REMEDIAL ACTION WORKPLAN

Brownfield Cleanup Program

46-70 McLean Avenue Auto Repair Laundry
46-70 McLean Avenue, Yonkers, New York
Westchester County Tax Map Designation: *Section 1, Block 203, Lot 51.61*
NYSDEC BCP Site Number: C360211

Prepared for:

SNL Yonkers, LLC
3333 New Hyde Park Road, Suite 200
Lake Success, New York, 11042

Submitted to:

New York State Department of Environmental Conservation
Chief, Site Control Section
Region 3, Division of Environmental Remediation
625 Broadway, Albany, NY 12233-7020

July 2023
IEC Project Number: 15514

IMPACT ENVIRONMENTAL ENGINEERING AND GEOLOGY, PLLC

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CERTIFICATION

I, Xin Yuan, P.E., certify that I am currently a NYS registered professional engineer as defined in 6 New York Codes, Rules, and Regulations (NYCRR) Part 375 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).

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.

NYS Professional Engineer#	**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.

ACRONYMS AND ABBREVIATIONS

AMSL	Above Mean Sea Level	**OER**	Office of Environmental Remediation
AST	Aboveground Storage Tank	**ORP**	Oxidation-Reduction Potential
ASTM	American Society for Testing and Materials	**PPM**	Parts Per Million
AOC	Area of Concern	**PPB**	Parts Per Billion
ASP	Analytical Services Protocol	**PCB**	Poly Chlorinated Biphenyl's
BCP	Brownfield Cleanup Program	**PAH**	Poly Aromatic Hydrocarbons
BGS	Below Grade Surface	**PCE**	Tetrachloroethene
BTEX	Benzene Toluene Ethylbenzene and Xylenes	**PGW**	Protection of Groundwater
BER	Business Environmental Risk	**PID**	Photo Ionization Detector
CPP	Citizen Participation Plan	**PFAS**	Per- and Polyfluoroalkyl Substances
CO	Certificate of Occupancy	**PVC**	Polyvinyl Chloride
CSM	Conceptual Site Model	**QAQC**	Quality Assurance Quality Control
cVOC	Chlorinated Volatile Organic Compound	**QAPP**	Quality Assurance Project Plan
CREC	Controlled Recognized Environmental Condition	**RIWP**	Remedial Investigation Work Plan
CEQR	City Environmental Quality Review	**RCRA**	Resource Conservation and Recovery Act
CAMP	Community Air Monitoring Program	**REC**	Recognized Environmental Condition
CLP	Contract Laboratory Program	**RAO**	Remedial Action Alternative
DER	Division of Environmental Remediation	**RAWP**	Remedial Action Work Plan
DOB	Department of Buildings	**RIR**	Remedial Investigation Report
DNAPL	Dense Non-Aqueous Phase Liquid	**SF**	Square Feet
DUSR	Data Usability Summary Report	**SHWS**	State Hazardous Waste Site
DO	Dissolved Oxygen	**SVOC**	Semi-Volatile Organic Compound
EDR	Environmental Data Resources	**SCO**	Soil Cleanup Objective
EIS	Environmental Impact Statement	**SSDS**	Sub-Slab Depressurization System
ELAP	Environmental Laboratory Accreditation Program	**TAGM**	Technical and Administrative Guidance Memorandum
ESA	Environmental Site Assessment	**TCE**	Trichloroethylene
FWRIA	Fish and Wildlife Risk Impact Analysis	**TCL**	Target Compound List
FBG	Feet Below Grade	**TIC**	Tentatively Identified Compound
AWQS	Ambient Water Quality Standard	**TAL**	Target Analyte List
GPR	Ground Penetrating Radar	**USGS**	United States Geological Survey
GPS	Global Positioning System	**USFWS**	United states Fish and Wildlife Service
HREC	Historical Recognized Environmental Condition	**µg/kg**	Micrograms Per Kilogram
HASP	Health and Safety Plan	**µg/m³**	Micrograms Per Cubic Meter
LLC	Limited Liability Corporation	**USCS**	Unified Soil Classification System
MW	Monitoring Well	**UST**	Underground Storage Tank
MS	Matrix Spike	**USEPA**	United States Environmental Protection Agency
MSD	Matrix Spike Duplicate	**VCP**	Voluntary Cleanup Program
NYSDEC	New York State Department of Environmental Conservation	**VOC**	Volatile Organic Compound
NYC	New York City		
NYCDEP	New York City Department of Environmental Protection		
NYSDOH	New York State Department of Health		
NYCRR	New York Codes Rules and Regulations		
NAPL	Non-Aqueous Phase Liquid		
NYSDOT	New York State Department of Transportation		

1 INTRODUCTION

Impact Environmental Engineering and Geology, PLLC (Impact) on behalf of SNL Yonkers LLC (the "Volunteer"), has prepared this On-Site Remedial Action Work Plan (RAWP) for the approximately 0.87-acre property located at 46-70 McLean Avenue, within the Town of Yonkers, Westchester County, New York (the "Site"). The Site is in the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) as BCP Site No. C360211. The Site is currently unoccupied with demolition and rehabilitation underway.

SNL Yonkers LLC applied to the NYSDEC BCP in February 2021, as a Volunteer, and was accepted into the program as a Volunteer on May 11, 2021, and Site No. C360211 was assigned to the Site.

This RAWP summarizes the nature and extent of contamination as determined from data gathered during previous investigations and the Remedial Investigation (RI), performed in May 2022. The RAWP provides an evaluation of a Track 1 cleanup and other applicable remedial action alternatives, their associated costs, and the recommended and preferred remedy.

This RAWP describes and evaluates the remedy to ensure it will be protective of human health and the environment by achieving the Remedial Action Objectives (RAOs) identified for the Site. The proposed Track 2 remedy, which will achieve 6 NYCRR Part 375 Restricted Residential Soil Cleanup Objectives (RR SCOs), will consist of:

- Interim Remedial Measures
- Remedial design
- Excavation
- Vapor Barrier/Composite Cover Installation
- Environmental Easement
- Site Management Plan

The preferred remedy is protective of public health and the environment, provides long term effectiveness and permanence by reducing toxicity, mobility, and volume of contamination, provides protective guidance for Site workers, and can be readily implemented. The remedy described in this document is consistent with the procedures defined in DER-10 and complies with all applicable standards, criteria, and guidance.

1.1 Site Description

The Site consists of a single parcel of land approximately 0.87-acres in size which is located about 0.55 miles west of the Saw Mill River Parkway North (refer to **Plate 1**), and situated on the northwest corner of McLean Avenue and Van Cortlandt Park Avenue. The Site consists of a single parcel of land assigned City of Yonkers Tax Map Designation: Section 1, Block 203, and Lot 51.61 (formerly Lots 51, 57, 59, and 61), and is in an area composed of commercial and residential development along collector and local roadways, respectively, along with two adjacent Public Parks (Sutherland Park to the north and Pelton Park to the east) within a historically commercial and residential area (refer to Plate 2). The Site has a CM zoning designation for Commercial, Storage, and Light Manufacturing uses.

Currently, the Site consists of a single two-story unoccupied building with a partial former sub-grade boiler room located in the northeast section of the building. The referenced building The portion of the building that fronts along McLean Avenue was previously composed of six (6) commercial units: 46 McLean Avenue (formerly occupied by JS Garage); 48 McLean Avenue (formerly occupied by Simax Transmissions); 50 McLean Avenue (formerly occupied by Claudio Transmissions); 60 Mclean Avenue Suite 1 (formerly occupied by Victor and Rene); 60 McLean Avenue Suite 2 (formerly occupied by VP Tires); and 70 McLean Avenue (formerly occupied by Pizza Barn). The second story of the building that extends into the northern segment of the Site is accessible via ramp or stairwell from McLean Avenue and is addressed 60 McLean Avenue Suite 200. This area was predominantly inactive storage space for former occupant, including collectible dolls and toys, frames, leather goods, office supplies, antiquated printing machines or vacant space. A small portion of the 2nd floor was, until July 2022, still operable and utilized for heating sealing to customize jerseys, sweatshirts, and performance wear. The building encompasses the entire Lot and has a footprint of approximately 37,897 square feet (SF). An Existing Site Plan is included as **Plate 2**.

The building currently receives electrical service from Con Edison, potable water from the City of Yonkers Water Bureau, while sanitary waste is reportedly handled by the City of Yonkers Sewer Department. The property does not reportedly receive natural gas service. Storm water runoff for the Site is handled via the municipal storm water drainage system located along both McLean Avenue and Van Cortland Park Avenue.

1.2 Redevelopment Activities

The two-story existing warehouse building will be converted to a Self-Storage facility. The proposed redevelopment includes maintaining the existing facade, but removal of the existing roof and interior floor framing. Asbestos abatement was completed in 2022 on the roof and prior to the start of demolition. The existing slab on grade will be removed in its entirety and new haunch footings and slab on grade will be installed for the proposed addition of a 3rd floor level. New steel and bearing walls will be installed on the lower floors to accommodate the proposed addition of the 3rd floor. The existing structure includes a ramp from McLean Avenue to the 2nd floor, which will be removed as the 2nd floor is converted to self-storage. Two new drive-in loading bays will be added to the ground

floor, along with two new elevators which will give access to the 2nd and 3rd floors from the loading bays which will be accessible from Mclean Avenue. The existing pizza parlor at the ground level will be converted to a self-storage office which will include a reception area and bathrooms. The remaining building will be strictly used for self-storage operations (**See Appendix A** for Site Redevelopment Plans and **Appendix B** for Site Survey). The proposed construction will include all new plumbing, which will be routed to the existing street sewage connections. The electric system is being fully replaced as well from the Consolidated Edison connection in the street. The building will be fully climate controlled using an electric heat pump system. Selective demolition and development commenced in October 2022 and will be complete by December 2023.

1.3 Surrounding Properties

The surrounding land parcels have a combination of residential, commercial, and municipal uses. Commercial uses are predominantly along collector roadways. The Site is bordered to the north by Sutherland Park, to the east by Van Cortland Park Avenue followed by Pelton Park, to the south by McLean Avenue followed by an active gasoline station and auto repair shop (Global Automotive), a food distribution center and several single-family residential dwellings, and to the west by McLean Avenue and several commercial properties (including Advance Auto Parts, Chase Bank, Hollywood Florist, and Malecon Restaurant).

While the property will be redeveloped into a self-storage facility, the redevelopment will retain the exterior façade of the current commercial building to maintain the current aesthetic of the neighborhood.

Based on a review of available databases, IEEG has identified the following sensitive receptors, such as hospitals, day care facilities, or schools, in the vicinity of the Site. No sensitive receptors were identified within a 500-foot radius of the Site:

<u>Day Care Facilities</u>

- Cookies-n-Apple Juice - 37 Cornell Avenue #2468 – 676 feet ESE
- New Beginnings Group Daycare - 112 McLean Avenue – 656 feet ESE
- Elizabeth's' Group Family Day Care - 23 Bruce Avenue – 737 feet SW
- Annabelle's Group Family Day Care - 57 Radford Street – 617 feet SW
- Mamaena Daycare Inc - 12 Randolph Street – 700 feet SW
- Nana Carmen Family Group Daycare - 34 Cliff Avenue – 1,320 feet W
- Crayola Kid LLC - 20 Wolffe Street – 1,242 feet SSE
- Ericka's Group Day Care - 57 Radford Street #2R – 617 feet SW
- Lala's Daycare - 19 Bruce Avenue – 800 feet SW
- Blessed Kiddies Daycare – 51 Cliff Avenue – 1,500 feet WSW
- Watch and Learn Group Family Weecare – 200 Valentine Lane #1I – 2,000 feet SW

Schools

- Eugino Maria De Hostos Microsociety school – 75 Morris Street, Yonkers – 2,175 feet NW
- Pearls Hawthorne school - 350 Hawthorne Ave – 2,540 feet W
- St Peters School - 204 Hawthorne Avenue – 3,460 feet NW
- PS 13 Annex – 195 McLean Ave – 2,000 feet SSE
- Scholastic Academy for Academic Excellence - 77 Park Hill Ave #4822 – 3,200 feet N
- Yonkers Middle High School – 150 Rockland Avenue – 3,425 feet NE
- Montessori School 27 – 132 Valentine Lane – 2,920 feet SW
- Cedar Place Elementary School - 20 Cedar Place -2,735 feet NNW

Hospitals

- St Joseph's Medical Center - 127 South Broadway - 0.80 miles.

2 DESCRIPTION OF REMEDIAL INVESTIGATIVE FINDINGS

The previous environmental subsurface investigations completed at the Site have provided documentation of impacts to vadose zone soil, soil vapor and groundwater at select areas. The objective of the RI was to delineate the extent of contamination in soil, groundwater, and soil vapor such that a qualitative human health exposure assessment can be developed, and a remedial action work plan can be designed for the Site.

2.1 Previous Investigation Summary

Structural Engineering Technologies, P.C. (SET) Phase I ESA, October 2, 2018

Below is a summary of the findings of the SET Phase I ESA:

- The historic use of the Property as a printing company from 1951 to at least 1956, as Willow Laundry Company in 2010 and as various auto repair facilities from 1987 to the present time. Since the use and storage of hazardous chemicals and petroleum products used by these facilities is unknown their historic presence should be considered a REC.
- The presence of a Potential Vapor Encroachment Condition from the adjacent property to the south – The Unnamed Gasoline Station. This unnamed gasoline station is associated with four closed NYSDEC Spills. One of the spills is reported to have impacted the groundwater and the three other spills are reported to have impacted the soil. Since the unnamed gasoline station is located within 200 feet of the Property there is a potential for the closed NYSDEC spills to impact upon the soil vapor quality beneath the Property. Therefore, the presence of the adjacent gasoline station should be considered a potential vapor encroachment condition (PVEC).
- The presence of an active UST in the eastern portion of the Site. The UST may be impacting upon the environmental quality of the Property and its presence should therefore be considered a REC.
- The listing of closed NYSDEC Spill # 93-10281 for the Property. The spill is related to the release of petroleum during a fuel oil delivery to the underground fuel oil storage tank. The database indicates the spill was cleaned up immediately. The presence of a closed NYSDEC associated with the Property should be considered an HREC and no further action is required regarding this spill.

