAL REGISTRATIONS

AZ: Environmental Engineer (Reg. No. 61995)
NY: Professional Engineer (Reg No. 106301)

PROFESSIONAL COMMITTEES

American Council of Engineering Companies of New York – New York State Department of Environmental Conservation Committee Member – 2024-2025

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste and Operations Emergency Response Training (29 CFR 1910.120 and 40 CFR 265.16)
8-Hour HAZWOPER Refresher Course

Suzanne is a senior project manager with over 17 years of experience in the environmental consulting industry. She has worked on soil and groundwater environmental investigations, remediation projects, and prepared reports for private, industrial, and government clients. Her technical experience includes remediation systems; soil and groundwater feasibility studies; Phase I site investigations; environmental file review and historical research; stormwater assessments and SWPPP preparation; reclamation planning for the sand and gravel mining industry; air permitting; and data interpretation.

In New York, Suzanne has experience as an Engineer of Record in completing site closure documentation including Remedial Closure Reports reviewed by the Office of Environmental Remediation as well as Final Engineering Reports and Site Management Plans reviewed by the New York State Department of Environmental Conservation.

Suzanne has managed the investigation, remedial design, remediation and closeout of sites in the Brownfield Cleanup Program and petroleum spill case sites. Her background also includes developing and complying with approved site management plans overseeing the operation and maintenance of on-site engineering controls, such as soil vapor extraction systems, sub-slab depressurization systems, product recovery systems, and ensuring the protection of human health and the environment.

RELEVANT PROJECT EXPERIENCE

Bedford Beverly Redevelopment Site, Brooklyn, New York. Suzanne served as engineer of record for execution of Remedial Action Work Plans for an approximately 5.31-acre non-contiguous property located in the Flatbush neighborhood in the borough of Brooklyn, New York under the New York State Brownfield Cleanup Program (NYSBCP). The remedy included removal of thirteen undocumented underground storage tanks (USTs), removal of over 115,000 tons of non-hazardous and hazardous soil, hotspot excavations, injections of zerovalent iron to treat tetrachlorethylene in groundwater, injection of alkaline-activated persulfate to treat petroleum-based volatile organic compounds in groundwater and establishing a Site Management Plan (SMP) for Institutional and Engineering Controls. The site is being redeveloped from a vacant auto service center, vast open air parking lots, and a vacant commercial building into a vibrant community development. In addition to new residential housing, which includes affordable units, and commercial spaces, the project has preserved the highly recognizable Sears Roebuck & Company Department Store. This includes maintaining its historical architecture, updating the building to meet modern standards, introducing commercial spaces that were previously underutilizing, and maintaining the character of the neighborhood.

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Development, EPA Site RCRA-02-2009-7306, NYSDEC Site 243016, Former Port Mobil Terminal, Staten Island, New York. Engineer and project manager responsible for the preparation of the feasibility study, preparation of the Interim Remedial Report, completion of the Interim Remedial Measure, completion of the remedial investigation stages, continued execution of the Monitoring and Natural Attenuation Program, preparation of the Remedial Action Work Plan/Remedial Designs, and RCRA Closure procedures for the Port Mobil Terminal Site under an Environmental Protection Agency and New York State DEC Consent Order. The Site has a footprint of approximately 240 acres with a planned development for commercial/industrial uses.

Rogers Snyder Brownfield Site, 858 Rogers Avenue and 2605 Snyder Avenue, Brooklyn, New York. Suzanne served as engineer of record for execution of Remedial Action Work Plan at the Rogers Snyder redevelopment project under the NYSBCP. Responsible for remedial oversight of excavation and removal of non-hazardous and hazardous soil, endpoint sample collection, air monitoring, communication with soil brokerage firm and environmental laboratory, preparation of the FER.

Former Garone Bros Auto Service Center Site, 352-362 Shepherd Avenue, Brooklyn, New York. Suzanne served as engineer of record for execution of Remedial Action Work Plan at the 352-362 Shepherd redevelopment project under the NYSBCP. Responsible for remedial oversight of excavation and removal of non-hazardous soil, removal of USTs, endpoint sample collection, air monitoring, communication with soil brokerage firm and environmental laboratory, preparation of the FER.

Former Fielder Waterproofing & Masonry Site, 91 Bruckner Boulevard, Bronx, New York. Suzanne served as engineer of record for execution of Remedial Action Work Plan at the 91 Bruckner redevelopment project under the NYSBCP. Responsible for remedial oversight of excavation and removal of non-hazardous and hazardous soil, removal of USTs, endpoint sample collection, air monitoring, communication with soil brokerage firm and environmental laboratory, preparation of the FER and SMP.

828 Metropolitan Avenue Site, 808-834 Metropolitan Avenue, Brooklyn, New York. Suzanne served as project manager and engineer of record for execution of Remedial Action Work Plan at the 828 Metropolitan Avenue redevelopment project under the NYSBCP. Responsible for remedial oversight of excavation and removal of non-hazardous soil, removal of USTs, endpoint sample collection, air monitoring, communication with soil brokerage firm and environmental laboratory, preparation of Daily Field Reports (DFRs) and the Final Engineering Report (FER).

Waterfront Property Management, 89-91 Gerry Street and 93 Gerry Street, Brooklyn, New York. Suzanne served as project manager for execution of Remedial Action Work Plans at the former Just4Wheels Site and Just4Wheels Site 2 under the New York State Brownfield Cleanup Program (NYSBCP). Responsible for remedial oversight of excavation and removal of non-hazardous and hazardous soil, endpoint sample collection, removal of USTs, air monitoring, dewatering system installation support, communication with soil brokerage firm and environmental laboratory, preparation of DFRs and the FER.

Multiple Clients, Remedial Investigation Work Plans and BCP Applications, New York City, New York. As project manager and engineer, Suzanne has prepared NYSBCP Applications and Remedial Investigation Work Plans for the New York State Department of Environmental Conservation (NYSDEC) for sites within the New York City boroughs.

Multiple Clients, Remedial Action Work Plans, New York City, New York. As project manager and engineer of record, Suzanne has prepared Remedial Action Work Plans for the NYSDEC for sites within the New York City boroughs.

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Excavation Oversight and CAMP Monitoring, Various Sites, New York City, New York. Suzanne has served as project manager for projects under the New York City Office of Environmental Remediation (NYCOER) program and NYSBCP. Her responsibilities included managing excavation oversight, air monitoring, and logging trucks for off-site disposal.

Aerospace Manufacturing Facility, Feasibility Study and Remedial Action Plan, Chula Vista, CA. Suzanne co-authored feasibility studies for soil and ground water impacted by chlorinated solvents, metals, and PCBs. She screened ex-situ and in-situ remedial alternatives for effectiveness, implementability, and protectiveness of human health. She also assessed alternative cleanup levels for technical and economic feasibility of achieving background concentrations in accordance with State Water Resources Control Board Resolution 92-49. Additionally, she evaluated groundwater remedial alternatives, including bioremediation, monitored natural attenuation (MNA), pump and treat, chemical oxidation, chemical reduction, and engineered and institutional controls. Lastly, she prepared engineering cost estimates and conceptual designs. Assisted with the preparation of remedial action plans: a bioremediation remedy and MNA program for groundwater, and excavation of contaminated soil.

Aerospace Manufacturing Facility, Groundwater Remediation and Bioremediation Pilot Test, Riverside, CA. Suzanne assisted with data analysis and reporting for the bioremediation pilot test study for groundwater impacted by chlorinated solvents, hexavalent chromium, and 1,4-dioxane. She evaluated site data for trends indicative of MNA using statistical analysis.

Goodyear Tire & Rubber Company, Phoenix Goodyear Airport South Superfund Site, Goodyear, Arizona. Suzanne prepared reports and performed data analysis related to the groundwater monitoring program and operation and maintenance of groundwater treatment systems. Currently, two groundwater extraction and remediation systems are capable of treating more than 1 million gallons per day of groundwater contaminated with trichloroethylene. The upper groundwater zone is treated with an air stripper, while the lower zone is treated with granulated activated carbon. Treated groundwater is reinjected into their respective zones.

Soil and Groundwater Remediation Systems, Arizona. Suzanne **p**erformed operation, maintenance, and sampling activities for two soil vapor extraction systems to remove tetrachloroethylene from subsurface soils at two different dry-cleaning facilities. She prepared soil vapor extraction GAC system test reports in accordance with Maricopa County Air Quality Department Permits.

ASTM Phase I Environmental Site Assessments, Arizona. Suzanne assisted with ASTM Phase I ESAs at various industrial facilities in central and southern Arizona. She evaluated site conditions and regulatory implications as they related to the owner's or potential buyer's property development plans.

Phoenix-Goodyear Airport-North Superfund Site, Focused Feasibility Study, Goodyear, Arizona. Suzanne was a member of team that prepared a source area remediation focused feasibility study report. She evaluated several technologies and alternatives to treat groundwater contaminated with trichloroethylene (TCE) and perchlorate. She analyzed remedial alternatives, including in-well air stripping, a hydraulic barrier, nano- and macro-scale zero-valent iron, anaerobic reductive dechlorination, in-situ chemical oxidation (permanganate), and electrical resistive heating. She prepared cost estimates, conceptual designs, remediation technology summaries, and sustainability evaluation of the alternatives.

Enhanced In-Situ Bioremediation (EISB) and Chemical Reduction Using a Nanoscale, Zero-Valent Metallic Alloy to Treat Co-disposed Chloroethanes and Chloroethenes in Groundwater, Manufacturing Facility, Canton, MA. Suzanne performed data analysis and prepared status reports on effectiveness of EISB in treating chlorinated solvents in shallow groundwater. She reported on the performance monitoring results for the permeable reactive barrier in deep zone groundwater.