Structural Engineering Technologies, P.C. (SET) Phase II ESA, April 22, 2020

Below is a summary of the SET Phase II ESA:

- A Ground Penetrating Radar (GPR) survey was performed in accessible areas of the Site. One anomaly indicative of the 5,000-gallon fuel oil UST was identified in the parking garage ramp at 60 McLean Avenue. The tank is buried in the parking garage ramp and is not located in the basement.
- Eight (8) soil probes (designated SP-1 through SP-7 and SP-9) were installed by PG Environmental Corp with a Geoprobe. The soil probes were installed to investigate the historic use of the site as a suspect laundry and printing facility, the current and historic use of the site as an auto repair facility and the presence of the 5,000-gallon UST.
- Soil probe SP-1 was installed at 46 McLean Avenue, soil probe SP-2 and SP-3 were installed at 48 McLean Avenue,

soil probe SP-4 was installed at 50 McLean Avenue, soil probe SP-5 was installed at 60 McClean Avenue at the Tire Shop, soil probe SP-6 was installed at 60 McLean Avenue at the southern side of the parking garage ramp, soil probe SP-7 was installed to the south of the 5,000-gallon UST and soil probe SP-9 was installed in the basement directly to the north of the 5,000-gallon UST.

- The soil probes were installed until the groundwater table or refusal was encountered. Refusal was encountered at less than 1 foot below grade at SP-2, SP-3, and SP-4. Several attempts were made to install the probes in nearby locations; however, after three failed attempts at each location, it was determined that bedrock was present directly beneath the slab in the western portion of the site and soil probes could not be installed within the eastern portion of 46 McLean Avenue, throughout 48 McLean Avenue and throughout 50 McLean Avenue; therefore, soil samples were not collected from these areas.
- Soil probes SP-1, SP-5 and SP-6 were installed until groundwater was encountered at 15 feet below grade. Soil probes SP-7 and SP-9 were installed to 5 feet below grade. Refusal was encountered at 5 feet below grade in SP-7 and SP-9 was intended to investigate the area to the north of the UST. Since SP-9 was present in the basement below the UST depth it was only installed to 5 feet. A total of five (5) soil samples were submitted for laboratory analysis.
- The groundwater investigation consisted of the installation and sampling of two temporary monitoring wells designated MW-5 and MW-7. Groundwater was encountered at 10 feet below grade in MW-5 and MW-8. Monitoring well MW-5 was installed at 60 McLean Avenue in the tire shop. Monitoring well MW-8 was installed at 60 McLean Avenue in the southern portion of the parking garage ramp. Two (2) groundwater samples were submitted for laboratory analysis.
- A total of six sub slab probes (designated SV-1 to SV-6) were installed during the investigation with a Geoprobe. It should be noted that the SET report incorrectly states that SV-7 was one of the collected samples. Following a review of the Sample Location Plan, Tabulated Soil Vapor results, and raw analytical data report, IEC concluded that SV-7 was not one of the collected samples. The sub-slab probes were installed beneath the foundation slab. Sub-Slab SV-1 was installed at 46 McLean Avenue, Sub-Slab Vapor Probes SV-2 and SV-3 were installed at 48 McLean Avenue, Sub-Slab Vapor Probe SV-4 was installed at 50 McLean Avenue, Sub-Slab Vapor Probe SV-5 was installed at 60 McLean Avenue and Sub-Slab Vapor Probe SV-6 was installed at the southern portion of the parking garage ramp. Additionally, two indoor air samples (designated IA-1 and IA-2) and one outdoor air sample (designated OA-1) were collected during the investigation.
- Volatile organic compounds (VOCs) were detected in SP-9, 2.5 to 5 feet at concentrations exceeding their respective UUSCO. Acetone was detected in SP-1 (7.5 to 10 feet), SP-5 (5 to 7.5 feet), SP-6 (7.5 to 10 feet) and SP-7 (2.5 to 5 feet) at concentrations exceeding its respective method detection limit (MDL) but less than its UUSCO (and Protection of Groundwater standard (PGW)) of 0.05 mg/kg. No other VOCs were detected in SP-1 (7.5 to 10 feet), SP-5 (5 to 7.5 feet), and SP-7 (2.5 to 5 feet) at concentrations exceeding their respective MDL.
- Several VOCS including, 1,2,4-Trimethylbenzene (0.0900 mg/kg), 1,3,5-Trimethylbenzene (0.0320 mg/kg), Ethyl Benzene (0.00980 mg/kg), Isopropylbenzene (0.00670 mg/kg), Methylcyclohexane (0.00930 mg/kg), n-

Butylbenzene (0.0130 mg/kg), n-Propyl benzene (0.0120 mg/kg), o-Xylene (0.0120 mg/kg), m & p xylene (0.0310 mg/kg), p-isopropyltoluene (0.0150 mg/kg), sec-Butylbenzene (0.00750 mg/kg) were detected in SP-6, 7.5 to 10 feet. The remaining VOCs in SP-6, 7.5 to 10 feet were detected at concentrations less than their respective MDL.

- No semi-volatile organic compounds (SVOCs) were detected in the soil at concentrations exceeding their respective MDL.
- The VOC, acetone, was detected in MW-5 at a concentration exceeding its respective MDL. The remaining VOCs in MW-5 were detected at a concentration less than their MDL.
- Eleven (11) VOCs were detected in MW-8 at a concentration their respective GQS. These VOCs include the following compounds: 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethyl benzene, isopropyltoluene, n-butylbenzene, n-propylbenzene, o-xylene, p/m-xylene, p-isopropyltoluene, sec-butylbenzene, toluene, and total xylenes.
- The compound, Carbon Tetrachloride, was detected in SV-1 (1.2 µg/m^3), SV-3 (10 µg/m^3), SV-4 (0.720 µg/m^3), SV-5 (0.390 µg/m^3) and in the indoor air IA-1 (1 µg/m^3) and the outdoor air, OA-1 (0.490 µg/m^3). According to the NYSDOH Decision Matrix A and based upon the concentrations detected mitigation is recommended for Carbon Tetrachloride.
- The compound, trichloroethene (TCE), was detected in SV-4 at a concentration of 2.5 µg/m^3. Trichloroethene was not detected in any other sub-slab probe, the indoor air samples, or the outdoor air sample. According to the NYSDOH Decision Matrix A and based upon the concentrations detected no further action is required for trichloroethene.
- The compound, methylene chloride, was detected in SV-4 (5.6 µg/m^3). Methylene chloride was not detected in any other sub-slab probe, the indoor air samples, or the outdoor air sample. According to the NYSDOH Decision Matrix B and based upon the concentrations detected no further action is required for methylene chloride.
- The compound, tetrachloroethene (PCE), was detected sub-slab samples SV-1 (30 µg/m^3), SV-2 (210 µg/m^3), SV-3 (220 µg/m^3), SV-4 (110 µg/m^3), SV-5 (3.6 µg/m^3) and the indoor air sample, IA-1 (4 µg/m^3), and the outdoor air sample, OA-1 (0.890 µg/m^3). Tetrachloroethene was not detected in SV-6 or IA-2. According to NYSDOH Decision Matrix B and based upon the concentrations detected, the levels of PCE should be monitored over time.
- The compound, Vinyl Chloride, was detected in the sub-slab sample SV-5 at a concentration of 0.270 µg/m^3. Vinyl Chloride was not detected in any other sub-slab probe, indoor air samples or the outdoor air sample. According to NYSDOH Decision Matrix C and based upon the concentrations detected, the levels of Vinyl Chloride require no further action at this time.
- The compounds 1,1,1-Trichloroethane, cis 1-2-dichloroethene, 1,1-Dichoroethylene, were not detected in the sub slab vapor samples or indoor air sample.
- An evaluation of the analytical results indicated elevated levels of VOCs were detected in SV-6. These VOCs include Cyclohexane (190,000 µg/m^3), Ethyl Benzene (13,000 µg/m^3), n-Heptane (300,000 µg/m^3), n-Hexane (280,000 µg/m^3), o-Xylene (4,300 µg/m^3), m & p xylene (22,000 µg/m^3) and Toluene (4,500 µg/m^3).
- The results of the Phase II ESA indicate that the historic use of the site and the presence of an active 5,000-gallon

UST do not appear to have impacted upon the environmental quality of the Property. This is evidenced by the soil screening and soil analytical results of SP-1, SP-5, SP-7 and SP-9 and the groundwater analytical results from MW-5. No VOCs or SVOCs were detected in the soil or the groundwater at concentrations exceeding regulatory standards from beneath the auto repair shops or around the 5,000-gallon UST. Additionally, the sub-slab vapor data collected from beneath the auto repair facilities shows only low-level exceedances in the soil vapor. These concentrations may be related to the current use of the Property as auto repair facilities.

- The results of the Phase II ESA indicated that the presence of an unnamed gasoline station adjacent to the Property is most likely impacting upon the vapor quality and groundwater quality of the Property. This is evidenced by the presence of gasoline and solvent related VOCs in the groundwater beneath the bottom of the parking garage ramp (MW-8) in the eastern portion of the property at concentrations exceeding the Groundwater Quality Standard. The gas station is located in the presumed downgradient direction; however, its gasoline tanks are within a 50 feet radius of influence of MW-8 and based upon the distance and the presence of historic spills documented to have impacted upon the groundwater the unnamed gasoline station is most likely the source of the VOCs identified in the groundwater.
- No evidence of a petroleum release was identified in the soil around MW-8 as evidenced by the soil screening results of SP-6. No olfactory/visual evidence of petroleum and no elevated levels of organic vapors were identified from zero to 10 feet below grade. However, olfactory evidence of petroleum was identified in the saturated soil from 10 to 15 feet below grade. Additionally, while the soil collected from SP-6 at 7.5 to 10 feet below grade had levels of VOCs exceeding the MDL but less than the UUSCO, these concentrations can be attributed to fluctuations in the groundwater table.
- Based on the results of the Phase II ESA, SET made the following recommendations:
    - During future construction activities it is recommended the active 5,000-gallon UST be removed in accordance with local, state and federal guidelines.
    - A soil vapor mitigation system should be designed and installed within the new building to prevent vapors from the adjacent gasoline station from impacting the indoor air.
    - The NYSDEC should be notified of a release from the adjacent property, 67 McLean Avenue. A copy of this report should then be provided to the NYSDEC for their review and comment.
    - Soil excavated during construction activities should be disposed of in accordance with local, state and federal regulations.

<u>Structural Engineering Technologies, P.C. (SET) Supplementary Phase II ESA (Phase IIb), July 6, 2020</u>

Below is a summary of the SET Supplemental Phase II ESA:

- Six (6) soil probes (designated SP-10 through SP-15) were installed by PG Environmental, Corp with a Geoprobe. The soil probes were installed to further delineate levels of VOCS and SVOCs previously detected.
- Soil probe SP-10 was installed at 48 Mclean Avenue in the previous location of SP-2/SV-2. Soil probe SP-11 was installed at the parking of the parking garage ramp at 60 Mclean Avenue in a similar location of SP-6/SV-6. Soil

probe SP-12 is located on the sidewalk to the south of the parking garage ramp along Mclean Avenue. Soil Probe SP-13 was installed to the west of SP-12 and soil probe SP-14 was installed to the east of SP-12. Soil probe SP-15 was installed in VP-Discount Tire (60 Mclean Avenue) in a similar location as SP-5/MW-5/SV-5.

- Refusal was encountered at 5 feet in SP-10A and SP-15A. Several attempts were made to install the probes in nearby locations; however, after three failed attempts at each location, it was determined that the probe could not be installed any deeper. Soil probes SP-11 through SP-14 were installed until 15 feet below grade. Groundwater was encountered at approximately 10 feet below grade.
- A total of 10 soil samples were submitted for laboratory analysis.
- During the investigation five (5) permanent monitoring wells designated WP-10A, WP-11, WP-12, WP-13, and WP-14 were installed. WP-10A was installed in the western portion of the site within 48 Mclean Avenue. Monitoring Wells WP-12, WP-13 and WP-14 were installed on the sidewalk along Mclean Avenue. Monitoring Well WP-15 was installed in the Tire Shop at 60 Mclean Avenue and Monitoring Well MW-11 was installed at the bottom of the parking garage ramp.
- Land survey was used to identify the location of the monitoring wells. The elevations of all installed monitoring wells were surveyed relative to a permanent surface benchmark. The results of the survey indicate groundwater is flowing towards the southwest.
- A total of five (5) groundwater samples were submitted for laboratory analysis.
- No SVOCs were detected in the soil at concentrations exceeding their respective UUSCO.
- Several VOCs were detected in WP-11, WP-12, WP-13, and WP-14 at concentrations exceeding their respective GQS. The VOC, 1,2,4-Trimethylbenzene was detected in at concentrations ranging from 130 µg/L in WP-13 to 700 µg/L in WP-11, which exceeds the GQS of 5 µg/L. The VOC, 1,3,5-Trimethylbenzene range from 40 µg/L in WP-13 to 230 µg/L in WP-11. The VOC Benzene was detected in WP-11 at a concentration of 3.2 µg/L which exceeds the GQS of 1 µg/L. The VOC, Ethyl Benzene was detected at concentrations ranging from 0.740 µg/L in WP-10A to 340 µg/L WP-11. The GQS for Ethyl Benzene is 5 µg/L. Isopropyl benzene was detected at concentrations ranging from 21 µg/L in WP-13 to 85 µg/L in WP-11. The GQS for Isopropyl benzene is 5 µg/L. The VOC, o-Xylene was detected at a concentration ranging from 12 µg/L in WP-14 to 340 µg/L in WP-11 and the VOC p-& m-Xylene was detected at concentrations ranging from 3.2 in WP-10A to 1,000 in WP-11. The GQS for o-Xylene and p-m-Xylene is 5 µg/L. The VOC, p-Isopropyl toluene was detected at concentrations ranging from 19 µg/L in WP-12 to 35 µg/L in WP-11. The GQS for p-Isopropyl toluene is 5 µg/L. The VOC sec-Butylbenzene was detected at concentrations ranging from 11 µg/L in WP-12 to 18 µg/L in WP-11. The GQS from sec-Butylbenzene is 5 µg/L. Toluene was detected at concentrations ranging from 3 µg/L in WP-10A to 52 µg/L in WP-11. The GQS for Toluene is 5 µg/L.
- The SVOC, Naphthalene, was detected in WP-12 (48 µg/L) and WP-14 (67.6 µg/L) at concentrations exceeding their respective GQS of 10 µg/L. No other SVOCs were detected at concentrations exceeding their respective GQS.
- Based upon the nature of the contaminants, the documented NYSDEC Spill incidents at the suspect gasoline station and the potential radius of influence of these gasoline releases, the suspect gasoline station at 67 Mclean

Avenue still appears to be the source of the gasoline contamination on-site. This is evidenced by the fact that no levels of VOCs were identified in the unsaturated soil during the Phase II performed in April 2020 or this current Phase II(B). Additionally, based upon the chemical inventory performed in June 2020, there does not appear to be a source of VOCs on the Property. Furthermore, the suspect gasoline station located at 67 Mclean Avenue is associated with four closed NYSDEC Spills. One of the spills is reported to have impacted the groundwater and the three other spills are reported to have impacted the soil. There is no record of a cleanup being performed at 67 Mclean Avenue.

Structural Engineering Technologies, P.C. (SET) Fourth Round Groundwater Testing, November 5, 2020

Below is a summary of the SET 4th Quarter Groundwater sampling event for 2020:

- The groundwater sampling event was performed on May 4 and 52022, and consisted of the gauging and sampling of six (6) permanent groundwater monitoring wells installed as part of the Phase IIb ESA.
- No water was present in wells WP-10A and WP-15. Groundwater depth was measured at between 9.10 and 10.88 fbg in the remaining four (4) monitoring wells.
- The results of the quarterly sampling event indicated the levels of VOCs in the groundwater had generally significantly decreased with the exception of the results of MW-11. Specifically, levels of BTEX in WP-12 had decreased from 562.60 µg/L in June 2020 to 142 µg/L in October 2020 and levels of total VOCS had decreased from 1,433 µg/L in June 2020 to 857.5 µg/L in October 2020. Levels of BTEX in WP-13 had decreased from 256.80 µg/L in June 2020 to 2 µg/L in October 2020 and levels of total VOCS had decreased from 560.30 in June 2020 µg/L to 123.5 µg/L in October 2020. Levels of total BTEX and levels of total VOCs were not detected in WP-14 in October 2020.
- However, the levels of total BTEX in WP-12 had increased from August 2020 to October 2020 and levels of total VOCs in WP-12 and WP-13 had increased from August 2020 to October 2020. Specifically, levels of BTEX in WP-12 had increased tom 100 µg/L in August 2020 to 142 µg/L in October 2020 and levels of total VOCs had increased from 829.6 µg/L to 857.5 µg/L in October 2020. Levels of total VOCs in WP-13 had increased from 69.6 µg/L in August 2020 to 123.5 µg/L in October 2020. Additionally, the levels of total BTEX in WP-11 had increased from 1,798.20 µg/L in June 2020 to 3,500 µg/L in October 2020 and levels of total VOCs had increased from 3,369.20 µg/L to 11,359 µg/L in October 2020.
- WP-15 was sampled for the first time during August 2020. The total BTEX concentration was identified to be 1,222.3 µg/L and the total VOC concentration was 3,345.5 µg/L in WP-15. WP-10A and WP-15 were dry during the October sampling event and could not be sampled.

Recognized Areas of Concern

Petroleum-related VOCs and SVOCs have been identified in groundwater beneath the southeastern portion of the Site. Furthermore, based on site history, chlorinated VOCs (CVOCs) may have been used, stored and/or generated at the Property. Chlorinated VOCs, specifically carbon tetrachloride and PCE, have been detected in soil vapor beneath

the Site at concentrations that do not require mitigation according to the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion decision matrices.

The metals mercury and nickel were detected above the NYSDEC Protection of Groundwater (PGW) Soil Cleanup Objective (SCO) in shallow soil from 0-3 fbg in the southcentral and northwestern portions of the site SB-10A (0-3), located in 50 Mclean Avenue and SB-1 (0-2), located on the northwestern portion of the 2nd floor of the Site building, respectively.

In SB-8B (0-3) located in 48 McLean Avenue, the poly chlorinated biphenysl (PCBs) Aroclor 2354 and 1260 were detected at 0.328 and 0.349 mg/kg respectively, exceeding the UUSCO of 0.1 mg/kg for both compounds. In SB-12 (0-4), located in 60 Mclean Avenue, the pesticides 4,4'-DDE and 4,4'-DDT were detected at 0.0462 and 0.0589 mg/kg, respectively, exceeding the UUSCO of 0.0033 mg/kg for both compounds. In SB-1 (0-2) and SB-2 (0-2), located in the northwestern portion of the site on the 2nd floor, Trivalent chromium was detected at 720 mg/kg and 35 mg/kg, respectively in exceedance of its UUSCO of 30 mg/kg. Hexavalent Chromium was detected in SB-1 (0-2) at 2 mg/kg in exceedance of the UUSCO of 0.18 mg/kg and the Protection of Groundwater (PGW) Standard of 0.73 mg/kg. Mercury was detected in exceedance of the UUSCO of 0.18 mg/kg in six (6) soil boring locations [SB-3 (0-2), SB-4 (0-2), located in the northern central and northeastern portions of the 2nd floor SB-8B(0-3),located in 48 McLean Avenue, SB-10A (0-3), located east of SB-8B in 50 McLean Avenue, SB-10B (0-3)and SB-11(0-2), also located in 50 Mclean Avenue, and SB-18 (0-2), located within the ramp leading to the 2nd floor] the highest of which was SB-3 (0-2) at 2 mg/kg, which was also in exceedance of the PGW standard of 0.73 mg/kg. The PGW standard for mercury was also exceeded in SB-10A (0-3) at 1.27 mg/kg. The lowest exceedance of mercury was located in SB-8B (0-3) at 0.428 mg/kg. Nickel was detected in exceedance of its UUSCO of 30 mg/kg in four (4) soil boring locations [SB-10B (0-3), SB-11 (0-4), SB-12 (0-4), and SB-1 (0-2)]. In SB-1 (0-2) Nickel was detected at 143 mg/kg exceeding the UUSCO and the PGW Standard of 130 mg/kg. In SB-10B, SB-11 and SB-12 Nickel was detected in exceedance of its UUSCO at 31.5 mg/kg, 36.5 mg/kg and 35.8 mg/kg, respectively. Lead was detected in SB-18 (0-2) at 219 mg/kg in exceedance of its UUSCO of 63 mg/kg. Zinc was detected in SB-1 (0-2) at 110 mg/kg in marginal exceedance of its UUSCO of 109 mg/kg, and was also detected in SB-8B at 217 mg/kg in exceedance of the UUSCO. Copper was detected in SB-1 (0-2) and SB-2 (0-2) at 62.1 mg/kg and 120 mg/kg, respectively, in exceedance of its UUSCO of 50 mg/kg.

In summary, soil exceedances were located along the northern portion of the site on the 2nd floor of the building, the central portion of the Site building, located on the 1st floor, and one boring in the ramp on the southeastern portion of the Site. Refer to **Plate 3, 4, and 5** for previous investigation sample collection locations/detected analytes.

Total Iron was detected in four (4) of the sampled groundwater monitoring wells above the TOGS guidance value of 300 ug/L. The exceedances ranged from 1,110 ug/L in WP-11 to 13,000 ug/L in MW-4A. Total Magnesium was detected in one of the sampled groundwater monitoring well at 104,000 ug/L above the TOGS guidance value of

35,000 ug/L in monitoring well MW-4A. Total Manganese was detected in three (3) groundwater monitoring wells in exceedance of the TOGS guidance value of 300 ug/L. The exceedances ranged from 513.2 ug/L in MW-4A to 1,783 ug/L in MW-7A.Total Sodium was detected in exceedance of its TOGS guidance value of 20,000 ug/L in six (6) of the groundwater monitoring wells. Exceedances ranged from 51,700 ug/L in MW-5A to 894,000 ug/L in MW-4A.

Dissolved Iron was detected in three (3) of the sampled groundwater monitoring wells above the TOGS guidance value of 300 ug/L. The exceedances ranged from 571 ug/L in WP-11 to 2790 ug/L in MW-9A. Dissolved Magnesium was detected in one groundwater sample above its TOGS guidance value of 35,000 ug/L, at 112,000 ug/L in MW-4A. Dissolved Manganese was detected in three (3) of the sampled groundwater monitoring wells above the TOGS guidance value of 300 ug/L. The exceedances ranged from 520.7 ug/L in MW-4A to 1803 ug/L in MW-7A. Dissolved Sodium detected in exceedance of its TOGS guidance value of 20,000 ug/L in six (6) of the groundwater monitoring wells. Exceedances ranged from 51,600 ug/L in MW-5A to 884,000 ug/L in MW-4A.

The SVOC Phenol was detected in M-4A at 1.1 ug/L in exceedance of the TOGS guidance value of 1 ug/L.
Naphthalene was detected at 47 ug/l and 49 ug/L in MW-7A and MW-9A, in exceedance of the TOGS guidance value of 10 ug/L. In addition, the following Polyaromatic Hydrocarbons (PAHs) were detected in MW-9A above their respective TOGS guidance value of 0.002 ug/L: Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, and Indeno(1,2,3-cd)pyrene.

The cVOC Tetrachloroethene (PCE) was marginally detected in six (6) groundwater monitoring wells sampled but was below the TOGS guidance value of 5 ug/L. The detections ranged from 0.42 ug/L in MW-4A to 0.75 ug/L in WP-15. The remaining VOC exceedances were comprised of petroleum (BTEX) compounds and additional breakdown compounds. Benzene was detected in exceedance of the TOGS guidance value of 1 ug/L in MW-7A and MW-9A at 7.4 and 4.6 ug/L, respectively. Toluene was detected in exceedance of the TOGS guidance value of 5 ug/l in MW-7A and MW-9A at 48 and 17 ug/L. EthylBenzene was detected in exceedance of the TOGS guidance value of 5 ug/L in MW-4A, MW-7A, MW-9A and WP-11 at 12 ug/L , 300 ug/L, 14 ug/L, and 7.3 ug/L, respectively. p/m-Xylene and o-xylene were detected in the same four wells as mentioned previously (MW-4A, MW-7A, MW-9A and WP-11). The highest exceedance of Xylenes (Total) was detected in MW-7A at 1400 ug/L. Breakdown petroleum compounds N-Butylbenzene and sec-butylbenzene were detected in M-7A and MW-9A marginally exceeding their respective TOGS guidance values of 5 ug/L. The highest exceedance was sec-butylbenzene at 7.9 ug/L in M-7A. Breakdown petroleum compounds Isopropylbenzene, n-propylbenzene, and p-isopropyltoulene, were also detected in MN-7A and MW-9A in exceedance of their TOGS guidance value of 5 ug/L. The highest exceedance of these was Napthalene in MW-9A at 83 ug/L. Additional breakdown compounds 1,3,5-Trimethylbenzene and 1,2,4-trimethylbenzene were detected in MW-7A at 110 and 340 ug/L, exceeding their respective TOGS guidance values of 5 ug/L. In MW-9A, 1,2,4-trimethylbenzene was detected above its TOGS guidance value at 220 ug/L. 1,3,5-Trimethylbenzene and 1,2,4-trimethylbenzene were also detected above their TOGS guidance value in WP-11 at 6.8 and 21 ug/l, respectively.

1,2,4-trimethylbenzene was detected in exceedance of its TOGS guidance value of 5 ug/L in MW-7A and MW-9A at 12 and 9.3 ug/L, respectively.

2.2 IEEG Remedial Investigation Summary

The RI was performed at the Site in May 2022. The purpose of the RI was to further delineate the nature and extent of impacts detected in the environmental investigations discussed in Section 2.1, in accordance with DER-10-3.1, to formulate a conceptual site model and an effective strategy for site remediation.

The following scope of work was performed in the May 2022 RI to supplement the data and findings of previous investigations:

- Installation of nine (9) soil vapor points throughout the property for the collection of nine (9) soil vapor samples to further define the extent of cVOCs and petroleum compounds across the Site to assess the potential for off-site migration in relation to downgradient receptors.
- Collection of four (4) indoor air and two (2) ambient outdoor air samples for laboratory analysis.
- Advancement 21 remedial investigation soil borings to a maximum depth of approximately 10-feet below grade surface (bgs), or refusal in cases where bedrock was encountered, for collection of soil samples for field screening and laboratory analyses.
- Installation and sampling of three (3) permanent groundwater monitoring wells for collection of representative groundwater samples for laboratory analysis.
- Collection of representative groundwater samples from five (5) existing permanent groundwater wells previously installed by others in the southeastern portion of the site.

All samples collected during the RI were transported under chain of custody procedures to Alpha Analytical (Alpha) located in Westborough, Massachusetts, an Environmental Laboratory Approval Program (ELAP)-Certified laboratory. Sample analytical maps can be found in **Plates 6** through **Plate 8**.

2.2.1 Soil Vapor Analytical Results

A total of nine (9) soil vapor samples were collected from locations across the Site. Results of the soil vapor samples are summarized in **Table 1**, and the laboratory analytical report can be found in **Appendix C**. Results of the soil vapor analysis indicated that petroleum related (downgradient from the UST located in the ramp) and chlorinated VOCs were detected at varying concentrations throughout the site. However, when compared to Indoor air concentrations and the NYSDOH decision Matrices guidelines the indoor air levels do not warrant action be taken at this time.