Hayden Facilities RI/FS, ASARCO LLC, Hayden, Arizona. Suzanne served as Quality Assurance Officer for the air monitoring program at a copper smelting facility. She developed site-specific data validation procedures according EPA guidelines for several analytical methods.

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Market Evaluation for Nanoscale Zero-Valent Iron, Stamford, Connecticut. Suzanne used EPA CERCLIS Public Access Database and select State databases to estimate the market size for potential use of nanoscale zero-valent iron (nZVI) as a remediation technology. She compiled competing vendor information and quotes to estimate the average cost of similar products. She utilized the U.S. Patent and Trademark Office database to analyze competing technologies.

Arizona Pollutant Discharge Elimination System (AZPDES) and National Pollutant Discharge Elimination System (NPDES) Permits, Arizona. Suzanne prepared AZPDES and NPDES) permit renewal applications for a copper mining facility in Southern Arizona, which included updates to the facility's Storm Water Pollution Prevention Plan (SWPPP) and QA Manual.

Spill Prevention, Control and Countermeasure Plans, Aggregate Mining Facilities, Arizona. Suzanne assisted with a Spill Prevention, Control and Countermeasure Plans (SPCC) for aggregate mining facilities in Arizona. She performed site visit, evaluated fuel and oil tanks and secondary containment areas, assisted with calculations to verify compliance, and prepared report.

Copper Mining Facility, Miami, Arizona. Suzanne assisted with Toxic Release Inventory (TRI) and Toxic Substances Control Act (TSCA) reporting, both submitted to the EPA.

Storm Water Pollution Prevention Plan, Franciscan Friars of California, Gila County, Arizona. Suzanne updated the SWPPP for construction activities related to the closure of a historic Gibson copper mine, authorized under the Arizona Pollutant Discharge Elimination System "General Permit for Discharge from Construction Activities to Waters of the United States." The Former Gibson Mine is a small, historic copper mine, located approximately 7 miles southwest of Miami, Arizona, in Gila County. Construction activities covered under the updated SWPPP consisted of the excavation, hauling, and removal of approximately 80,000 tons of soil cover from the Mineral Creek side of the site to mine-scarred areas on the Pinto Creek side of the site. Also included was final grading of the site, which consisted of re-contouring and re-defining any portion of the drainages that were on site; and revegetation.

Stormwater Pollution Prevention Plans, Vulcan Materials Company, Western Division, Arizona. Suzanne prepared SWPPP for 11 aggregate mining facilities in Arizona. Performed site visits, analyzed stormwater flows, prepared reports, and completed Notices of Intent for the Arizona Department of Environmental Quality under a Multi-Sector General Permit.

Uranium Enrichment Facility, Lea County, New Mexico. Suzanne prepared quarterly and annual groundwater monitoring reports, semi-annual radioactive effluent release reports, and radiological environmental monitoring program reports in accordance with New Mexico Environment Department regulations and the Nuclear Regulatory Commission. Performed quarterly data validation on a variety of matrices and analytical methods. She prepared site-specific environmental monitoring procedures, which included field sampling techniques; data collection, management and validation; and an air modeling software package.

Rocket Testing and Research Facility, Western U.S. Suzanne analyzed and evaluated groundwater quality data, prepared reports, and managed data for this Resource Conservation and Recovery Act (RCRA) site. Assisted with management of sampling, analysis, and reporting of constituents of concern for fractured sandstone bedrock aquifer impacted by chlorinated solvents and emergent chemicals 1,4-dioxane, perchlorate, and n-nitrosodimethylamine (NDMA). Performed data validation of water quality data according to U.S. EPA National Functional Guidelines. Queried data from client environmental data management system and prepared summary tables, concentration plots, and water level hydrographs using Microsoft Excel programs. She prepared a quarterly analytical schedule using an Access database application, updated the site-specific Health & Safety Plan, and participated in lean training, which reduced cost of groundwater monitoring tasks by 25 percent.

Federal Superfund Site, Eastern Massachusetts. Suzanne performed data validation and quality assurance/quality control of soil and groundwater data according to U.S. EPA National Functional Guidelines. She performed third-party database updates.

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Great Western Bank, Cortaro Ranch Property, Marana, Arizona. For site characterization of undeveloped land, Suzanne performed surficial soil sampling, analytical laboratory coordination, data analysis, and report preparation.

Twin Buttes Properties, Inc., Southern Arizona. Suzanne assisted with report and analytical table preparation for the characterization and analysis of current and historical hydrologic conditions at an inactive mine site near Sahuarita, Arizona in support of regulatory compliance.

Skyworks Solutions, Inc. Site, Newbury Park, California. Suzanne assisted with report and analytical table preparation for a subsurface investigation characterizing the lateral and vertical extent of soil and groundwater impacts from known releases of TCE, 1,4-dioxane and other organic compounds.

PUBLICATIONS

"Mixed Redox Catalytic Destruction of Chlorinated Solvents in Soils and Groundwater," with S. Gao, E. Rupp, M. Willinger, T. Foley, B. Barbaris, A.E., Saez, R.G. Arnold and E. Betterton. In Environmental Challenges in The Pacific Basin, 2008; Annals of the New York Academy of Sciences, Vol. 1140, pp 435-445. PMID: 18991945

INVITED LECTURER OR SPEAKER

"Catalytic Destruction of Perchloroethylene," with E. Betterton, R. Arnold and Eduardo Saez, Presenter - NASA Space Grant Student Symposium, Phoenix, Arizona. April 2007.

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MARI C. CONLON

Senior Client Account Manager

EDUCATION

MS, Geology, Boston College

BS, Geology with a minor in Economics and Business, Lafayette College

PROFESSIONAL REGISTRATIONS

NY: Professional Geologist (License No. 000769)

PROFESSIONAL SOCIETIES

Big Apple Brownfield Awards, Co-Chair, 2018-2022

Big Apple Brownfield Awards Nomination Committee, 2016-2025

New York City Brownfield Partnership Executive Board, 2021-2025

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)

10-Hour OSHA Construction Safety

8-Hour OSHA Supervisor of Hazardous Waste (29 CFR 1910.120 & 29 CFR 1926.65)

Mari is a senior client account manager with experience in soil, groundwater and soil vapor investigation and a focus on remedial design and implementation. She is also experienced in completion of numerous Phase I Environmental Site Assessments and Phase II Environmental Site Investigations, site characterization, hazardous materials analysis, regulatory closure reports as well as remedial design and implementation.

Mari has experience in composing site closure documentation including Remedial Closure Reports and Noise Installation Reports reviewed by the Office of Environmental Remediation as well as Final Engineering Reports and Site Management Plans reviewed by the New York State Department of Environmental Conservation. Mari has also worked on city rezoning proposals by performing work associated with and composing the Hazardous Materials Analysis chapter included in Final Environmental Impact Statements published by New York City Department of Planning. Analysis methods were performed in accordance with the City Environmental Quality Review (CEQR) guidelines for neighborhoods including East New York, Brooklyn, Jerome Avenue, Brooklyn, Inwood, and Manhattan.

Mari has managed the investigation, remedial design, remediation and closeout of multiple inactive Resource Conservation and Recovery Act (RCRA) hazardous waste sites, New York State Superfund sites and petroleum spill case sites. Her background includes developing and complying with approved site management plans overseeing the operation and maintenance of on-site engineering controls, such as soil vapor extraction systems, sub-slab depressurization systems, product recovery systems, etc., and ensuring the protection of human health and the environment.

RELEVANT PROJECT EXPERIENCE

State and City Agencies

School Construction Authority, Waste Characterization and Excavation Materials Disposal Plan, Brooklyn, New York. Project manager for consulting services for New York Public School 127. Services included composition of an Excavated Materials Disposal Plan, collection of waste characterization samples and preparation of and preparation of a findings and recommendations report.

Department of City Planning, Rezoning Environmental Impact Statement, Bronx, New York. Project lead for analysis and composing the Hazardous Materials Chapter as per City Environmental Quality Review (CEQR) Technical Manual guidelines included in the Final Environmental Impact Statement (FEIS) for an approximately 92-block area primarily along Jerome Avenue and its east-west commercial corridors in the Bronx. The review assessed the potential for the

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presence of hazardous materials in soil and/or groundwater at both the projected and potential development sites identified in the reasonable worst-case development scenario under the proposed East New York Rezoning Proposal. Procedures involved site inspections and review of historic Sanborn fire insurance maps, city directories and city/state regulatory databases. The assessment identified that each of the 146 projected and potential development sites has some associated concern regarding environmental conditions. As a result, the proposed zoning map actions include (E) designations (E-366) for all privately-held projected and potential development sites.

Department of City Planning, Rezoning Environmental Impact Statement, Brooklyn, New York. Project lead for performance analysis and composing the Hazardous Materials Chapter as per CEQR Technical Manual guidelines included in the FEIS for an approximately 190-block area of East New York, Cypress Hills, and Ocean Hill neighborhoods of Brooklyn, New York. The review assessed the potential for the presence of hazardous materials in soil and/or groundwater at both the projected and potential development sites identified in the reasonable worst-case development scenario under the proposed East New York Rezoning Proposal. Procedures involved site inspections and review of historic Sanborn fire insurance maps, city directories and city/state regulatory databases. The assessment identified that each of the 186 projected and potential development sites has some associated concern regarding environmental conditions. As a result, the proposed zoning map actions include (E) designations (E-366) for all privately-held projected and potential development sites.