There are currently no standards for soil vapor established by either the NYSDEC or the NYSDOH. The NYSDOH has established guidance for evaluating soil vapor intrusion in which the results of soil vapor samples are compared to corresponding indoor air quality results. The NYSDOH has established guidance for evaluating soil vapor intrusion in which the results of soil vapor samples are compared to corresponding indoor air quality results. The guidance is presented in Matrix A, Matrix B, and Matrix C from the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006 (matrices were updated in May 2017). The matrices provide guidance relative to carbon tetrachloride, cis-1,2-dichloroethene, 1,1-dichloroethene, TCE, PCE, 1,1,1-trichloroethane, methylene chloride, and vinyl chloride.

The soil vapor results reported from the samples collected during the RI indicate PCE (minimum concentration of 21.2 ug/m3 in SV-9A, and maximum concentration of 368 ug/m3 in SV-5A) and TCE (non-detect in most samples, minimum concentration of 1.11 ug/m3 in SV-7A, and a maximum concentration of 3.14 ug/m3 in SV-6A) are present in subsurface vapors. Additionally, multiple petroleum compounds were found present in soil vapor.

2.2.2 Soil Analytical Results

A total of 25 soil samples were collected from 21 different soil borings across the Site. Below is a summary of the laboratory analysis results (see **Table 2** for Sample Results Summary and **Appendix C** for raw analytical data):

- No VOCs, SVOCs, or emerging contaminants (PFAS/PFOS or 1,4-dioxane) were detected at concentrations above their respective regulatory standards.
- The PCBs aroclor 1254 and 1264 were detected in sample SB-8B (0-3') at concentrations of 0.328 mg/kg and 0.349 mg/kg respectively, exceeding the UUSCO of 0.1 mg/kg for both compounds.
- The pesticides 4,4'-DDE and 4,4'-DDT were detected in sample SB-12 (0-4') at concentrations of 0.0462 mg/kg and 0.0589 mg/kg, respectively, exceeding the UUSCO of 0.0033 mg/kg for both compounds.
- The metal trivalent chromium was detected in samples SB-1 (0-2') and SB-2 (0-2') at concentrations of 720 mg/kg and 35 mg/kg, respectively in exceedance of its UUSCO of 30 mg/kg.
- Hexavalent chromium was detected in SB-1 (0-2) at 2 mg/kg in exceedance of the UUSCO of 0.18 mg/kg and the Protection of Groundwater (PGW) Standard of 0.73 mg/kg.
- Mercury was detected in exceedance of the UUSCO of 0.18 mg/kg in six (6) soil boring locations (SB-3 (0-2),

SB-4 (0-2), SB-8B(0-3), SB-10A (0-3), SB-10B (0-3), SB-11(0-2), and SB-18 (0-2)) the highest of which was SB-3 (0-2) at 2 mg/kg, which was also in exceedance of the PGW standard of 0.73 mg/kg. The PGW standard for mercury was also exceeded in SB-10A (0-3) at 1.27 mg/kg.

- Nickel was detected in exceedance of its UUSCO of 30 mg/kg in four (4) soil boring locations. (SB-10B (0-3), SB-11 (0-4), SB-12 (0-4), and SB-1 (0-2)). In SB-1 (0-2) Nickel was detected at 143 mg/kg exceeding the UUSCO and the PGW Standard of 130 mg/kg. In SB-10B, SB-11 and SB-12 Nickel was detected in exceedance of its UUSCO at 31.5 mg/kg, 36.5 mg/kg and 35.8 mg/kg, respectively.
- Lead was detected in SB-18 (0-2) at 219 mg/kg in exceedance of its UUSCO of 63 mg/kg.
- Zinc was detected in SB-1 (0-2) at 110 mg/kg in marginal exceedance of its UUSCO of 109 mg/kg and was also detected in SB-8B at 217 mg/kg in exceedance of the UUSCO.
- Copper was detected in SB-1 (0-2) and SB-2 (0-2) at 62.1 mg/kg and 120 mg/kg, respectively, in exceedance of its UUSCO of 50 mg/kg.

2.2.3 Groundwater Analytical Results

A total of eight (8) groundwater samples were collected from three (3) newly installed permanent groundwater monitoring wells and five (5) previously installed permanent monitoring wells. Results for the groundwater samples collected from the Site can be found in **Table 3** and are compared to NYSDEC AWQS for Class GA groundwater. Laboratory analytical reports are located in **Appendix C**.

The sampled well included nine (9) monitoring wells screened from 5-15 fbg or in cases where bedrock was encountered, from grade to the depth of shallow bedrock. One set of groundwater samples were collected and analyzed from each monitoring well sampling point for TCL VOCs plus TICs, SVOCs plus TICs, PCBs, organochlorine pesticides and TAL metals with hexavalent chromium and the emerging contaminants 1,4-dioxane and NYSDEC PFAS list.

- The cVOC Tetrachloroethene (PCE) was marginally detected in six (6) groundwater monitoring wells sampled but were below the TOGS drinking water guidance value of 5 ug/L. The detections ranged from 0.42 ug/L in MW-4A to 0.75 ug/L in WP-15.
- Benzene was detected in exceedance of the TOGS guidance value of 1 ug/L in MW-7A and MW-9A at 7.4 and 4.6 ug/L, respectively.
- Toluene was detected in exceedance of the TOGS guidance value of 5 ug/l in MW-7A and MW-9A at 48 and 17 ug/L.
- Ethylbenzene was detected in exceedance of the TOGS guidance value of 5 ug/L in MW-4A, MW-7A, MW-9A and WP-11 at 12 ug/L , 300 ug/L, 14 ug/L, and 7.3 ug/L, respectively.
- p/m-Xylene and o-xylene were detected in the same four wells as mentioned previously (MW-4A, MW-7A, MW-9A and WP-11). The highest exceedance of Xylenes (Total) was detected in MW-7A at 1400 ug/L.
- Breakdown petroleum compounds N-Butylbenzene and sec-butylbenzene were detected in M-7A and MW-

9A marginally exceeding their respective TOGS guidance values of 5 ug/L. The highest exceedance was sec-butylbenzene at 7.9 ug/L in M-7A.

- Breakdown petroleum compounds Isopropylbenzene, n-propylbenzene, and p-isopropyltoluene, were also detected in MN-7A and MW-9A in exceedance of their TOGS guidance value of 5 ug/L. The highest exceedance of these was Naphthalene in MW-9A at 83 ug/L.
- Additional breakdown compounds 1,3,5-Trimethylbenzene and 1,2,4-trimethylbenzene were detected in MW-7A at 110 and 340 ug/L, exceeding their respective TOGS guidance values of 5 ug/L. In MW-9A, 1,2,4-trimethylbenzene was detected above its TOGS guidance value at 220 ug/L. 1,3,5-Trimethylbenzene and 1,2,4-trimethylbenzene were also detected above their TOGS guidance value in WP-11 at 6.8 and 21 ug/l, respectively. 1,2,4-trimethylbenzene was detected in exceedance of its TOGS guidance value of 5 ug/L in MW-7A and MW-9A at 12 and 9.3 ug/L, respectively.
- The SVOCs phenol was detected in MW-4A at a concentration (1.1ug/L) exceeding its AWQS of 1 ug/L.
- The SVOC naphthalene was detected in samples MW-7A and MW-9A at concentrations in excess of the AWQS of 10 ug/L, at 47 ug/L and 49 ug/L respectively.
- The SVOCs benzo(a)anthracene (0.05 ug/L), benzo(a)pyrene (0.04 ug/L), benzo(b)fluoranthene (0.08 ug/L), benzo(k)fluoranthene (0.03 ug/L), chrysene (0.04 ug/L), and indeno(1,2,3-cd)pyrene (0.04 ug/L) were detected in MW-9A at concentrations exceeding their respective AWQS of 0.002 ug/L.
- Several total and dissolved metals, including iron, magnesium, manganese, and sodium, were detected at concentrations above their AWQS. These metals are considered background naturally occurring compounds.

No PCBs or organochlorine pesticides were detected at concentrations above their respective AWQS in the eight (8) samples collected from the groundwater monitoring wells.

2.2.4 Emerging Contaminant Analytical Results

Four (4) groundwater samples were analyzed for the emerging contaminants identified as 1,4-Dioxane and the NYSDEC PFAS List. The NYSDEC has released DRAFT Guidance Values for PFAS PFOA and 1,4-Dioxane. The guidance values are as follows:

New York State Groundwater Effluent Limitations (Class GA) July 2020		
Substance (CAS. No.)	**Maximum Allowable Concentration**	**Category**
1,4-Dioxane (123-91-1	0.35 ug/L	B
Perfluorooctane Sulfonic Acid (PFOS) (1763-23-1)	0.0027 ug/L	B
Perfluorooctanoic Acid (PFOA)	0.0067 ug/L	B

Several NYSDEC PFAS List compounds were detected in groundwater monitoring wells MW-4A, MW-5A, MW-7A and MW-9A as follows:

- **Perfluorooctanoic Acid (PFOA)** was detected at concentrations exceeding the Draft Guidance Value of 0.0067 ug/L at 0.0788 µg/L, 0.0448 µg/L and 0.0214 ug/L in MW-4A, MW-7A and MW-9A, respectively.

- **Perfluorooctanesulfonic Acid (PFOS)** was detected at concentrations exceeding the Draft Guidance Value of 0.0027 ug/L at 0.00499 µg/L, 0.0082 µg/L and 0.00826 ug/L in MW-4A, MW-7A and MW-9A, respectively.

1,4-Dioxane was detected at concentrations of 0.184 ug/L and 0.064 ug/L in MW-4A and MW-7A and was non-detect in MW-9. These concentrations were below the NYSDEC Draft Guidance Values. A summary of the analytical results for the groundwater monitoring wells are compared to the NYSDEC TOGS in **Table 3.**

2.3 NYSDEC/NYSDOH Site Determination

The NYSDEC and NYSDOH have not yet determined whether the Site poses a significant threat to human health and the environment. This decision will be based on the completion and effectiveness of Interim Remedial Measures (IRMs) implemented prior to issuance of this RAWP and the potential for off-site migration of contaminants in the groundwater; and the potential for human exposure to site-related contaminants via soil vapors.

3 SUMMARY OF COMPLETED INTERIM REMEDIAL MEASURES

The following non-emergency IRMs were implemented at the Site between October 2022 through April 2023 during the demolition and construction phases of the project to mitigate environmental or human exposure based on data collected during the 2022 RI and to remove subsurface soils above Restricted Residential Soil Cleanup Objectives (SCOs) based on the current and future land use:

Remedial Investigation/Interim Remedial Measures Work Plan, IEEG, June 20, 2021

- Removal of an existing 5,000-gallon fuel oil underground storage tank (UST), along with any associated fill ports and vent lines;
- Excavation and off-Site disposal of all contaminated soils encountered during the removal of the aforementioned UST;
- Collection and analysis of confirmatory soil endpoint samples following the UST removal and soil excavation;
- Collection and analysis of groundwater samples following the UST removal and soil excavation; and
- Importation of clean backfill material that meets the established Restricted Residential SCOs for the Site.

Interim Remedial Measures Work Plan Addendum, IEEG, October 28, 2022

- Pumpout of hydraulic fluids/oils from five (5) hydraulic lifts pistons/reservoirs encountered during concrete slab demolition, into DOT regulated 55-gallon steel drums;
- Collection of sample volumes of the evacuated fluids/oils for analysis of polychlorinated biphenyls (PCBs) for waste characterization;
- Removal and staging of the empty hydraulic lifts/reservoirs at grade on plastic sheeting for removal of any residual contents, and off-Site disposal of said hydraulic lifts/reservoirs;
- Over excavation and stockpiling of grossly contaminated soils from surrounding and beneath the removed hydraulic lifts/reservoirs, and subsequent waste characterization sampling and analysis of stockpiled soils for eventual off-Site transport and disposal;
- Collection and analysis of confirmatory endpoint soil samples following the removal of the hydraulic lifts/reservoirs;
- Excavation of three (3) 10-foot by 10-foot hotspots (SB-1, SB-2, and SB-10A) containing elevated concentrations of heavy metals, to depths of approximately 3-feet below grade surface (bgs) as determined by the previous RI conducted by IEEG in 2019;
- Soils excavated from these three (3) hotspots were stockpiled at grade on plastic sheeting, and waste characterization samples were collected to allow for disposal facility approval and eventual off-Site transport and disposal;
- Collection and analysis of post-excavation confirmatory bottom and sidewall endpoint samples at each hot-spot, where possible due to bedrock; and,
- Collection of two (2) exterior RI samples (SB-21 and SB-22) on the northwest exterior of the site.

In addition to the above scope of work, following an inspection by Mr. Hubicki of the NYSDEC on April 28, 2023, the department requested IEEG collect the additional RI samples at the following areas:

- Two (2) samples at a trench drain located in the former partial basement/boiler room; and,
- One (1) sample from suspected "stained" soils along the second-floor north wall.

3.1 UST Decommissioning and Removal

Interim Remedial Measure activities completed at the Site were conducted in accordance with the IRM Work Plans for the Site between June 2021 and June 2023. No deviations from the IRM Work Plans and subsequent amendments occurred.

3.1.1 UST Decommissioning

All decommissioning work was performed in accordance with a Westchester County Department of Health Petroleum Bulk Storage Work Permit, issued on October 18, 2022 (see **Appendix D**). On October 20, 2022, Brookside Environmental, Inc (Brookside), accessed the top of the 5,000-gallon fuel oil UST (refer to **Plate 9** - **UST Endpoint Sample Analytical Map**). The top of the UST was cut using a circular saw, and the standing liquids from within the tank were evacuated into a pump truck. A total of 1,204-gallons of oil were pumped from the tank and transported and disposed of at Clean Water of New York, Staten Island, NY. Once fully evacuated, the tank was accessed via the hole, and the remaining sludge and solids were scraped from the bottom and placed in a 55-gallon DOT regulated steel drum. A total of 300 pounds of sludge were removed from the bottom of the tank and transported and disposed of at Clean Water of New York, Staten Island, NY.