Redevelopment and Remediation

Titan Equity Group, Hotel Redevelopment, Bronx, New York. Project manager for a hotel redevelopment in the south Bronx. The site has been assigned New York City Office of Environmental Remediation (NYC OER) E-Designation status for hazardous materials, noise, and air quality. Services included completion of a remedial investigation, composition of a Remedial Investigation Report and development of Hazardous Material Remedial Action Work Plan and Air Quality/Noise Remedial Action Plan as per NYC OER requirements.

The Related Companies, Chelsea Mixed-Use Redevelopment, New York, New York. Field geologist for oversight of the remediation of a mixed-use residential and commercial building, the second of a two-building development on 30th Street. Contaminants of concern included volatile and semi-volatile organic compounds associated with historic operations and underground storage tanks (USTs) located on the Site. The Site was given an E-designation (E-142) for hazardous materials and noise as part of the Highline/West Chelsea rezoning proposal. To satisfy the requirements of the E-designation program, soil was excavated to at least 12 feet below grade and bottom endpoint collected showing no contaminants of concern exceeding the New York State Department of Environmental Conservation (NYSDEC) Unrestricted Use Soil Cleanup Objectives (SCO). By achieving Unrestricted Use SCOs, no engineering controls were necessary, although the building slab was included as part of development, and removal of the hazardous materials E-designation was requested.

Tishman Speyer, Long Island City Residential Development, Long Island City, New York. Field geologist for remedial oversight and implementation of a Community Air Monitoring Program during concurrent remediation and development of three Brownfield Cleanup Program (BCP) sites located in Long Island City, New York. The Sites were grossly contaminated with creosote, a carcinogenic chemical formed from the distillation of various tars. Remediation strategies included soil excavation and in-situ soil stabilization. To prevent migration of groundwater off-site, a temporary and later a permanent capture well system was installed on the western boundary of the property. The BCP site located on the western portion of the property left residual contamination in place requiring installation of a sub-slab depressurization system.

Queens West Development Corporation, Queens Waterfront Development, Long Island City, New York. Field geologist for performance of site management post remedial action. Services included annual groundwater monitoring, evaluation of engineering and institutional controls completion and Period Review Reports. In addition to conducting annual site management activities, responsibilities included composing a work plan to evaluate the transition from active sub-slab depressurization systems to passive. Upon NYSDEC approval, active systems were shut down for 30 days prior to a sub-slab vapor sampling event evaluation soil vapor, indoor and outdoor air conditions for

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potential vapor intrusion risk. As results indicated no evidence of vapor intrusion, continued pressure monitoring was conducted for from the existing monitoring ports for one year assessing whether negative pressure was held by the existing slab by stack-effect or other passive processes.

Jim Beam Brands Co., Brownfield Cleanup Program Remediation Site, Long Island City, New York. Field geologist for oversight of the installation of an Electrical Resistive Heating (ERH) system implemented in order to remediate trichloroethylene groundwater plumes in shallow/intermediate and deep groundwater on- and off-site. The Site, a former stapler manufacturing facility, underwent various remedies, including a Soil Vapor Extraction system, air sparging, ozone injection and chemical oxidation using potassium permanganate injections, which resulted in little reduction to contamination levels and rebounding chlorinated solvents. Components of the ERH system installed included electrodes for delivery of steam, vapor recovery wells, and groundwater monitoring wells. The site is currently under remediation in the state BCP program.

Due Diligence and Site Characterization

Manufacturing Plants, Multiple Investors, Environmental and Compliance Assessment Portfolio United States. Project lead for completion of Phase I Environmental Site Assessments (ESAs) and Limited Compliance Reviews for multiple auto parts manufacturing facilities throughout the United States. Services included completion of Phase I ESAs in accordance with the American Society for Testing and Materials E1527-13 requirements and a limited review of each facility's compliance liabilities including issues pertaining to the Resource Conservation and Recovery Act, Greenhouse Gas Emission Standards and Tier II Emergency and Hazardous Chemical Inventory reporting requirements.

ARM Parking, Environmental Site Assessment and Subsurface Investigation, Brooklyn, New York. Project manager for site assessment and subsurface investigation of parking facility in Sunset Park neighborhood, Brooklyn, New York. Services included ground penetrating radar survey for former and current petroleum USTs, completion of a subsurface investigation of soils and composition of Limited Subsurface Investigation Report.

Spill Consulting

The Trump Organization, Spill Consulting Services, New York, New York. Project manager for consulting services provided after incidental release of calcium carbonate ice rink paint to the Central Park Pond from Wollman Rink. Services included liaising with NYSDEC regarding violations, consent order and required corrective action. Corrective action included designing alterations to the existing on-site drainage plans and routing all meltwater containing paint into the combined sewer system. Coordination was required with property owner, operations personnel, New York City Department of Parks and NYSDEC.

Richmond Gardens Apartments, Spill Management and Closure Services, Staten Island, New York. Project lead responsible for spill closure activities and reporting for Spill 1105661 located at the Richmond Gardens Apartment Complex in the Richmond neighborhood of Staten Island, New York. The spill was opened in 2011 when several underground storage tanks were identified adjacent to the apartments at Jersey Street and Hendricks Avenue. The tanks were cleaned and removed and impacted soils surrounding the tank area excavated to the extent possible. Excavation of all impacted material was not feasible due to the proximity of the tanks to the apartment buildings. Residual contamination in soil and groundwater remained and was monitored through 2016. Upon reviewing the groundwater monitoring data from over 12 consecutive quarters, it was apparent monitored natural attenuation was not a feasible option and an in situ chemical oxidation (ISCO) remedy was approved by NYSDEC. Due to success of the pilot test, the ISCO injection event was implemented utilizing pressure pulse technology to deliver the alkaline activated persulfate solution to the subsurface.

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ELIZABETH R. FITZGERALD

Project Manager

EDUCATION

B.S., Earth Science with a minor in Sustainability Leadership, Pennsylvania State University

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)
8-Hour OSHA HAZWOPER Refresher Training
10-Hour OSHA Construction Safety Training
8-Hour DOT Hazmat Employee & RCRA Hazardous Waste Generator Training
American Red Cross First Aid/CPR/AED Training

Elizabeth is an environmental scientist and project manager with broad experience across environmental remediation, due diligence, regulatory compliance, and infrastructure development. She has managed and supported projects under the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup (BCP), NYC Office of Environmental Remediation (NYC OER) Voluntary Cleanup Program (VCP), and New Jersey Department of Environmental Protection (NJDEP), with expertise in remedial construction oversight, regulatory coordination, and technical reporting. Elizabeth has authored numerous technical and regulatory reports and has successfully guided projects to regulatory closure or key milestones with agencies including NYSDEC, NYC OER, and NJDEP. Her project portfolio spans brownfield redevelopment, transportation and airport infrastructure, New York City School Construction Authority (NYCSCA) public school facilities, and resilience initiatives throughout the New York metropolitan area. Known for her strategic coordination, technical accuracy, and cross-disciplinary collaboration, Elizabeth delivers solutions that support regulatory closure, sustainable development, and long-term project success.

RELEVANT PROJECT EXPERIENCE

Remediation and Redevelopment

Elizabeth has managed and supported remedial investigations, remedy implementation, and regulatory coordination under the NYSDEC BCP, NYC OER VCP, and NJDEP oversight. Her experience includes overseeing remedial construction, authoring Final Engineering Reports (FERs) and Site Management Plans (SMPs), developing sampling and analysis strategies, and coordinating with contractors, regulators, and legal counsel throughout all phases of remediation.

Third at Third LLC, NYSDEC BCP site, Third Street Gowanus, Brooklyn, New York. Elizabeth managed remediation for a 0.47-acre former industrial site redeveloped into a 13-story mixed-use building under the BCP. She directed remedial activities, including excavation and off-site disposal of approximately 4,800 tons of impacted soil, in situ chemical oxidation (ISCO) to address arsenic impacts in groundwater, and installation of an active sub-slab depressurization system (SSDS), infiltration gallery, and composite cover system. Elizabeth led preparation of the FER and SMP and coordinated extensively with NYSDEC and legal counsel to support the issuance of the Certificate of Completion in January 2025.

Franklin 33 LLC, NYSDEC BCP site, 33 Franklin Street, Brooklyn, New York. Elizabeth supported a Track 1 unrestricted use remedy for a 0.48-acre former industrial site. She facilitated excavation and off-site disposal activities for over 9,500 tons of impacted soil, including chlorinated volatile organic compound (VOC)-impacted fill. Elizabeth managed post-excavation sampling and backfill approvals and directed field personnel during remedial activities. Elizabeth contributed to daily and monthly reporting to NYSDEC and New York State Department of Health (NYSDOH), prepared the FER and SMP, and supported regulatory communications to ensure issuance of the Certificate of Completion in December 2022.

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Bedford N 1 LLC, NYC OER VCP site, 276 Bedford Avenue, Brooklyn, New York. Elizabeth implemented a Track 2 Residential remedy under the NYC OER VCP for a 2,736-square-foot site historically used for retail and residential purposes. Elizabeth managed transport and disposal operations of more than 2,600 tons of contaminated historical fill, assisted with endpoint sampling, daily reporting, air monitoring, and contractor oversight. Elizabeth helped ensure compliance with the Remedial Action Work Plan (RAWP), including installation of a composite cover system and a multi-layer vapor barrier integrated into the building foundation. She contributed to the Remedial Action Report and supported final certification with NYC OER.

DVL, Inc. Toch Park redevelopment, Kearny, New Jersey. Elizabeth managed polychlorinated biphenyl (PCB) concrete sampling program at a six-story brick-and-concrete warehouse formerly used for linoleum flooring manufacturing. She coordinated a team of six to collect over 800 grab samples on multiple floors, oversaw all decontamination procedures, maintained equipment and inventory, and ensured adherence to health and safety requirements.

S. Hekemian Group Montvale redevelopment, New Jersey. Elizabeth led a remedial investigation and action for a 25-acre former commercial farm property. She advanced 35 soil borings to delineate contamination, conducted synthetic precipitation leaching procedure (SPLP) sampling to establish site-specific cleanup goals, and identified and managed hotspot excavation. She also oversaw dust control during soil movement and supported Response Action Outcome (RAO) documentation to NJDEP to remove environmental restrictions on the property.

Due Diligence

Elizabeth has led environmental due diligence across a range of public and private properties, including commercial, industrial, residential, and institutional sites across all five boroughs of New York City, including NYCSCA school sites, former manufactured gas plant (MGP) sites, and legacy industrial parcels. Elizabeth has authored numerous Phase I Environmental Site Assessment (ESA) reports to support acquisition and redevelopment and has managed Phase II ESIs and Indoor Air Quality to evaluate subsurface conditions and vapor intrusion risks. Her work includes sampling design, regulatory review, and technical reporting to inform client decision-making.

The Jay Group, New York State Superfund site, Former NuHart Plastics site, New York State Superfund site (NuHart West) and BCP site (NuHart East), Brooklyn, New York. Elizabeth authored a Phase I ESA for a 0.6-acre property historically operated as a petroleum filling station and currently listed as a federal Superfund site. The assessment identified multiple Recognized Environmental Conditions (RECs), including historical and ongoing petroleum contamination from leaking underground storage tanks (USTs), improper hazardous material storage, and long-term operation as an auto service facility. Her evaluation included detailed regulatory records review, site reconnaissance, and assessment of historical land use and spill cases. The findings informed the client's acquisition and redevelopment strategy and addressed due diligence requirements under ASTM E1527-13 and the All Appropriate Inquiries (AAI) rule.

New York City Transit (NYCT) Mets/Willets Point Station Renovation Environmental Due Diligence Assessment (EDDA), Queens, New York. Elizabeth assisted with the preparation of an EDDA consistent with the requirements of New York's State Environmental Quality Review Act and City Environmental Quality Review for planned major renovations at NYCT's Mets/Willets Point station on the No. 7 Line as part of the environmental services group. Elizabeth consolidated the data from soil and groundwater sampling events and analyzed for sources of contamination and potential remedial actions prior to construction. In addition, her assessment included the potential impact of noise vibrations and other construction activities on the surrounding environment.

Transportation and Infrastructure

Elizabeth has supported environmental compliance and investigation efforts on high-profile transportation, education, and infrastructure projects in the NYC metro area.

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Metropolitan Transportation Authority (MTA) Capital Construction (MTACC) / NYCT, Second Avenue Subway Phase 2, New York City. Elizabeth contributed to subsurface field investigations for the Supplemental Environmental Assessment and Environmental Impact Statement for Phase 2 of the Second Avenue Subway. Elizabeth conducted on-site soil and groundwater sampling, soil classification, contractor oversight, and soil disposal. Elizabeth also coordinated consultant field staff, managed daily site logistics with drilling contractors, tracked equipment and materials, and communicated field progress to the project team.

Port Authority of New York and New Jersey Newark Liberty (EWR) International Airport Terminal One, redevelopment design-build, Newark, New Jersey. Elizabeth assisted in designing a methane investigation program for the redevelopment of Terminal One at EWR. Her work included historical records review, evaluation of regional environmental conditions, and coordination with engineering and construction teams to support the design-build effort. Elizabeth helped interpret findings and communicate results to inform design planning for this LEED® Silver-certified $1.4 billion terminal redevelopment.

NYCSCA Citywide Lead in Water Testing and Potable Water Piping Disinfection Programs, various public schools, New York City. Elizabeth supported potable water investigation and remediation activities at over 100 public schools under NYCSCA contracts. As project coordinator for the Citywide Lead in Water Testing Program, Elizabeth managed the collection and analysis of more than 6,300 potable water samples at over 70 schools, overseeing complex after-hours scheduling and coordination with field teams, laboratories, and NYCSCA representatives. Elizabeth also supported more than 25 potable water piping disinfection projects, including oversight of bacteriological and lead sampling following system installation. At P.S. 62 in Staten Island, Elizabeth led field efforts to investigate blue-discolored water, collecting over 200 samples, assisting with bench-scale testing of copper corrosion, and implementing a targeted remedy to restore water quality and promote long-term passivation.

New York City Housing Authority (NYCHA), physical needs assessment and energy audit, New York City. Elizabeth analyzed more than 200 field reports to assess the overall quality and accuracy of site inspections during a $23-million physical needs assessment and energy audit of 2,413 buildings on 318 NYCHA developments. As quality control inspector, Elizabeth collaborated with a team of approximately 20 scientists, engineers, and architects to facilitate efficient and thorough quality control reviews. In this capacity, Elizabeth reviewed field reports and revised them as needed to display information in an organized, consistent, and accurate manner. These field reports contained information regarding the presence asbestos, mold, damaged building materials, and other such hazards.

NYCDEP Owl's Head Wastewater Treatment Plant (WWTP) resilience upgrades, Brooklyn, New York. Elizabeth supported the development of sustainability goals for $30 million in flood resilience upgrades at the 120-million gallons per day (mgd) Owl's Head WWTP**.** As sustainability officer, Elizabeth identified strategies to reduce greenhouse gas emissions, energy use, and waste generation across mechanical, electrical, and structural systems. Her work included evaluating opportunities for material reuse, water conservation, and stormwater management through permeable surfaces and topographic optimization. Elizabeth collaborated with the design team to incorporate these measures into the facility plan report, ensuring the project aligned with NYCDEP sustainability and environmental impact goals.

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KATHERINE R. MILLER

Senior Project Manager

EDUCATION

BS, Chemistry, University of Arizona

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120 and 40 CFR 265.16)
8-Hour OSHA Refresher Training (29 CFR 1910.120)
Level IV Data Validation Training

AWARDS

Pinnacle Award, 2009
Pathfinder Award, 2014

In her 10+ years at Haley & Aldrich, Katherine has worked on soil and groundwater environmental investigations and the preparation of environmental reports for private, industrial, and government-based project clients. She is a qualified Data Validator capable of performing various levels of validation on laboratory water quality data according to US Environmental Protection Agency (EPA) National Functional Guidelines and to U.S. Department of Energy radiochemical guidelines. She also has experience designing and maintaining databases for project-specific needs.

Project management responsibilities for a $1.5 million per year stormwater project include preparation of subcontractor bids and contracts; preparation of cost estimates, proposals, and reports; coordination of field testing programs; and interpretation of chemical testing results. She has interacted with local regulatory agencies.

RELEVANT PROJECT EXPERIENCE

Confidential Aerospace Manufacturer, Groundwater Monitoring, Western U.S. Katherine served as project manager for the comprehensive stormwater management program. Responsibilities included project finance management and data management including quality assurance/quality control (QA/QC) and interpretation of chemical testing results. Evaluated QA/QC of groundwater quality data, prepared reports and managed data for the site. Performed data validation of quarterly water quality data from over 300 locations according to EPA National Functional Guidelines and to DOE radiochemical guidelines over a six-year period. Also, responsible for updating and maintaining the integrity of over 200,000 records during that time period. Assisted with management of sampling, analysis, and reporting of constituents of concern, ensured compliance with post-closure permit monitoring and reporting requirements, Data Management Plan, QAPP, and Environmental Data Management System, and ensured and maintained 100% compliance with the QAPP and Data Management Plan. Additionally, prepared groundwater data summaries for proposed extraction wells including comparisons to site NPDES outfall limits in support of Groundwater Interim Measures planning.

Asarco Hayden Plant Site, Hayden, Arizona. Katherine assisted with field preparation, QA/QC of analytical data, and data validation as part of the Remedial Investigation/Feasibility Work Plan including soil, sediment, air, process water, surface water, and stormwater.

Former MGP Site, California. Katherine assisted with report preparation, QA/QC of soil and/or groundwater quality data, and data validation for the investigation of three large former MGP sites in an urban, residential setting; includes over 200 residential properties.

General Manufacturing, Leitchfield, Kentucky. Katherine assisted with report preparation, QA/QC of soil and/or groundwater quality data, and data validation for a soil and groundwater RCRA site. Groundwater monitoring is conducted annually at more than 50 locations for volatile organic compounds (VOCs), including 1,4-dioxane and semi-volatile organic compound (SVOCs).

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Skyworks Solutions, Inc., Newbury Park, California. Katherine assisted with report preparation, QA/QC of soil and/or groundwater quality data, and data validation at groundwater remediation site. She monitored for VOCs, including 1,4-dioxane, and inorganic chemicals, including hexavalent chromium.

Teledyne Scientific Company, Thousand Oaks, California. Katherine assisted with report preparation for this groundwater assessment site. Monitored natural attenuation has been instituted as the long-term site remedy.

Port of Redwood City, Permitting and Sediment Characterization, California. Katherine assisted with report preparation, QA/QC of sampling data, and data validation.

Kiewit Infrastructure West, Sediment Quality Study, California. Katherine assisted with report preparation, QA/QC of sampling data, and data validation.

Aeolian Yacht Harbor, Permitting, Eel Grass Conservation and Sediment Characterization, California. Katherine assisted with report preparation, QA/QC of sampling data, and data validation.