On October 21, 2022, once the tank was fully cleaned, the demolition contractor, D-Best Industries (D-Best), began excavating soils from around the UST to facilitate its removal from the ground. Brookside then cut the UST in half using a circular saw, and the two (2) tank halves were removed from the ground and staged at grade by D-Best for further inspection and evaluation. IEEG inspected the tank, and no evidence of holes, cracks, or pitting was observed. Furthermore, the tank grave was inspected by IEEG for signs of spills or leaks from the former tank. While a small area of dark colored soil was observed near the fill port side of the tank grave, indicative of a previous overfill, no evidence of gross contamination was identified in the tank grave.

On October 24, 2022, Mr. Matthew Hubicki from the NYSDEC was onsite to observe the tank grave, staged UST shell, and the overall Site conditions and status. Mr. Hubicki confirmed that no evidence of gross contamination was identified within the tank grave, and no evidence of holes, cracks, or pitting, was observed in the removed UST. Under the oversight of IEEG, D-Best continued over excavation of the tank grave, including removal of the minor stained soils (which were segregated from clean material, and stockpiled on plastic sheeting), to determine if any deeper contamination was present in the excavation. No such contaminated soil was observed. On the same day, Brookside removed the steel UST shell from the Site, and disposed of it as scrap metal. Waste disposal manifests are included under **Appendix E**.

On October 27, 2022, IEEG collected waste characterization samples (RAMP-1 COMP and RAMP-1-GRAB) from the non-impacted stockpiled soils removed from the UST excavation. On December 8, 2022, this material was approved for disposal at Impact Reuse & Recovery Center (IRRC) located at 1000 Page Avenue, Lyndhurst, NJ (NJDEP #CBG170002).

Facility approval letters are included under **Appendix F**. The material met the NJDEP Residential Standards for disposal. The material was transported and disposed of at IRRC, along with other approved non-IRM associated materials, on December 19, 2022. Waste disposal manifests are included under **Appendix E**. The minor stained soil was removed and disposed of at Clean Earth of Carteret, LLC (CEC), of Carteret, NJ on February 20, 2023.

3.1.2 Post UST Removal Endpoint Sampling

On October 25, 2022, IEEG collected two (2) confirmatory bottom endpoint samples and one (1) confirmatory south sidewall sample (collected at approximately 5-feet bgs) from the tank grave. Sidewall samples from the north, east, and west sides of the grave could not be collected due to the presence of concrete retaining walls. Refer to **Figure 9** for a UST Endpoint Sample Analytical Map. The three (3) samples were placed in laboratory provided clean glassware, stored on ice, and were delivered via lab courier to ELAP-certified Phoenix Analytical Laboratories of Manchester, CT (ELAP Certification #11301). The samples were analyzed for NYSDEC CP-51 list VOCs and SVOCs in accordance with USEPA Methods 8260 and 8270.

3.1.3 Post UST Removal Endpoint Results

Based on a review of the post UST Removal bottom and sidewall endpoint samples, the VOC n-butylbenzene was detected at a concentration of 3.4 microgram per kilogram (ug/kg) in sample Tank Bottom East, below the NYSDC CP-51 standard of 12,000 ug/kg. No other VOCs were detected in the three (3) samples. The SVOCs chrysene, phenanthrene, and pyrene were detected at concentrations of 140 ug/kg, 270 ug/kg, and 210 ug/kg respectively in sample Tank Bottom East, below their CP-51 standards of 1,000 ug/kg and 100,000 ug/kg respectively. No other SVOCs were detected in the three (3) samples. Laboratory Analytical reports are included in **Appendix G**, and tabulated results are included as **Table 4**.

3.1.4 Post UST Removal Groundwater Sampling

On December 20, 2022, IEEG conducted a round of post UST removal groundwater samples from hydraulically downgradient monitoring wells, including WP-11 through WP-14, located south of the former UST. Refer to **Plate 10** for the Groundwater Monitoring Well Location Map.

It should be noted that several of the monitoring wells installed by IEEG during the RI (including MW-4A, MW-5A, MW-7A, and MW-9A) were damaged during demolition and construction activities, and thus could not be sampled during this event.

Each of the four (4) wells were adequately gauged and purged prior to groundwater sample collection. Groundwater elevation and groundwater flow direction was evaluated based on the current gauging data and previous surveyed elevations of the wells from previous consultants reports on file. Depth to Water (DTW) measurements were collected utilizing a Solinst® Oil/Water interface Probe (Interface Probe), which can determine both Light Non-Aqueous Phase Liquid (LNAPL), known more commonly as free product, thicknesses and groundwater depth measurements within 0.01 foot.

Based on the gauging event of December 20, 2022, DTW ranged from 15.05 feet (WP-14) to 16.2 feet (WP-11). LNAPL

was not detected in the monitoring wells gauged. Groundwater flow direction appeared generally to be to the southwest with a possible component of flow to the northwest around WP-11. This data is generally consistent with gauging data from previous reports on file, apart from WP-11, which has a higher elevation.

One (1) representative groundwater sample was collected from each well using a peristaltic pump and dedicated Teflon-coated tubing. Groundwater samples collected from WP-11, WP-12, WP-13, and WP-14 were submitted to Alpha Analytical laboratory of Westborough MA, a New York State certified ELAP laboratory, for analysis of Full Target Compound List (TCL) parameters for Volatile Organic Compounds (VOCs) via EPA Method 8260 and Semi-VOCs via EPA Method 8270. The laboratory analytical report is provided in **Appendix G**. The results are summarized in **Table 5- Groundwater Analytical Results Summary. Table 5** includes analytical data compared to the New York State Water Technical Operations and Guidance Series (TOGS 1.1.1) as Ambient Water Quality Standards (AWQS). The AWQS exceedances are highlighted in gray. All results are presented in micrograms per Liter (ug/L).

Below is a table showing the exceedances of the NYSDEC TOGS 1.1.1 GA Table 1 standards for ambient groundwater quality for wells WP-11, WP-12, WP-13, and WP-14. Exceedances of the TOGS GA standards are highlighted gray, and the table also shows the Total BTEX and Total VOCs present in each well.

Collection Date			12/20/2022		12/20/2022		12/20/2022		12/20/2022	
Client Id			WP-11		WP-12		WP-13		WP-14	
Matrix			GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER	
Project: 60 MCLEAN AVE YONKERS NY	Units	TOGS 1.1.1 WQ/GA Table 1	Result	RL	Result	RL	Result	RL	Result	RL
Semivolatiles (SIM) - SW8270D (SIM)										
Benz(a)anthracene	ug/L	**0.002**	**0.02**	0.02	< 0.02	*0.02*	< 0.02	*0.02*	< 0.02	*0.02*
Benzo(b)fluoranthene	ug/L	**0.002**	**0.02**	0.02	< 0.02	*0.02*	< 0.02	*0.02*	< 0.02	*0.02*
Chrysene	ug/L	**0.002**	**0.02**	0.02	< 0.02	*0.02*	< 0.02	*0.02*	< 0.02	*0.02*
Bis(2-ethylhexyl)phthalate	ug/L	**5**	**28**	0.94	**12**	0.94	**35**	0.94	< 2.4	2.4
Naphthalene	ug/L	**10**	**34**	4.7	-	-	-	-	-	-
Volatiles - SW8260C										
1,2,4-Trimethylbenzene	ug/L	**5**	**98**	2	**270**	5	**3.7**	1	**9.8**	1
1,3,5-Trimethylbenzene	ug/L	**5**	**37**	2	**110**	5	**1.5**	1	**2.2**	1
Benzene	ug/L	**1**	< 0.70	0.7	**2.2**	1.3	< 0.70	0.7	< 0.70	0.7
Ethylbenzene	ug/L	**5**	**21**	2	**28**	5	**0.27**	1	**0.65**	1
Hexachlorobutadiene	ug/L	**0.5**	< 0.50	0.5	< 1.3	*1.3*	< 0.40	0.4	< 0.40	0.4
Isopropylbenzene	ug/L	**5**	**12**	2	**42**	5	**0.3**	1	**1.6**	1
n-Butylbenzene	ug/L	**5**	**3.7**	2	**12**	5	< 1.0	1	**0.73**	1
n-Propylbenzene	ug/L	**5**	**16**	2	**52**	5	**0.46**	1	**1.6**	1
Naphthalene	ug/L	**10**	**24**	2	**38**	5	< 1.0	1	**2.2**	1
o-Xylene	ug/L	**5**	**31**	2	**33**	5	**0.45**	1	**2.9**	1
p-Isopropyltoluene	ug/L	**5**	**5.7**	2	**20**	5	**0.73**	1	**1.7**	1
sec-Butylbenzene	ug/L	**5**	**3.4**	2	**13**	5	**0.34**	1	**0.98**	1
Total Xylenes	ug/L	**5**	**112**	2	**173**	5	**1.7**	1	**9.9**	1
TOTAL BTEX	ug/L		**245**		**376.2**		**3.62**		**11.29**	
TOTAL VOCs	ug/L		**457.72**		**970.5**		**14.55**		**43.34**	

While several SVOC and VOC exceedances of the standards are present in primarily WP-11 and WP-12, total VOCs are below 1,000 ug/L in both wells. Based on the In the December 2022 groundwater sampling event, total VOCs ranged from 14.55 ug/L in WP-13 to 970.5 ug/L in WP-12, and Total BTEX concentrations ranged from 3.62 ug/L in WP-13 to 376.2 ug/L in WP-12, with some variation from the 2021 groundwater sample results likely due to exposed under slab areas and stormwater influences due to infiltration. When comparing IEEG December 2022 groundwater sampling results to the Structural Engineering Technologies, P.C. (SET) Third Round Groundwater Testing report, dated

September 11, 2020 (in which groundwater sampling was performed on August 18, 2020), total VOCs in WP-11 have decreased by approximately 86%, and in WP-12 by approximately 32%. Total BTEX concentrations in WP-11 have decreased by 86%, and in WP-12 by approximately 33%.

IEEG believes that the decreasing trend of the total VOC and total BTEX concentrations in these wells, along with the total VOC concentrations being below 1,000 ug/L, is sufficient to close the active spill case at the Property, without the need for in-situ remedial actions.

3.2 Hydraulic Lift Decommissioning and Removal

3.2.1 Lift/Reservoir Decommissioning

On October 12, 2022, two (2) hydraulic lift pistons and associated reservoirs were encountered in the northeast portion of the second floor, beneath the demolished concrete slab. Approximately 3-cubic yards of soil were excavated from around the lifts/pistons and placed on plastic sheeting. On October 17, 2022, two (2) additional hydraulic lifts pistons and associated reservoirs were uncovered proximal to the original two (2) pistons. On the same day, Brookside pumped hydraulic oils from the four (4) lift pistons into seven (7) DOT-regulated steel 55-gallon drums pending characterization and eventual removal/disposal. Additional soils were excavated from around the four (4) lifts and placed with the prior stockpiled material on plastic sheeting. This material was covered overnight. Additional excavation around the lift pistons was performed on October 20, 2022, to facilitate their eventual removal from the ground. Soil was stockpiled on plastic sheeting and covered overnight.

On October 21, 2022, one (1) additional hydraulic lift piston and reservoir was uncovered on the first floor, associated with the previous elevator. Refer to **Plate 11** for a Hydraulic Lift Endpoint and Perched Water Sample Location Map.

On November 28, 2022, bedrock from around the embedded hydraulic lift pistons was demolished to facilitate the removal of the pistons and reservoirs. On this day, one (1) lift piston/reservoir (designated HL-1) was able to be removed and was placed on poly sheeting pending offsite disposal. On November 29, 2022, further bedrock demolition was performed, and lift pistons/reservoirs HL-2 and HL-3 were removed and placed with HL-1 on plastic sheeting. Further potentially impacted soils were excavated from around the pistons and stockpiled on plastic sheeting. Hydraulic piston/reservoir HL-4 was removed on November 30, 2022. On the same day, the four (4) pistons and reservoirs were transported and disposed of by Brookside as scrap metal. Lift disposal manifests are included as **Appendix E**.

On December 1, 2022, hydraulic oil was pumped from the elevator lift piston and reservoir on the first floor, into a 55-gallon DOT-regulated steel drum. The piston/reservoir was then removed from the ground and transported and disposed of by Brookside as scrap metal. Waste disposal manifests are included as **Appendix E**.

On December 6, 2022, three (3) individual stockpiles of material excavated from around the hydraulic lift pistons were comingled into a single stockpile. On December 7, 2022, IEEG collected waste characterization samples from this stockpile (designated Hydraulic Lift Stockpile SP-1). The data was forwarded to Clean Earth of Carteret, LLC (CEC), of

Carteret, NJ. On January 24, 2023, CEC issued an approval letter for the material in this stockpile. Refer to **Appendix F** for facility approvals. This material was exported from the Site on February 20, 2023, for disposal at CEC. Waste disposal manifests are included as **Appendix E**.

On December 20, 2022, IEEG collected and submitted waste characterization samples of the hydraulic oil drums for disposal approval. Veolia ES Technical Solutions LLC provided an approval letter for the oil drums on March 9, 2023. Refer to **Appendix F** for facility approvals. The drums were removed from the Site on March 27, 2023, and disposed of at Veolia ES Technical Solutions of Flanders, NJ. Waste disposal manifests are included as **Appendix E**.

3.2.2 Post Hydraulic Piston/Reservoir Removal Endpoint Sampling

On December 2, 2022, Brookside pumped standing water (thought to be perched groundwater) from within each of the hydraulic lift excavations to facilitate IEEG collecting endpoint samples. The oily water was pumped into four (4) DOT-regulated 55-gallon steel drums pending waste characterization and disposal. IEEG first screened the soils within the hydraulic lift excavations for evidence of VOCs, using a photo-ionization detector. Screening resulted in no evidence of VOCs. IEEG then collected four (4) confirmatory bottom endpoint samples from each of the four (4) hydraulic lift excavations (refer to **Plate 11**). The four (4) samples (designated HL-1, HL-2, HL-3, and HL-4) were placed in laboratory provided clean glassware, stored on ice, and were delivered via lab courier to ELAP-certified Phoenix Analytical Laboratories of Manchester, CT (ELAP Certification #11301). The samples were analyzed for NYSDEC CP-51 list VOCs and SVOCs, and TCL PCBs, in accordance with USEPA Methods 8260 and 8270, and 8082A, respectively. The four (4) drums of oil/water were approved for disposal in an Approval Letter from Clean Water of New York on March 15, 2023 (facility approval are included in **Appendix F**). The four (4) drums were removed from the Site by Brookside on March 27, 2023, and transported to Clean Water of New York, of Staten Island, NY. Waste manifests are included in **Appendix E**.

3.2.3 Post Hydraulic Piston/Reservoir Removal Endpoint Results

Based on a review of the post hydraulic lift piston/reservoir removal bottom endpoint samples, while a number of VOCs (including 1,2,4-trimethylbenzene, 1,3,5-trimenthylbenzene, n-butylbenzene, naphthalene, p-isopropyltoluene, and sec-butylbenzene) and SVOCs (including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, chrysene, fluoranthene, phenanthrene, and pyrene) were detected in the samples, no compounds were detected in exceedance of their respective NYSDEC CP-51 Standards. The PCB 1260 was detected at a concentration of 140 ug/kg in sample HL-1, 180 ug/kg in HL-2, and 130 ug/kg in HL-4, below its CP-51 standard of 1,000 ug/kg. No other VOCs, SVOCs, or PCBs were detected in the four (4) samples. Laboratory Analytical reports can be found in **Appendix G**, and tabulated results can be found in **Table 6**.

3.2.4 Post Hydraulic Piston/Reservoir Removal Perched Groundwater Sampling

On December 9, 2022, IEEG staff collected two (2) apparent perched groundwater samples from standing water within the hydraulic lift piston excavations, as requested by NYSDEC BCP Project Manager Mr. Matthew Hubicki, to determine if the groundwater was impacted from the previous hydraulic lifts (see **Plate 11**). Sample volumes were obtained using a bailer, placed in laboratory provided clean glassware, stored on ice, and were delivered via lab courier to ELAP-certified Phoenix Analytical Laboratories of Manchester, CT (ELAP Certification #11301). The samples were analyzed

for NYSDEC TCL list VOCs and SVOCs, and TCL PCBs, in accordance with USEPA Methods 8260 and 8270, and 8082A, respectively.

3.2.5 Post Hydraulic Piston/Reservoir Removal Perched Groundwater Sample Results

Based on a review of the post hydraulic lift piston/reservoir removal groundwater samples, no VOC, SVOC, or PCB compounds were detected in exceedance of their respective NYSDEC TOGS 1.1.1 WQ/GA Table 1 Standards. Laboratory Analytical reports can be found in **Appendix G**, and tabulated results can be found in **Table 7**.

3.3 Hot Spot Excavation

3.3.1 Initial Remedial Investigation Results

The Site has a historical industrial and commercial use since the early 1950s. Due to its historical usage, the presence of heavy metals including chromium and mercury above RRSCOs may be attributable to past usage. Other non-specific contaminants identified during the RI including nickel, zinc, and pesticides were present but below RRSCOs and are likely non-specific and related to regional background conditions. The limited areas of significant contaminant concentrations or hot spots were identified, as shown on **Plate 12.**

No Site-Specific Action Limits have been developed at this stage in the BCP process. To remain protective of public health and the environmental, a restricted-residential scenario will be commissioned. As such, Restricted-Residential Soil Cleanup Objectives (SCOs) have been assigned to the Site for soil below the cover system at the hot-spot areas:

Analyte	SCO (mg/kg)
Chromium, Trivalent	180
Chromium, Hexavalent	110
Total Mercury	0.81

The application of the assigned SCOs to the Site results in three areas of soil/fill materials that exceed these standards below the proposed future cover system as listed below:

- SB-1 (0-2) – Chromium, Trivalent 720 milligram per kilogram (mg/kg)
- SB-3 (0-2) – Mercury 2 mg/kg
- SB-10A (0-3) – Mercury 1.27 mg/kg

3.3.2 Excavation and Endpoint Sampling of Hotspot HS-1

Between December 13, and December 22, 2022, D-Best conducted the slab and bedrock demolition required to uncover the hotspot in the location of former soil boring SB-1, located in the northwest portion of the second floor (refer to **Plate 12 – Hotspot Excavation Endpoint Sample Analytical Map**). This was designated HS-1. During this time, once the slab had been removed, a negligible quantity of soil was removed from the 10-foot by 10-foot area, due to the presence of bedrock undulating directly below the slab. The depth of the excavation was approximately 2-feet below grade surface. Approximately 2-cubic yards of soil were removed and placed on plastic sheeting pending waste characterization and disposal. Due to the presence of bedrock at the base of the excavation, and on the north, east,

and west sidewalls, only one confirmatory endpoint sample could be collected from the southern sidewall. This sample was designated HS-1-SWS, and was placed in laboratory supplied glassware, stored on ice, and was delivered via lab courier to ELAP-certified Phoenix Analytical Laboratories of Manchester, CT (ELAP Certification #11301). The samples were analyzed Target Analyte List (TAL) Metals / Part 375 List metals (including cyanide, and hexavalent and trivalent chromium) by USEPA Methods 6010C/7471B/9010C/7196A.

3.3.3 Excavation and Endpoint Sampling of Hotspot HS-3

On February 20, 2023, D-Best conducted the slab and bedrock demolition required to uncover the hotspot in the location of former soil boring SB-3, located in the northwest portion of the second floor (see **Plate 12 – Hotspot Location Map**). This was designated HS-3. During this time, once the slab had been removed, a negligible quantity of soil was removed from the 10-foot by 10-foot area, due to the presence of bedrock undulating directly below the slab. The depth of the excavation was approximately 3-feet below grade surface. Approximately 5-cubic yards of soil were removed and placed on plastic sheeting pending waste characterization and disposal. Due to the presence of bedrock at the base of the excavation, only four (4) confirmatory endpoint samples could be collected from the north, south, east, and west sidewalls. These samples were designated HS-3-N, HS-3-S, HS-3-E, and HS-3-W, and were placed in laboratory supplied glassware, stored on ice, and delivered via lab courier to ELAP-certified Phoenix Analytical Laboratories of Manchester, CT (ELAP Certification #11301). The samples were analyzed Target Analyte List (TAL) Metals / Part 375 List metals (including cyanide, and hexavalent and trivalent chromium) by USEPA Methods 6010C/7471B/9010C/7196A.

3.3.4 Excavation and Endpoint Sampling of Hotspot HS-10A

On April 5, 2023, D-Best conducted the slab and bedrock demolition required to uncover the hotspot in the location of former soil boring SB-10A, located in the southern portion of the first floor (see **Plate 12 – Hotspot Location Map**). This was designated HS-10A. During this time, once the slab had been removed, a negligible quantity of soil was removed from the 10-foot by 10-foot area, due to the presence of bedrock undulating directly below the slab. The depth of the excavation was approximately 3-feet below grade surface. Approximately 5-cubic yards of soil were removed and placed on plastic sheeting pending waste characterization and disposal. Due to the presence of bedrock at the base of the excavation, only three (3) confirmatory endpoint sample could be collected from the north, east, and west sidewalls. These samples were designated HS-10A-N, HS-10A-E, and HS-10A-W, and were placed in laboratory supplied glassware, stored on ice, and delivered via lab courier to ELAP-certified Phoenix Analytical Laboratories of Manchester, CT (ELAP Certification #11301). The samples were analyzed Target Analyte List (TAL) Metals / Part 375 List metals (including cyanide, and hexavalent and trivalent chromium) by USEPA Methods 6010C/7471B/9010C/7196A.

3.3.5 Hotspot Endpoint Sample Analytical Results

Based on a review of the HS-1 endpoint samples, while a number of metals exceeded the NYSDEC Part 375 Unrestricted Use SCOs (including copper, nickel, and trivalent chromium), no compounds, including trivalent chromium, were detected in exceedance of their respective NYSDEC Part 375 Restricted Residential SCOs. Based on a review of the HS-3 endpoint samples, while a number of metals exceeded the NYSDEC Part 375 Unrestricted Use SCOs (including mercury, nickel, and trivalent chromium), no compounds, including mercury, were detected in exceedance of their

respective NYSDEC Part 375 Restricted Residential SCOs. Based on a review of the HS-10A endpoint samples, three (3) metals exceeded the NYSDEC Part 375 Restricted Residential Use SCOs (including Barium and Lead in the East sample, and Mercury, in the northern sample).

Due to the elevated concentrations of Barium, Lead, and Mercury, on April 10, 2023, D-Best Industries conducted further excavation of Hotspot HS-10A, approximately 5-feet to the north, and 5-feet to the east. Two (2) additional confirmatory endpoint samples were collected from the northern extent and eastern extent of HS-10A, HS-10A-N and HS-10A-E. Based on a review of the secondary HS-10A endpoint samples, two (2) metals, barium and lead, exceeded the NYSDEC Part 375 Restricted Residential Use SCOs in the northern EP sample. No exceedances of RRSCOs were detected in the eastern sample.

Due to the presence of the northern first floor retaining wall and abundance of bedrock, no further excavation of HS-10A could be conducted to the north. This information was provided to Mr. Hubicki by phone on April 18, 2023, and Mr. Hubicki indicated that no additional remedial actions would be required for HS-10A. Laboratory Analytical reports can be found in **Appendix G**, and tabulated results can be found in **Tables 8a**, **8b**, **8c**, and **8d**. Disposal Manifests for hotspot material can be found in **Appendix E**.

3.4 Exterior RI Samples

3.4.1 Exterior RI Sample Collection

On December 9, 2022, two (2) exterior soil samples from 0-2 fbg were collected using a decontaminated stainless-steel hand auger. These two (2) samples, designated SB-21 and SB-22 were collected from outside the northwest corner of the Site building. Exterior RI Sample Locations are shown in **Plate 13**. The samples were placed in laboratory provided glassware, stored on ice, and transported via lab courier to ELAP-certified Phoenix Analytical Laboratories of Manchester, CT (ELAP Certification #11301), and analyzed for TAL Metals / Part 375 List metals (including cyanide, and hexavalent and trivalent chromium) by USEPA Methods 6010C/7471B/9010C/7196A. These samples were collected to evaluate areas that may have been used historically for drum storage or staging areas. Quality Assurance and Quality Control (QA/QC) samples were also collected, and included one (1) Duplicate, one (1) Matrix Spike (MS), one (1) Matrix Spike Duplicate (MSD), one (1) Field Blank (FB), and one (1) Trip Blank (TB).

3.4.2 Exterior RI Sample Analysis Results

Based on a review of the analytical data from samples SB-21 and SB-22, while a number of metals exceeded the NYSDEC Part 375 Unrestricted Use SCOs (including lead, mercury, and zinc), no compounds were detected in exceedance of their respective NYSDEC Part 375 Restricted Residential SCOs. Laboratory Analytical reports can be found in **Appendix G**, and tabulated results can be found in **Table 9.**

3.5 Trench Drain Samples

3.5.1 Trench Drain Sample Collection

On April 10, 2023, the "L" shaped trench drain located in the boiler room was investigated. It was found to discharge at each end via sumps (see **Plate 14**). Using a jackhammer, the discharge points were opened up to allow access to the soils beneath. Two (2) soil samples from 0-2 fbg were collected from the soils beneath the discharge locations using a decontaminated stainless-steel hand auger, designated FT-1 and FT-2. The samples were placed in laboratory provided glassware, stored on ice, and transported via lab courier to ELAP-certified Phoenix Analytical Laboratories of Manchester, CT (ELAP Certification #11301), and analyzed for Full Part 375 Analytical Parameters; TCL VOCs by USEPA Method 8260, TCL SVOCs by USEPA Method 8270, TAL Metals / Part 375 List metals (including cyanide, and hexavalent and trivalent chromium) by USEPA Methods 6010C/7471B/9010C/7196A, PCBs by USEPA Method 8082A, Pesticides by Method 8081B, and Herbicides by Method 8151.

3.5.2 Trench Drain Sample Analysis Results

Based on a review of the analytical data from samples FT-1 and FT-2, while a number of metals (copper and zinc) exceeded the NYSDEC Part 375 Unrestricted Use SCOs, no compounds were detected in exceedance of their respective NYSDEC Part 375 Restricted Residential SCOs. Laboratory Analytical reports can be found in **Appendix G**, and tabulated results can be found in **Table 10**.

3.6 North Wall Soil Sample

3.6.1 North Wall Sample Collection

On April 10, 2023, a single soil sample was collected using a decontaminated stainless-steel hand auger from apparent stained dark colored soils from along the second-floor northern wall, designated SB-23. Refer to **Plate 15** for Second Floor North Wall Sample Location Map. The sample was placed in laboratory provided glassware, stored on ice, and transported via lab courier to ELAP-certified Phoenix Analytical Laboratories of Manchester, CT (ELAP Certification #11301), and analyzed for Full Part 375 Analytical Parameters; TCL VOCs by USEPA Method 8260, TCL SVOCs by USEPA Method 8270, TAL Metals / Part 375 List metals (including cyanide, and hexavalent and trivalent chromium) by USEPA Methods 6010C/7471B/9010C/7196A, PCBs by USEPA Method 8082A, Pesticides by Method 8081B, and Herbicides by Method 8151.