Marin County, Paradise Cay Permitting and Sediment Characterization, California. Katherine assisted with report preparation, QA/QC of sampling data, and data validation.

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BRIAN FITZPATRICK, CHMM

Corporate Director, Health and Safety

EDUCATION

M.P.A., Environmental Policy, Syracuse University
B.S., Environmental Science, University of Massachusetts-Amherst
A.S., Chemistry, Valley Forge Military Junior College
Commissioned Officer, United States Army

CERTIFICATIONS

Certified Hazardous Materials Manager (Reg. No. 13454)
Certified Department of Transportation Shipper
Certified International Air Transport Authority Shipper

PROFESSIONAL SOCIETIES

Alliance of Hazardous Materials Professionals
Academy of Certified Hazardous Materials Managers, New England Chapter

SPECIAL STUDIES AND COURSES

Department of Transportation
International Air Transport Authority
Incident Commander
Confined Space Entry and Rescue
Radiation Safety Officer
RCRA Hazardous Waste
Massachusetts Industrial Waste Water Operator Grade 2I (expired)

AWARDS

Presidents Club Award (one million hours worked without a recordable injury), Cabot Corporation
Chancellors Award for Excellence, Syracuse University

Brian ensures the work we do for our clients is done safely – knowing this reduces costs, improves service quality and site conditions, and ultimately protects our clients' reputations. In addition to building the Haley & Aldrich Health & Safety (H&S) culture, Brian is hands-on with clients to help improve their and their partners' safety cultures.

He has extensive expertise in the Occupational Safety and Health Administration (OSHA) general industry, process safety management, and construction safety programs. He is an active member of the Alliance of Hazardous Materials Professionals and the New England chapter of the Academy of Certified Hazardous Materials Managers.

Brian knows an organization's success is predicated on empowering its people to safely work within the complex, living processes in which they operate. He is a student of human factors in the workplace, of the phenomena of human error and drift into failure, and of the safety applications of Lean techniques.

RELEVANT PROJECT EXPERIENCE

Haley & Aldrich, Inc., Burlington, Massachusetts. As Chief Health and Safety Officer, Brian has led and facilitated the development and implementation of corporate health and safety (H&S) improvement plans to enhance compliance and improve H&S performance. In Brian's time with Haley & Aldrich, Inc., the company has realized dramatic improvement on H&S goals and in Key Performance Indicators. Brian is responsible for developing a risk competence culture, where our staff are empowered to look for and engage to address risk before anyone is injured. Brian oversees the development, implementation and continuous improvement of all H&S programs for the company. Additional responsibilities include:

- Developing a safety culture through incident reporting, root cause analysis, behavior-based safety, hazard recognition and risk assessment, communication, and developing leaders;

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- Monitoring proposed and existing SH&E regulations and legislation to determine their impact on operations and to ensure continued compliance;
- Overseeing the safety, industrial hygiene, and toxicology programs for over 600 staff members engaged in remediation, construction, health and safety, consulting, and general office work across 28 offices in the United States and on assignment to international project sites;
- Continuously seeks to improve H&S performance as measured by the OSHA Incident Rating (IR) and Worker's Compensation Experience Modification Rating (EMR), as well as Leading Indicators developed with the management team; and
- Participating in the corporate audit program as an auditor or lead auditor;

Energy Client, California. As Chief Health and Safety Officer, Brian led and facilitated the Alliance Partnership Safety Council in 2017, is still an active contributor to the council, and hosts routine contractor safety forums for the client. Brian is actively involved in the development and implementation of program safety, health, and environmental (SH&E) plans to ensure safe operations on project sites. Brian developed permits and Health and Safety Plans for large projects and routinely audits the site safety. Additional responsibilities include:

- Driving reporting and behavior-based safety initiatives to support our internal safety culture and developing monthly summary reports to illustrate performance to our client.
- Develop, assess and continuously improve site safety plans and practices, including specific safety protocols for working safely over and around water.
- Worked as an extension of the client's organization to provide assurance that the remedy was completed safely and consistent with client-specific requirements.
- Support on-site safety personnel in ensuring the health and safety of the general public, our staff, and our sub-contracted employees.
- Audits and visits sites to ensure compliance with our internal policies and client-specific requirements.

Energy Client, Ohio. As Chief Health and Safety Officer, Brian supports the project team in developing and executing client and project specific health and safety measures, such as a site specific Health and Safety Plan, Job Hazard Analyses, Industrial Hygiene program, and site specific training. Brian also routinely visits the site to assess current practices and condition and to ensure continuous improvement. Additional responsibilities include:

- Develop, assess, and continuously improve site safety plans and practices, including specific safety protocols to comply with supplemental EH&S requirements such as the Duke Health and Safety Handbook, Environmental Supplemental, and EHS Keys to Life.
- Develop, assess, and continuously improve site safety plans and practices to address the risks associated with the work being performed on site, as well as the environmental conditions and simultaneous operations, including trenching and excavation, hot work, work over and near water, heavy equipment, HAZWOPER, etc.
- Worked as an extension of the client's organization to provide assurance that the remedy was completed safely and consistent with client-specific requirements.
- Support on-site safety personnel in ensuring the health and safety of the general public, our staff, and our sub-contracted employees.
- Audits and visits site to ensure compliance with our internal policies and client-specific requirements.

DRAFT

BRIAN A. FERGUSON

Senior Health & Safety Manager

EDUCATION

MS, Geotechnical Engineering, Tufts University, Medford, Massachusetts
BS, Civil Engineering, State University of New York - Environmental, Science, and Forestry, Syracuse, New York
AS, Applied Science and Technology (Nuclear Engineering), Thomas A. Edison State College, Trenton, New Jersey

CERTIFICATIONS

BCSP Certified Safety Professional (#CSP-45145)
BCSP Associate Safety Professional (#ASP-31270)

PROFESSIONAL SOCIETIES

Associate Safety Professional – 2019
Order of the Engineer – 2000
Boston Society of Civil Engineers (BSCE)
American Society of Civil Engineers (ASCE)

SPECIAL STUDIES AND COURSES

American Concrete Institute – Certified Field Technician Certified Grade 1
Radiation Safety and Operations of Nuclear Testing Equipment – Troxler
40-Hour OSHA Hazardous Waste Operations Training (+ 8-Hour annual refresher)
10-Hour OSHA Construction training
Confined Space Entry Training
16-Hour Asbestos Operations and Maintenance
24-Hour Asbestos Inspector
Asbestos Inspector License (June 2018 and renewed Annually)

ENGINEERING EXPERIENCE

Brian has over 23 years of experience serving as a project engineer on a variety of real estate development projects. His project experience has included monitoring field investigations, performing construction oversight, performing due diligence, engineering analyses, performing geotechnical analyses, developing geotechnical recommendations, and preparing geotechnical reports, and project specifications.

As a project engineer, in addition to providing engineering design support, Brian has managed and participated in many field service activities. Field work has included construction monitoring and documentation of contractors' deep and shallow foundation-related construction, including slurry walls, caissons, pile driving, pile cap installation, earthwork, backfilling and compaction, installation of soldier pile and wood lagging support systems, installation of tie backs and rock anchors, reading inclinometers, conducting in-place field unit weight tests, tie-back load testing, seismograph installation, monitoring, and evaluating, and preparation of footing bearing surfaces. Other responsibilities have included site development activities, including placement of utilities and subgrade preparation for roads; observations and testing to determine that work is completed in compliance with contract documents; on-site soil management; sampling of soil and groundwater for chemical laboratory testing and conducting in situ field screening; maintenance of job records including pile driving logs, results of field density tests, records of caisson and footing installations; preparation of daily field reports; in contact with key personnel; and resolution of field related problems.

RELEVANT PROJECT EXPERIENCE

Fenway Center. Project engineer for the construction of laboratory space constructed over the Massachusetts Turnpike, two residential towers, and the Fenway Area consisting of 8 to 14 stories and multiple levels below grade. Construction responsibilities included coordination of construction monitoring, observing Support of Excavation (SOE) and footing installation, coordination of installation of Slurry Walls, assisting with project management, reviewing

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weekly field construction reports, reviewing, and responding to geotechnical design submittals, and attending project meetings.

Massachusetts Institute of Technology, The Schwarzman College of Computing Project. Project Engineer for a new approximately eight stories above ground and one story below ground building and contains approximately 189,000 gross square feet (gsf) of mixed-use space for: offices, research laboratory, academic, event, collaboration, meetings, café, convening, and associated services. Responsibilities included coordination of construction monitoring, observing SOE, micropile, and Caisson Installation, assisting with project management, reviewing weekly field construction reports, reviewing, and responding to geotechnical design submittals, and attending project meetings. Brian also was the main point of contact for construction-related issues with the project owner and contractors.

Massachusetts Institute of Technology, Graduate Housing Project. Project Engineer for construction of two new five- to eight- story residential buildings with a total gross floor space of approximately 261,000 square feet (sq ft). Responsibilities included coordination of construction monitoring, observing SOE, micropile, and Caisson Installation, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals, and attending project meetings. Brian was the main point of contact for construction-related issues with the project owner and contractors and conducted Health & Safety Audits of Haley & Aldrich personnel during construction.

Edwards Vacuum Project. Project Engineer for a new single-level 101,000-sq ft building with a mezzanine located in the south portion of the proposed building. Responsibilities included developing subsurface exploration program coordination, writing the Geotech Report, and coordinating field staff to observe construction activities, including mass excavation of approximately 100,000 cubic yards of soil, installation of spread footing, and construction dewatering. Brian assisted with project management, reviewing weekly field construction reports, reviewing, and responding to geotechnical design submittals, and attending project meetings. Brian was the main point of contact for construction-related issues with the project owner and contractors and conducted Health & Safety Audits of Haley & Aldrich personnel during construction.