3.6.2 North Wall Sample Analysis Results

Based on a review of the analytical data from sample SB-23, while a number of metals and pesticides exceeded the NYSDEC Part 375 Unrestricted Use SCOs (including lead, trivalent chromium, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and a-chlordane), no compounds were detected in exceedance of their respective NYSDEC Part 375 Restricted Residential SCOs. Laboratory Analytical reports can be found in **Appendix G**, and tabulated results can be found in **Table 11.**

3.7. SITE CONTROL

To safeguard the health and safety of Site workers and the general public, access to remedial work areas was restricted. Prior to implementation of these IRM activities, Site control was completed by establishment of demarcation identifying work areas. Temporary construction fencing was erected around staging areas to prevent unauthorized

personnel from entering these areas as appropriate. Site control was completed in the five specific locations. Access to each hot-spot removal action was restricted. Temporary construction fencing was erected around excavations HS-1, HS-3 and HS-10A to prevent unauthorized personnel from entering these areas.

3.8. COMMUNITY AIR MONITORING

Community air monitoring was conducted in accordance with the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan (CAMP) to monitor potential impacts to the downwind community (potential receptors include residences, businesses, and workers not directly involved with IRM activities). Real-time air monitoring using direct reading instruments was conducted during soil remediation activities whenever Site soils were handled on Site. A minimum of one (1) upwind and one (1) downwind location was used for real-time monitoring. Designated upwind and downwind locations varied as a result of daily prevailing wind patterns. During work activities within 20 feet of potentially exposed populations or occupied structures, continuous monitoring locations was selected based on the nearest potentially exposed individual and the location of ventilation system intakes for nearby structures. If action levels were exceeded at those locations, then the source of the exceedance was evaluated, and the positioning of upwind and downwind monitoring stations was reassessed.

CAMP monitoring included real-time monitoring for particulate matter less than 10 micrometers in size (PM-10) using an aerosol monitor (DustTrakII). In addition, fugitive dust migration was visually assessed during all work activities. Particulate concentrations were monitored continuously at the perimeter of the work areas at the particulate monitoring locations. All readings were recorded, and air monitoring records were maintained electronically. Realtime monitoring data were downloaded at the end of the day and attached to the Daily Field Report and sent to the NYSDEC and the NYSDOH. Copies of the Daily Field Reports are provided in **Appendix H**. No exceedances of the upwind/background VOC and particulate thresholds were encountered during IRM activities.

4 DESCRIPTION OF REMEDIAL ACTION PLAN

4.1 Remedial Action Objectives

The development of an appropriate remedial approach begins with defining the Site-specific Remedial Action Objectives (RAOs) to address substantial public health and environmental issues identified during the RI portion of this document. In developing the RAOs, consideration is given to the reasonably anticipated future use of the Property (i.e., commercial self-storage facility) and the applicable SCGs. Based on the results of the RI, the following RAOs have been identified for this Site.

Soil RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

Soil RAOs for Environmental Protection

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

Groundwater RAO 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.

Soil Vapor RAO for Public Health Protection

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

4.2 Evaluation of Remedial Alternatives

Remedial alternatives were evaluated and developed for the Site in terms of meeting the threshold and the balancing criteria. The NYSDEC DER-10 'Threshold Criteria' requires evaluation of items 1 and 2; while the 'Balancing Criteria' requires evaluation of items 3 through 9:

1. Protection of human health and the environment
2. Compliance with standards, criteria, and guidelines (SCGs)
3. Short-term effectiveness and impacts
4. Long-term effectiveness and permanence
5. Reduction of toxicity, mobility, or volume of contaminated material
6. Implementability
7. Cost effectiveness
8. Community acceptance; and
9. Land use

Remedial alternatives must be evaluated in terms of the protection of public health and the environment. The goal of the remedy selection process is to select a remedy that is protective of human health and the environment taking into consideration the current, intended and reasonably anticipated future use of the property.

As required, a Track 1 Unrestricted Use cleanup scenario is evaluated to determine if it is appropriate for the Site remedial action and its intended use. A Track 2 Restricted Residential alternative was also evaluated for the Site. The evaluation compares the ability of an unrestricted use remedy and restricted use remedy to meet the Standards, Criteria and Guidance (SCGs) presented in Section 4.1.

The following is a detailed description of the two alternatives analyzed to address the contaminated media at the Site:

Alternative 1: Track 1 Unrestricted Use Remedy

Alternative 1 includes excavation and off-site disposal of all soil exceeding unrestricted use soil cleanup objectives (UUSCOs). In general, this would require excavation to a depth of between approximately 2-8 feet across the extent of the Site down to bedrock, a total of 38,000 square feet, for a total volume of approximately 228,000 cubic feet (8,444 cubic yards), or approximately 12,666 tons.

Alternative 1 includes but is not limited to:

1. The removal of the existing building structures;
2. Excavate soil exceeding UUSCOs and transport of soil off-Site for disposal to meet UUSCOs;
3. Collection of post-excavation confirmation samples;
4. Backfilling of the Site in accordance with applicable 6 NYCRR Part 375 and DER-10 requirements to required elevation for design grade; and,
5. Installation of on-Site monitoring wells for post-remedial monitoring.

Review of the Threshold Criteria and Balancing Criterial for Alternative 1:

- Protection of human health and the environment would be accomplished as the RAOs would be achieved.
- Compliance with standards, criteria, and guidelines (SCGs) would be satisfied as the contaminated overburden soil beneath the building footprint would be removed to meet unrestricted use.
- Short-term effectiveness would result in removal of all soil to the top of Stratum 3 from within the Site footprint; however, this remedial alternative would have short-term impacts related to excavation, soil handling and trucking off-Site which can be the source for airborne transport of contaminated particulates and elevated soil vapor concentrations where there can be exposure to workers, pedestrians, and nearby residents of the surrounding community. These short-term impacts would be minimized through implementation of control plans including a Construction Health and Safety Plan (CHASP), Community Air

Monitoring Program (CAMP) and Site Management Plan (SMP) during on-Site soil disturbance activities and implementation of truck traffic controls. CAMP would be performed to determine if particulate and/or vapor mitigation action are required (e.g., water mist for dust suppression, and foam for vapor suppression). Construction workers operating under appropriate management procedures and a CHASP will don personal protective equipment (PPE) consistent with the documented risks within the respective work zones to provide protection from on-Site contaminants. Measures will be implemented to remove contaminated soil/dust from trucks prior to exiting the Site and soil tracked off-site by trucks will be cleaned continuously cleaned. Flag persons will be used to protect pedestrians at Site entrances and exits. Traffic controls and road closure permitting would be required. Increased truck traffic would be present in the community and truck traffic will be routed on the most direct course using major thoroughfares where possible. The dewatering would generate groundwater that would require treatment and short-term O&M of the treatment systems and effluent testing would be required.

- Long-term effectiveness and permanence would be satisfied as the RAOs would be achieved where the Site meets the unrestricted use criteria. ICs and ECs with respect to potential exposure pathways would be required to mitigate potential exposure to Site occupants.
- Reduction of toxicity, mobility, or volume of contaminated material would be satisfied as contaminated soil contributing soil vapor from beneath the building footprint would be removed. Soil exceeding UUSCOs would be removed from the building footprint with the importation of backfill meeting the applicable 6 NYCRR Part 375 and DER-10 requirements for unrestricted use. Off-Site disposal/treatment of contaminated soil alleviates contaminants at the Site but transfers the risk off-Site.
- The implementability criteria would be satisfied as the excavation and dewatering are a well-established technology where there are excavation contractors and equipment readily available to complete large deep excavations. Prospective disposal facilities have been identified and contacted to evaluate disposal requirements.
- Alternative 1 has the highest capital costs which are related to soil excavation. This alternative would be cost prohibitive for Site redevelopment as the excavation of the Site to Stratum 3 and the Site footprint to the perched water table as described above would require the disposal of an estimated 12,666 tons of soil and removal of approximately 50,000 gallons of contaminated groundwater. Refer to Table 2 for a remedial cost estimation for Alternative 1.
- Community acceptance would be satisfied since this alternative would result in the restoration of the Site to unrestricted use and allow for redevelopment with a residential structure; and
- Land use is satisfied since this alternative would result in the unrestricted use of the Site which is compatible with the proposed future use of the Site as a commercial self-storage facility. The proposed use complies with as-of-right redevelopment and is consistent with other development in the community.

Alternative 2: Track 2 Restricted Residential Use Remedy

Alternative 2 includes:

1. The removal of the existing building slabs.
2. As part of the IRM, excavation and proper off-site disposal of soil exceeding the RR SCOs for metals to approximately 3-4 fbg from three (3) hotspots identified as HS-1, HS-3, and HS-10a, and soil in the remainder of the site to achieve RR SCOs (RRSCOs) at the Site.
3. Collection of hot spot post-excavation confirmation soil samples.
4. Import of backfill material to the Site in accordance with applicable 6 NYCRR Part 375 and DER-10 requirements as needed to meet development elevation.
5. Construction and operation of a soil vapor barrier system at the Site to mitigate potential for soil vapors to migrate into the building.
6. Performance of a soil vapor screening evaluation.
7. Two (2) rounds of groundwater monitoring.
8. Implementing a Site Management Plan.
9. Recording of an Environmental Easement.

Review of the Threshold Criteria and Balancing Criterial for Alternative 2:

- Alternative 2 (Track 2) is protective of human health and the environment because the contaminant mass from the hot-spot areas has been removed. Excavation of other soil with concentrations above the Restricted Residential (RR) SCO for metals in conjunction with ICs and ECs will prevent potential exposure to residual contamination in soil, soil vapor and groundwater.
- Compliance with standards, criteria, and guidelines (SCGs) would be satisfied by achieving removal of the soil above the metals RR SCO. Compliance with SCGs for soil vapor would also be achieved by ECs that would provide for protection of human health and the environment to contaminant exposure.
- Short-term effectiveness would result in removal of contaminated soil (source area mass and soil above RR SCOs); however, this remedial alternative would have short-term impacts related to excavation, soil handling and trucking off-Site which can be the source for airborne transport of contaminated particulates and elevated soil vapor concentrations where there can be exposure to workers, pedestrians and nearby residents of the surrounding community. These short-term impacts would be minimized through implementation of control plans including a CHASP, CAMP and SMMP during on-Site soil disturbance activities and implementation of truck traffic controls. CAMP would be performed to determine if particulate and/or vapor mitigation action are required (e.g., water mist for dust suppression, and foam for vapor suppression). Construction and environmental workers operating under appropriate management procedures, HASP and a CHASP will don personal protective equipment (PPE) consistent with the documented risks within the respective work zones to provide protection from on-Site contaminants. Intermittent temporary closure Redfern Avenue to residents/traffic would be required during soil load out and for mobilization of remediation equipment to the Site. Measures will be implemented to remove contaminated soil/dust from trucks prior to exiting the Site and soil tracked off-site by trucks will be cleaned continuously cleaned. Flag persons will be

used to protect pedestrians at Site entrances and exits. Traffic controls and road closure permitting would be required. Increased truck traffic would be present in the community and truck traffic will be routed on the most direct course using major thoroughfares where possible.

- Long-term effectiveness and permanence would be satisfied as soil above the RR SCO for PCE will be removed from the Site, contaminated groundwater from the off-site source area will be contained, and groundwater/saturated soil contamination on-site will be allowed to naturally attenuate at an accelerated rate to reach asymptotic levels and Site remedial goals.
- Inclusion of ICs and ECs will be required to reduce the potential for exposure of future occupants to contaminated media thus achieving the RAOs for the Site.
- Reduction of toxicity, mobility, or volume of contaminated material would be satisfied as contaminated soil would be permanently removed from the Site. Excavation of soil above the RR SCO would be completed and contaminated groundwater would be reduced thereby achieving a reduction in the volume, mobility and toxic exposure of COCs.
- Implementability would be satisfied as excavation is a well-established technology. Prospective disposal facilities have been identified and contacted to evaluate disposal requirements. The in-situ chemical reagents to create a PRB for saturated soil and groundwater are also well-established technologies where mobilization of specialized equipment and trained labor force are readily available.
- Alternative 2 (Track 2) has lower capital costs for implementation versus Alternative 1. The focused excavation approach would require the disposal of less soil (estimated 400 tons [258 cubic yards]). Overall, this approach allows the property owner to save time and money while providing significant risk management. Refer to Table 3 for a remedial cost estimation for Alternative 2.
- Community acceptance would be satisfied since this alternative provides ICs and ECs to prevent vapor intrusion and manage risk where minimal residual contamination may be present and allow for redevelopment with a residential structure; and
- Land use is satisfied since this alternative would result in the restricted use of the Site that is compatible with the proposed future use as a multi-story mixed use building.

4.3 Selection of Preferred Remedy

A criterion for remedy selection is an evaluation for conformance with SCGs that are applicable, relevant, and appropriate. Principal SCGs that are applicable, relevant, and appropriate for evaluating the alternatives for remediation of the BCP Sites include the following:

- 6 NYCRR Part 375-6 Soil Cleanup Objectives (see **Table 12**)
- New York State Groundwater Quality Standards – 6 NYCRR Part 703
- NYSDEC Ambient Water Quality Standards and Guidance Values – TOGS 1.1.1
- NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation – May 3, 2010
- NYSDEC Draft Brownfield Cleanup Program Guide – May 2004

- New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan
- NYS Waste Transporter Permits – 6 NYCRR Part 364; and
- NYS Solid Waste Management Requirements – 6 NYCRR Part 360 and Part 364.

Based on the evaluation of the Site in terms of the Threshold and Balancing Criteria discussed in the previous sections and the conformance with SCGs, the preferred remedy is Alternative 2 (Track 2) cleanup.

Alternative 2 (Track 2) was found to be the most appropriate and cost-effective approach since it achieves the RAOs while meeting restricted use guidance and is more cost-effective in terms of the proposed redevelopment project. This remediation alternative permanently and significantly reduces the volume of contaminants, mobility, and toxicity at the Site, while requiring the removal and off-Site disposal of a smaller mass of contaminated soil from the Site.

3.2.1 Zoning

The Site has a CM zoning designation for Commercial, Storage, and Light Manufacturing uses.

The development project consists of a commercial storage facility that will incorporate the existing façade of the current building. The proposed development will be approximately 88,830 gross-square-foot (GSF) and 46 feet 3-inches in height (3 stories) and upon completion will include 11 interior parking spaces, storage units and office space, which is in keeping with the current CM zoning regulations of for the Site. The proposed remedy conforms to commercial use and the proposed development is consistent with the proposed zoning.