St. Elizabeth's Hospital – **West Campus Forensic Evaluations, Washington, D.C.** Project Engineer for forensic evaluations on the adaptive reuse of former hospital buildings. Responsibilities included coordination of a field exploration program, including test borings and test pits to obtain subsurface information for project design and construction, overseeing multiple field personnel and subcontractors, assisting with project management, reviewing subcontractors invoices, reviewing and summarizing subsurface data, and writing data reports.

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NICOLE MOONEY

Assistant Project Manager | Geologist

EDUCATION

B.S., Earth and Environmental Science with a minor in Oceanography, University of Michigan-Ann Arbor

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)
8-Hour OSHA Hazardous Waste Worker Refresher Training (29 CFR 1910.120)
8-Hour OSHA HAZWOPER Supervisor for Construction Training
OSHA 10-Hour Construction Safety
OSHA 30-Hour Construction
NYC SST-307 8-Hour Fall Prevention for Construction
NYC SST-302 2-Hour Drug and Alcohol Awareness for Construction
DOT Hazmat Employee & RCRA Hazardous Waste Generator Training
American Red Cross Adult First Aid/CPR/AED Training and Bloodborne Pathogens Training
USACE Construction Quality Management for Contractors
Level I Antiterrorism Awareness Training

Nicole is a geologist with over four years of experience in site characterization and investigation, subsurface investigations, preparation of technical reports and work plans, and data collection and analysis. She has extensive experience conducting Phase I Environmental Site Assessments (ESAs), Phase II Environmental Site Investigations (ESIs), and other aspects of environmental due diligence. She has experience with preparation and overseeing execution of remedial investigation and actions at sites within the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) and the New York City Mayor's Office of Environmental Remediation (NYCOER). She has performed soil, groundwater, and soil vapor sampling events and has drafted various site investigation plans and reports.

RELEVANT PROJECT EXPERIENCE

Environmental Investigation, Site Characterization, and Remediation

340 Myrtle Development LLC, 340 Myrtle Avenue, Brooklyn, New York. As a project geologist, Nicole coordinated and managed implementation of the Remedial Action Work Plan (RAWP) at the approximately 8,828 square foot site enrolled in the NYSDEC BCP. The remedial action included excavation and off-site disposal of soil, installation of an active sub-slab depressurization system (including cover system), installation of injection wells, and reinstallation of permanent monitoring wells for post-remedy groundwater monitoring. Nicole was responsible for the preparation of the Final Engineering Report (FER) and the Site Management Plan (SMP) which are undergoing review by the NYSDEC. Construction for the new development is currently ongoing and, when completed, the site will be improved with a new eight-story mixed-use commercial and residential building with a full cellar level.

B Contractors Group, LLC, 711-713 East 214th Street, Bronx, New York. As a project geologist, Nicole was responsible for coordinating and managing the implementation of the NYCOER-approved Remedial Action Plan (RAP) and preparing the Remedial Closure Report (RCR) for the approximately 6,252 square foot site. The redevelopment included a new eight-story residential building with a full cellar level.

650 Southern Blvd Bronx LLC, 650 Southern Boulevard, Bronx, New York. As a project geologist, Nicole was responsible for preparation and implementation of the Remedial Investigation Work Plan (RIWP), which included the installation of eleven soil borings, seven permanent groundwater monitoring wells (some of which extended into

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bedrock), and seven soil vapor points, and the collection of soil, groundwater, and soil vapor samples. Nicole was also responsible for preparation of the Citizen Participation Plan (CPP), Remedial Investigation Report (RIR), and RAWP. The site is in the pre-construction phase.

Degraw Holdings LLC, 563 Sackett Street Site, Brooklyn, New York. As a project geologist, Nicole was responsible for due diligence during acquisition, including preparation of the Phase I ESA and Limited Phase II ESI. The initial Limited Phase II ESI and delineation sampling have been completed and the Limited Phase II ESI Delineation Report, Brownfield Cleanup Agreement (BCA) Major Amendment Application, and Supplemental Remedial Investigation Report (SRIR) are being drafted.

291 Wallabout Realty LLC, 291 Wallabout Street, Brooklyn, New York. As a project geologist, Nicole was responsible for the due diligence during acquisition of the property, including preparation of a Phase I ESA, Phase II ESI, BCP Application, and RIWP.

401 West 207th Realty LLC, 401 West 207th Street, New York, New York. As a project geologist, Nicole was responsible for oversight during implementation of the RAWP under the NYSDEC BCP. During remediation, Nicole observed and documented the excavation and proper disposal of on-site soil required for installation of the foundational elements. Nicole oversaw the proper cleaning and removal of two underground storage tanks encountered during excavation.

BCP Applications and Remedial Investigation Work Plans for NYSDEC. Nicole has prepared several BCP Application packages for various clients in New York State, which requires reviewing the site's history, including any previous investigation reports available, to assist with entry into the BCP to be remediated and redeveloped in accordance with applicable NYSDEC requirements. Nicole also prepares an RIWP to be submitted to the NYSDEC either concurrently or following submittal of the BCP Application for full investigation of the site to facilitate proper remedial action.

Excavation Oversight and CAMP Monitoring, Various Sites, Bronx, Brooklyn, and Queens, New York. As a project geologist, Nicole completed remedial oversight for several projects in the NYCOER cleanup program and NYSDEC BCP. Her responsibilities included excavation oversight, air monitoring, truck logging during off-site disposal of excavated materials, collection of endpoint and/or documentation samples, vapor barrier inspection, and oversight of installation of post-remedy groundwater monitoring wells.

Multiple Clients, Phase I ESAs and Due Diligence, Multiple Locations in New York. As a project geologist, Nicole completed several Phase I ESAs for buyers of properties in New York. She has extensive experience completing site reconnaissance and reviewing historical site documentation to identify potential environmental concerns at properties.

Multiple Clients, Phase II ESIs, Multiple Locations in New York. As a project geologist, Nicole conducted several Phase II ESIs for projects in New York, including oversight of the installation of soil borings, groundwater monitoring wells, and soil vapor points and the collection of soil, groundwater, and soil vapor samples. She assisted with the development of sampling plans based on previous environmental investigations and due diligence findings.

Former Grissom Air Force Base, Kokomo, Indiana. As a project geologist, Nicole was responsible for coordinating and performing quarterly groundwater sampling and/or Land Use Control (LUC) inspections in accordance with the deeds and Decision Documents for nine sites (FT001, FT002, SS190, SS035, SS053, SS058, LF003, LF004, and SS049) located on the 2,722-acre former Grissom Air Force Base under the Base Realignment and Closure (BRAC)/Environmental Construction Optimization Services (BECOS) program. Nicole was also responsible for the coordination and implementation of a Data Gap Investigation (DGI) at the SS035, SS053, and SS058 sites and a Site Investigation (SI) at the former Navy Skeet Range (site SR406). Nicole prepared LUC Inspection reports, Annual Groundwater Monitoring Reports, an SI Report, a DGI Report, and the Five-Year Review Report for this work.

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APPENDIX J
Proposed Remedial Action Project Schedule

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REMEDIAL ACTION PROJECT SCHEDULE
PROPOSED 227 WESTCHESTER AVENUE DEVELOPMENT SITE
223-225, 227 WESTCHESTER AVENUE 204, 206-208, 214-220 IRVING AVENUE
PORT CHESTER, NEW YORK
BCP SITE NO. C360253

Task	Duration (days)	Start	End	2026												2027											
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Submission of RAWP	0	7/15/2026	7/15/2026																								
Design, Rezoning and Permitting	109	7/15/2026	11/1/2026																								
NYSDEC & NYSDOH Review of RIR, SRIR & RAWP	207	2/5/2026	8/31/2026																								
45-Day Public Comment Period for RAWP	45	9/2/2026	10/17/2026																								
Issuance of Decision Document	14	10/17/2026	10/31/2026																								
Implementation of RAWP with Engineering Oversight	211	11/1/2026	5/31/2027																								
Preparation of FER and SMP (if required)	61	5/1/2027	7/1/2027																								
NYSDEC & NYSDOH Review of FER (and SMP, if required)	121	7/2/2027	10/31/2027																								
Soil Vapor Intrusion Evaluation	29	11/1/2027	11/30/2027																								
NYSDEC Issues COC	60	11/1/2027	12/31/2027																								

Notes:
1. Schedule is estimated and subject to change.
2. Implementation of RAWP does not include completion of building construction
3. NYSDEC - New York State Department of Environmental Conservation
4. NYSDOH - New York State Department of Health
7. SRIWP = Supplemental Remedial Investigation Work Plan
8. CPP = Citizen Participation Plan
9. SRIR = Supplemental Remedial Investigation Report
10. RIR = Remedial Investigation Report
11. RAWP - Remedial Action Work Plan
12. FER - Final Engineering Report
13. SMP - Site Management Plan
14. COC - Certificate of Completion
15. COC issuance estimated prior to December 31, 2027

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APPENDIX K
Odor Control Suppressant Safety Data Sheet

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SAFETY DATA SHEET

State Industrial Products
5915 Landerbrook Drive
Mayfield Heights, OH 44124
To Order Call: 1-866-747-2229

6935 Davand Drive
Mississauga, Ontario L5T 1L5
To Order Call: 1-800-668-6513

Royal Industrial Park, Bldg "M"
Local #5, Carr 869, km 1.5 Palmas
Cataño, P.R. 00962
To Order Call: 787-275-3185

State® Since 1911

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: BLANKET 510 WINTERGREEN
Product Description: A floating air freshener.
EPA Registration Number: NA

24 Hour Emergency CHEMTREC Number: 800-424-9300
MSDS Number: 123285
EPA Establishment Number: NA

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

FIFRA Hazard Classification:
Not Applicable

Acute toxicity; oral: Category 4
Skin corrosion/irritation: Category 3



Exclamation Mark

WARNING

Hazard Statements:
H302 Harmful if swallowed. H316_3 Causes mild skin irritation.

Precautionary Statements:
P270 Do not eat, drink or smoke when using this product. P264 Wash hands thoroughly after handling.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	CAS Number	Weight	ACGIH	OSHA
Methyl Salicylate	119-36-8	<12%	NE	NE

The exact percentages have been withheld as a trade secret.

4. FIRST AID MEASURES

P332+P313 IF SKIN irritation occurs: Get medical attention. P301+P312 IF SWALLOWED: call a POISON CENTER or physician if you feel unwell.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

5. FIRE FIGHTING MEASURES

Flashpoint(Method): >200°F [93°C]
Lower Explosive Limit(LEL): NA Upper Explosive Limit(UEL): NA Autoignition Temperature: NA
Flammable Properties: None Expected
Extinguishing Media: Carbon Dioxide, dry chemical, foam.
Fire Fighting Instructions: Wear a self-contained breathing apparatus with full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Ventilate area. Halt spill at source, dike and contain spill. Flush with plenty of water to drain. Dispose of in accordance with Federal, State and Local Regulations regarding waste disposal.

7. HANDLING AND STORAGE

P402 Store in dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use general or local ventilation to keep exposure levels below exposure limits.
Personal Protective Equipment:
Respiratory: Normal room ventilation is adequate. Use a NIOSH/MHSA approved respirator if exposure limits are exceeded.
Eye: Wear approved safety glasses or goggles with unperforated eyeshields where splashing may occur.
Skin: For repeated or prolonged contact, wear chemically impervious gloves such as Nitrile.
Other: An emergency eyewash station or source of clean potable water should be available in case of accidental eye contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Green
Physical State: Liquid.

Odor: Mint
pH: NA

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Solubility in Water: Insoluble
Boiling Point: NA
Freezing Point: NA
Melting Point: NA

Diluted pH: NA
Specific Gravity: 0.902
VOC Content: <3%

10. STABILITY AND REACTIVITY

Stability: Stable
Hazardous Polymerization: Will not occur.
Conditions to Avoid: Do not mix with any other chemicals.
Incompatibility: Solvents, caustics, acids or oxidizers
Hazardous Decomposition Products: Carbon Dioxide, Carbon Monoxide

11. TOXICOLOGICAL INFORMATION

This product contains no ingredient at 0.1% or greater that is listed as a human carcinogen.

Hazardous Ingredients	CAS Number	LD50	LC50
Methyl Salicylate	119-36-8	NE	NE

12. ECOLOGICAL INFORMATION

The product is not expected to be hazardous to the environment.

13. DISPOSAL CONSIDERATIONS

P501 Dispose of container in accordance with all Federal, State and Local Regulations regarding waste disposal.

14. TRANSPORT INFORMATION

DOT Shipping Data: Not Regulated
Canadian TDG: Not Regulated
For International Shipments by Air: Not Regulated
For International Shipments by Vessel: Not Regulated

15. REGULATORY INFORMATION

TSCA: All ingredients in this product are listed or exempt from listing on the TSCA Chemical Inventory.
CEPA: All ingredients in this product are listed or exempt from listing on the Canadian DSL/NDSL.
Proposition 65: This product contains no listed substances known to the State of California to cause cancer, birth defects or reproductive harm, at reportable levels under the statute.
SARA 313: This product contains no toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of1986 (40CFR372).
VOC: <3%

HMIS RATING: HEALTH = 1 FLAMMABILITY = 0 REACTIVITY = 0 PPE = B

WHMIS RATING: See hazards identified in Section 2 above.

16. OTHER INFORMATION

NA = Not Available or Not Applicable
NE = Not Established

Read and follow all label directions and precautions before using the product. This product is intended for industrial and institutional use only. NOT FOR HOUSEHOLD USE OR RESALE. KEEP OUT OF THE REACH OF CHILDREN. While we believe that the data contained herein is factual and the opinions expressed are those of qualified experts, the data are not to be taken as a warranty or representation for which the company assumes legal responsibility. They are offered solely for your consideration, investigation, and verification. Any use of these data and information must be determined by the user to be in accordance with applicable Federal, State, and Local Laws and regulations.

Prepared On: 07/02/2018 Replaces: 08/11/2014

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FICHE SIGNALÉTIQUE DE SÉCURITÉ

State Industrial Products
5915 Landerbrook Drive
Mayfield Heights, OH 44124
To Order Call: 1-866-747-2229

6935 Davand Drive
Mississauga, Ontario L5T 1L5
To Order Call: 1-800-668-6513

Royal Industrial Park, Bldg "M"
Local #5, Carr 869, km 1.5 Palmas
Cataño, P.R. 00962
To Order Call: 787-275-3185

1. IDENTIFICATION DU PRODUIT CHIMIQUE ET DE LA SOCIÉTÉ

Nom du produit : BLANKET 510 WINTERGREEN
Description du produit : Un refraîchissant d'air de flottement.
EPA Registration Number : NA

Numéro d'urgence CHEMTREC 24 h/24 : 800-424-9300
Numéro de la fiche signalétique de produit : 123285
EPA Establishment Number : NA

2. IDENTIFICATION DES DANGERS

VUE GÉNÉRALE D'URGENCE



Point
d'exclamation

AVERTISSEMENT

Mention de danger:
H302 Nocif en cas d'ingestion. H316_3 Provoque une légère irritation de la peau.

Conseils de prudence:
P270 Ne pas manger, boire ou fumer en manipulant ce produit. P264 Se laver soigneusement la peau après manutention.

3. COMPOSITION/INFORMATION SUR LES INGRÉDIENTS

Ingrédients dangereux	Numéro CAS	Poids	ACGIH	OSHA
salicylate de méthyle	119-36-8	<12%	NE	NE

The exact percentages have
been withheld as a trade secret.

4. PREMIERS SOINS

P332+P313 En cas d'irritation cutanée: consulter un médecin. P301+P312 EN CAS D'INGESTION : Appeler un CENTRE ANTIPOISON ou un médecin en cas de malaise. P301+P330+P331 EN CAS D'INGESTION : Rincer la bouche. NE PAS faire vomir.

5. EN CAS D'INCENDIE

Point d'éclair : >200°F [93°C]
Limite d'explosivité inférieure (LIE) : NA Limite d'explosivité supérieure (LSE) : NA
Température d'auto-inflammation : NA
Propriétés d'inflammabilité : aucune présumée
Moyens d'extinction : Dioxyde de carbone, poudre chimique, mousse extinctrice.
Lutte contre l'incendie : Porter un appareil respiratoire autonome et des vêtements de protection complète.

6. ÉMISSIONS ACCIDENTELLES

Ventiler la zone. Interrompre le déversement à la source, l'endiguer et le contenir. Évacuer à grande eau. Éliminer conformément aux réglementations fédérale, provinciale et locale en vigueuren matière d'élimination des déchets

7. MANIPULATION ET CONSERVATION

P402 Stocker dans un endroit sec.

8. EXPOSITION/PROTECTION INDIVIDUELLE

Moyens techniques : Assurer une ventilation forcée adéquate pour maintenir l'exposition en deçà de la valeur limite d'exposition.
Équipement de protection individuelle :
Respiratoire : La ventilation normale est suffisante. Si les limites d'exposition sont dépassées, utiliser un appareil respiratoire agréé NIOSH/MSHA.
Oculaire : Porter des lunettes de protection homologuées munies d'écrans latéraux non perforés.
Cutanée : En cas de contact répété ou prolongé, porter des gants de protection chimique.
Autre : Un bassin oculaire d'urgence ou une source d'eau potable propre devrait être prêt à être utilisé en cas de contact oculaire accidentel.

9. PROPRIÉTÉS PHYSIQUES ET CH IMIQUES

Aspect : Vert
État de la matière : Liquide
Solubilité dans l'eau : Insoluble
Contenu de VOC : <3%

Odeur : Menthe
Concentrer pH : NA
Dilué pH : NA
Densité : NA
Point de congélation/fusion : NA / NA

10. STABILITÉ ET RÉACTIVITÉ

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Stabilité : Stable
Polymérisation dangereuse : Ne se produira pas.
Conditions à éviter : Ne pas mélanger avec d'autres produits chimiques.
Incompatibilité : Les solvants, les produits caustiques, acides ou oxydants
Produits de décomposition dangereuse : Monoxyde de carbone, dioxyde de carbone.

11. INFORMATIONS TOXICOLOGIQUES

Ce produit ne contient aucun ingrédient déclaré cancérogène humain à des teneurs supérieures ou égales à 0,1 %.

Ingrédients dangereux	Numéro CAS	LD50	LC50
salicylate de méthyle	119-36-8	NE	NE

12. INFORMATIONS ÉCOLOGIQUES

Le produit ne devrait pas être dangereuse pour l'environnement.

13. DESTRUCTION

P501 Éliminer le contenant conformément à tous les règlements fédéraux, d'État et locales en matière d'élimination des déchets.

14. TRANSPORT

INFORMATION DE TRANSPORT D.O.T. : non réglementé.
TMD AU CANADA : non réglementé.
Pour les expéditions internationales par Air : non réglementé.
Pour les expéditions internationales par Vessel : non réglementé.

15. INFORMATIONs RÉGLEMENTAIRES

TSCA : Tous les ingrédients contenus dans ce produit figurent ou sont exempts de figurer sur l'inventaire du TSCA.
CEPA : Tous les ingrédients contenus dans ce produit figurent ou sont exempts de figurer sur la LIS et la LES (Canada).
Proposition 65 : Ce produit ne contient aucune substance chimique reconnus dans l'État de Californie pour causer le cancer, des malformations congénitales ou d'autres problèmesde reproduction.
SARA 313 : Ne produit ne contient aucune substance chimique toxique devant être déclarée aux termes de la section 313 de la loi Emergency Planning andCommunity Right-To-Know Act de 1986 (40 CFR 372.65C).

CLASSIFICATION HMIS : SANTÉ = 1 INFLAMMABILITÉ = 0 RÉACTIVITÉ = 0 EPS = B

CLASSIFICATION SIMDUT : Voir les risques identifiés dans la section 2 ci-dessus.

16. AUTRES INFORMATIONS

néant = Non disponible ou sans objet
n.e. = Non établi

Lire et suivre toutes les instructions et les précautions d'emploi figurant sur l'étiquette avant d'utiliser le produit. Ces produits sont réservés uniquement à l'usage industriel et par les collectivités. CES PRODUITS NE SONT PAS DESTINÉS À L'USAGE DOMESTIQUE OU À LA REVENTE. GARDER HORS DE LA PORTÉE DES ENFANTS. Bien qu'à notre avis les informations énoncées ci-dessus soient réelles et que le jugement exprimé soit celui d'experts qualifiés, elles ne doivent pas être considérées comme une garantie ou une déclaration pour lesquelles la société assume une responsabilité légale. Ces informations sont données uniquement pour examen, investigation et vérification. L'utilisation des ces informations doit être déterminée par l'utilisateur conformément à la réglementation et à la loi fédérales, d'État et régionales applicables.

INFORMATIONS SUR LA SANTÉ ET LA SÉCURITÉ : (216) 861-7114

Date de Préparation: 07/02/2018 Remplace : 08/11/2014

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PLANILLA DE DATOS DE SEGURIDAD

State Industrial Products
5915 Landerbrook Drive
Mayfield Heights, OH 44124
To Order Call: 1-866-747-2229

6935 Davand Drive
Mississauga, Ontario L5T 1L5
To Order Call: 1-800-668-6513

Royal Industrial Park, Bldg "M"
Local #5, Carr 869, km 1.5 Palmas
Cataño, P.R. 00962
To Order Call: 787-275-3185

State® Since 1911

1. PRODUCTO QUÍMICO Y DATOS DE LA COMPAÑÍA

Nombre del producto: BLANKET 510 WINTERGREEN
Descripción del producto: Un ambientador de aire flotante.
EPA Registration Number: NA

Núm. CHEMTREC las 24 horas: 800-424-9300
Número MSDS: 123285
EPA Establishment Number: NA

2. ENUMERACIÓN DE PELIGROS

DESCRIPCIÓN GENERAL DE LAS SITUACIONES DE EMERGENCIA



Signo de exclamación

ADVERTENCIA

H302 Nocivo en caso de ingestión. H316_3 Puede causar irritación leve de la piel.

P270 No comer, beber ni fumar durante su utilización. P264 Lavar la piel meticulosamente después de la manipulación.

3. COMPOSICIÓN/INFORMACIÓN SOBRE LOS COMPONENTES

Componentes peligrosos	Número CAS	Peso	ACGIH	OSHA
salicilato de metilo	119-36-8	<12%	NE	NE

The exact percentages have been withheld as a trade secret.

4. MEDIDAS DE PRIMEROS AUXILIOS

P332+P313 En caso de irritación cutánea: Consultar a un médico. P301+P312 EN CASO DE INGESTIÓN: llamar a un CENTRO DE TOXICOLOGÍA o médico SI se siente indispuesto. P301+P330+P331 EN CASO DE INGESTIÓN: Limpie la boca. NO provoque el vómito.

5. MEDIDAS PARA COMBATIR INCENDIOS

Pto. inflamabilidad: >200ºF [93ºC]
Límite explosivo inferior (LEL): NA Límite explosivo superior (UEL): NA Temperatura de autoignición: NA
Inflamabilidad: No se espera ninguna.
Medio extinguidor: Dióxido de carbono, productos químicos en polvo, espuma.
Instrucciones para combatir el fuego: Use un aparato de respiración independiente con indumentaria de protección total.

6. MEDIDAS EN CASO DE DERRAME ACCIDENTAL

Ventile el área. Coloque una barrera física y contenga el derrame en el propio sitio de origen. Limpie el derrame con agua en abundancia y vierta todo por el drenaje. Obedezca todos losreglamentos federales, estatales y locales relativos a la disposición final de residuos.

7. MANIPULACIÓN Y ALMACENAMIENTO

P402 Almacenar en un lugar seco.

8. CONTROL DE EXPOSICIÓN/PROTECCIÓN PERSONAL

Controles de ingeniería: Proveer suficiente ventilación mecánica para mantener la exposición por debajo del límite de concentración máxima (Threshold Limit Value, TLV).
Equipo de protección personal:
Respiratorio: Si el límite de exposición en el lugar de trabajo es excedido, se aconseja el uso de un respirador de aire ante la ausencia de control ambiental.
Ojos: Use gafas protectoras o gafas con protección lateral sin perforaciones aprobadas.
Piel: Si el contacto fuera prolongado o repetido, use guantes resistentes a productos químicos.
Otros: Una estación de lavaojos de emergencia o una fuente de agua potable limpia debe estar disponible en caso de contacto accidental con los ojos.

9. PROPIEDADES FÍSICAS Y QUÍMICAS

Aspecto: Verde
Estado de agregación: Líquido
Solubilidad en agua: Insoluble
Contenido de VOC: <3%

Olor: Menta
Concentrarse pH: NA
Diluido pH: NA
Peso específico: 0.902
Punto de congelación/fusión: NA / NA

10. ESTABILIDAD Y REACTIVIDAD

Estabilidad: Estable
Polimerización peligrosa: No ocurrirá.

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Condiciones a evitar: No mezcle con otros productos químicos.
Incompatibilidad: Disolventes, productos cáusticos, ácidos u oxidantes
Productos de descomposición peligrosos: Monóxido de carbono, Dióxido de carbono.

11. INFORMACIÓN TOXICOLÓGICA

Este producto no contiene ningún componente en 0.1% o más del que se señale como un carcinógeno humano.

Componentes peligrosos	Número CAS	LD50	LC50
salicilato de metilo	119-36-8	NE	NE

12. INFORMACIÓN ECOLÓGICA

El producto no se espera que sea peligroso para el medio ambiente.

13. SUGERENCIAS PARA SU DISPOSICIÓN FINAL

P501 Elimine el recipiente en conformidad con todas las regulaciones federales, estatales y locales relacionadas con la eliminación de residuos.

14. INFORMACIÓN SOBRE TRANSPORTE

DATOS DE EMBARQUE SEGÚN EL DOT (Ministerio de Transporte de los EE.UU.): No se ha regulado.
TDG CANADIENSE: Producto no regulado. No se ha regulado.
Para los envíos internacionales de Air: No se ha regulado.
Para los envíos internacionales de Vessel: No se ha regulado.

15. INFORMACIÓN SOBRE REGLAMENTOS

TSCA: Todos los químicos de este producto están catalogados o están exentos de ser catalogados en el inventario químico de la Ley de Control de Sustancias Tóxicas(Toxic Substances Control Act, TSCA).
CEPA: Todos los químicos de este producto están catalogados o están exentos de ser catalogados en el DSL/NDSL canadiense.
Propuesta 65: Este producto no contiene sustancias registradas en el Estado de California como causante de cáncer, defectos de nacimiento u otros daños reproductivos.
SARA 313: Este producto no contiene sustancias tóxicas sujetas a los requisitos de información del Artículo 313 de la ley de 1986 (40 CFR 372.65) de Planeamiento anteemergencias y Derecho a Estar Informado de la Comunidad.

CLASIFICACIÓN HMIS: SALUD = 1 INFLAMABILIDAD = 0 REACTIVIDAD = 0 EQUIPO DE PROTECCIÓN PERSONAL= B

CLASIFICACIÓN WHMIS: Ver los riesgos identificados en la Sección 2 anterior.

16. OTRA INFORMACIÓN

NA = No disponible o No se aplica
NE = No se ha establecido

Antes de utilizar este producto, lea y obedezca todas las instrucciones y precauciones. Este producto fue formulado para utilizarse únicamente en el ámbito industrial e institucional. NO ES PARA REVENTA NI PARA USO EN EL ÁMBITO HOGAREÑO. MANTENGA FUERA DEL ALCANCE DE LOS NIÑOS.
Si bien se considera que los datos contenidos en esta planilla son correctos y las opiniones expresadas son las de calificados expertos, los datos no deberán considerarse como garantía ni como declaración por las que la compañía asume responsabilidad legal alguna. Estos datos se brindan sólo para evaluación, investigación y verificación por parte del cliente. El usuario es quien deberá determinar si cualquier uso que se dé a estos datos e información está de acuerdo con las leyes y reglamentos federales, estatales y locales aplicables.

INFORMACIÓN DE SEGURIDAD Y SALUD: (216) 861-7114

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