4.3.2 Applicable Comprehensive Community Master Plans or Land Use Plans

Currently, no comprehensive community master plans, local waterfront revitalization plans, designated Brownfield Opportunity Area plans or other known adopted land use plans are in place that includes the area encompassing the Site.

4.3.3 Surrounding Property Uses

The surrounding land parcels have a combination of residential, commercial, and municipal uses. Commercial uses are predominantly along collector roadways. The Site is bordered to the north by Sutherland Park, to the east by Van Cortland Park Avenue followed by Pelton Park, to the south by McLean Avenue followed by an active gasoline station and auto repair shop (Global Automotive), a food distribution center and several single-family residential dwellings, and to the west by McLean Avenue and several commercial properties (including Advance Auto Parts, Chase Bank, Hollywood Florist, and Malecon Restaurant).

While the property will be redeveloped into a self-storage facility, the redevelopment will retain the exterior façade of the current commercial building to maintain the current aesthetic of the neighborhood. The proposed redevelopment of the property with a self-storage facility as part of Alternative 2 (Track 2) is in keeping with the current surrounding

properties.

4.3.4 Citizen Participation

The approved Citizen Participation Plan (CPP) has been prepared and is provided as **Appendix I** to this RAWP. Thus far there have been no written or oral comments submitted by the public relating to the proposed redevelopment.

4.3.5 Environmental Justice Concerns

The Site is located in a potential Environmental Justice Area (PEJA). Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin and/or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies. The Site redevelopment/remedial Alternative 2 (Track 2) is not anticipated to cause or increase a disproportionate burden on the community in which the Site is located, as the construction of a self-storage facility is in accordance with the guidelines of the CM zoning district in which it resides.

4.3.6 Land Use Designations

The property is not located within any special land use designated areas.

4.3.7 Population Growth Patterns

Based on the 2022 United States census population estimates, the population of Yonkers has decreased from 211,585 in 2020, to 208,121, in 2022: a decrease of 1.6%. The ongoing decrease in population patterns around the Site supports the proposed future use of the property as a self-storage facility, rather than a residential building.

4.3.8 Accessibility to Existing Infrastructure

The proposed Site redevelopment has accessibility to existing infrastructure. Sewer and water supply, along with public electricity, are readily available. The nearest public bus stop is directly across McLean Avenue to the south.

4.3.9 Proximity to Cultural Resources

There are no important cultural resources, including federal or state historic or heritage sites or Native American religious sites proximal to the proposed redevelopment. Therefore, the proposed remedy will not impact cultural resources.

4.3.10 Proximity to Natural Resources

There are no significant natural resources, including important federal, state, or local natural resources, including waterways, wildlife refuges, wetlands, or critical habitats of endangered or threatened species in proximity to the proposed redevelopment that will be affected by the remedial Alternative 2 (Track 2). There are no natural resources proximal to the Site.

4.3.11 Off-Site Groundwater Impacts

Based on the results of the RI, there may be adjacent off-Site groundwater impacts consisting of a gasoline station with known NYSDEC spill cases directly adjacent to the south of the Site. There are no known groundwater well heads, groundwater recharge areas, or other areas identified by the state comprehensive groundwater remediation and protection program proximal to the Site that might be vulnerable to contamination present in the groundwater.

4.3.12 Proximity to Floodplains

The Site does not lie in a Federal Emergency Management Agency (FEMA)-designated flood plain. Remedial Alternative 2 (Track 2) is not likely to be significantly affected by the local flood plains.

4.3.13 Geography, Geology, and Hydrogeology of the Site

Groundwater flow is typically topographically influenced, as shallow groundwater tends to originate in areas of topographic highs and flows toward areas of topographic lows, such as rivers, stream valleys, ponds, and wetlands. A broader, interconnected hydrogeological network often governs groundwater flow at depth or in the bedrock aquifer. Groundwater depth and flow direction are also subject to hydrogeologic and anthropogenic variables such as precipitation, evaporation, extent of vegetation cover, and coverage by impervious surfaces. Other factors influencing groundwater include depth to bedrock, the presence of artificial fill, and variability in local geology and groundwater sources or sinks.

Westchester County is underlain by multiple aquifers, the Galpermin aquifer which is located under the Site is an unconfined aquifer and not a primary source of water. Potable water is drawn from surface water reservoir systems that are sourced from New York state. Based upon the topographic map (USGS – Yonkers Quadrangle) and proximity to the Hudson River, regional groundwater flow direction is presumed to be west to southwest. It should be noted that there may be localized variations in subsurface hydrology created by sewers, wells and other anthropogenic structures. Hydrologic conditions in the vicinity of the Site may be subject to variations in seasonal precipitation and geological conditions not evident during review of publicly available records.

Based on corporate records, obtained by IEC, a Phase II and Supplemental Phase II Environmental Site Assessment (ESA) conducted in April and July 2020 at the Site identified bedrock directly beneath the building slab on the western portion of the Site. Furthermore, sub-grade materials in areas where bedrock was not present, consisted of fine to medium grained brown sand, with no signs of non-native fill material identified. During the Supplemental Phase II ESA, six (6) groundwater monitoring wells were installed on the southeast portion of the Site, and groundwater was encountered between 9.7 and 10.06 feet bgs. Finally, a survey of the installed monitoring wells was performed by Control Point on May 24, 2022 and it was determined that localized groundwater flow is towards the southwest.

During the RI, three (3) groundwater monitoring wells were installed at predetermined locations across the site and depth to groundwater was measured, an additional five wells previously installed by others, were also gauged for depth to groundwater readings. Groundwater ranged from approximately 1.29 feet below the site (MW-5A), perched on top of bedrock, to 10.57 feet in MW-9A on the southeastern portion of the site.).

4.3.14 Current Institutional Controls

There are no existing institutional controls at the Site.

4.4 Summary of Selected Remedial Action

The proposed remedial action, not including the completed IRMs, will consist of:

1. Demolition of the existing building slab and second floor roof will be completed prior to and during the remedial action.
2. Mobilization to the Site for the start of the remedial work will involve Site security and construction boundary setups, equipment mobilization, utility mark outs and marking and staking excavation areas.
3. During soil excavation and intrusive Site work where soil is disturbed, field screening of soil will be performed for indications of contamination by visual means, odor and with a photoionization detector (PID). Appropriate segregation of excavated soil will be evaluated based on the results of the field screening data. Management of excavated materials including temporary stockpiles and segregating in accordance with defined material types will be performed to prevent co-mingling of contaminated material and non-contaminated materials.
4. During soil excavation and intrusive Site work where soil is disturbed through excavation and load out on trucks, air monitoring will be performed. A CAMP will be implemented for evaluation of particulates and VOCs. A water mist and/or vapor mitigation foam or similar product would be available on the Site and applied during excavation and soil disturbance as required to control particulates and vapor, as necessary.
5. Off-site disposal of material removed from the Site will be performed in accordance with applicable regulations for handling, transport, and disposal at permitted facilities.
6. Abandonment of on-Site groundwater monitoring wells will be completed in accordance with the requirements of CP-43 since these wells will be impacted by the Site remediation and redevelopment work.
7. Imported materials for backfill will be in compliance with this plan and in accordance with the lower of 6 NYCRR Part 375 Restricted Residential or Groundwater Protection SCOs as well as other applicable laws and regulations. Areas excavated to terminal depths will be backfilled with a self-compacting virgin stone or equivalent topped with a geotextile fabric and then backfilled with imported material to the elevations required for construction. Gravel, rock or stone, consisting of virgin material from a permitted mine or quarry may be imported without chemical testing provided it contains less than 10% by weight material which would pass through a size 80 sieve. The property owner's structural engineer will provide compaction requirements for the Site.
8. As part of building foundation construction, a vapor barrier system will be installed beneath the building slab to mitigate soil vapor migration into the building. The vapor barrier is an element of construction, and not part of the remedial action, unless deemed otherwise by the Department. The vapor barrier system will consist of a Stego Industries branded Stego Wrap Vapor Intrusion Barrier 20-mil thick chemical resistant waterproofing membrane for horizontal applications beneath the building slab across the site and for vertical applications, outside the building footprint, if required. Equivalent vapor and waterproofing systems will be

evaluated if needed. All welds, seams and penetrations will be properly sealed to prevent preferential pathways for vapor migration.

9. Performance of a post-remediation soil vapor screening evaluation, to be conducted within the NYSDOH determined heating season, and following the completion of building renovation/development, to determine the need, or lack thereof, for soil vapor mitigation.

10. Replacement of damaged/destroyed groundwater monitoring wells to allow for additional post remedial groundwater monitoring. At a minimum, five (5) new permanent groundwater monitoring wells will be installed following the completion of the new building slab, and sampled for a minimum of two (2) rounds within 6-months.

11. Remedial activities will be performed at the Site in accordance with this NYSDEC-approved RAWP and the NYSDEC Decision Document. Deviations from the RAWP and Decision Document will be reported to NYSDEC for approval and fully explained in the Final Engineering Report (FER). A final FER will be submitted that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, and describes all Engineering and Institutional Controls to be implemented at the Site.

12. The establishment of ECs and ICs described in this RAWP require the management in compliance with an approved Site Management Plan (SMP). An Environmental Easement, that includes the ICs and ECs, will be recorded, and will likely include the following: (1) vegetable gardening and farming; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without NYSDEC approval. A SMP will be prepared for the long-term management of residual contamination as required, including plans for: 1) ICs and ECs, 2) monitoring, 3) operation and maintenance and 4) reporting.

5 GOVERNING DOCUMENTS

The remedial activities performed under the RAWP will adhere to the following governing documents to maintain the protection of remediation and construction workers and the public, provide quality assurance (QA) and quality control (QC), ensure the proper handling and management of Site soils/materials, and maintain communications with the community during the remedial activities.

5.1 Standards, Criteria and Guidance

The following standards, criteria, and guidance (SCGs) are typically applicable to Remedial Action projects in New York State, and will be consulted and adhered to as applicable:

Citation	Document Title	Regulatory Agency
General		
6 NYCRR Part 375	Environmental Remediation Programs	NYSDEC
29 CFR 1926	Safety and Health Regulations for Construction	USDOL, OSHA
n/a	Analytical Services Protocol	NYSDEC
DER-10	Technical Guidance for Site Investigation and Remediation	NYSDEC
DER-23	Citizen Participation Handbook for Remedial Programs (March 2010)	NYSDEC
	Sampling, Analysis, and Assessment of Per-and Polyfluoroalkyl Substances (PFAS) – January 2021	NYSDEC
Soil		
6 NYCRR Part 375	Environmental Remediation Programs	NYSDEC
CP-51	Soil Cleanup Guidance	NYSDEC
Groundwater		
6 NYCRR Part 700-705	Surface Water and Ground Water Classification Standards	NYSDEC
TOGS 1.1.1	Ambient Water Quality Standards and Guidance Values (AWQSGVs)	NYSDEC
40 CFR Part 144	Underground Injection Control Program	
n/a	Sampling, Analysis, and Assessment of PFAS – January 2021	NYSDEC
Air/Soil Vapor		
DAR-1	Guidelines for the Evaluation and Control of Ambient Air Contaminants Under Part 212	NYSDEC
n/a	Final - Guidance for Evaluating Soil Vapor Intrusion in the State of New York	NYSDOH
Solid/Hazardous Waste		
6 NYCRR 360	Solid Waste Management Facilities	NYSDEC
6 NYCRR 364	Waste Transporters	NYSDEC
6 NYCRR 371	Identification and Listing of Hazardous Waste	NYSDEC
6 NYCRR 372	Hazardous Waste Manifest System and Related Standards for Generators, Transporters, and Facilities	NYSDEC
6 NYCRR 376	Land Disposal Restrictions	NYSDEC
Site Management		
CP-43	Commissioner Policy on Groundwater Monitoring Well Decommissioning – December 2009	NYSDEC

5.1.4 Site Specific Health & Safety Plan (HASP)

All remedial work performed under this plan will be in full compliance with governmental requirements, including Site and worker safety requirements mandated by the Federal OSHA. A Site-specific HASP that conforms to OSHA regulations is included as **Appendix J**. The Site Safety Coordinator will be Mr. Marius Sidlauskas. Resumes of key personnel involved in the remedial action are included in **Appendix N**.

SNL Yonkers, LLC and associated parties preparing the remedial documents submitted to the State and those performing the construction work, are completely responsible for the preparation of an appropriate Health and Safety Plan and for the appropriate performance of work according to that plan and applicable laws.

The Site-specific HASP and requirements defined in this RAWP pertain to all remedial and invasive work performed at the Site until the issuance of a Certificate of Completion.

5.1.5 Quality Assurance Project Plan (QAPP)

A complete Quality Assurance Project Plan (QAPP) is provided in **Appendix K** for the RAWP activities described herein. The QAPP dictates implementation of the remedial tasks delineated in this Work Plan. Refer to QAPP Table 1 and Table 2 for a summary of the endpoint sample analytical program summary and the sample parameters, holding times and sample container requirements, respectively. The QAPP includes all requirements outlined in DER 10 Section 2.4.

5.1.6 Soil/Materials Management Plan (SMMP)

A complete Soil/Materials Management Plan (SMMP) is provided in Section 6.5 of this report for the RAWP activities described herein.

5.1.7 Erosion and Sediment Controls

The erosion and sediment controls to be implemented during the on-Site Remedial Action will be in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control. Since the area of disturbance will be less than one acre, a Stormwater Pollution Prevention Plan (SWPPP) is not required for the Remedial Action.

5.1.8 Community Air Monitoring Plan (CAMP)

A complete Community Air Monitoring Plan (CAMP) is provided in Section 6.5.11 of this report for the RAWP activities described herein. The CAMP will outline the procedures relating to the following: VOC Monitoring; VOC response levels; Particulate Monitoring; Particulate response levels; and mitigatory measures and actions designed to suppress elevated VOC and Particulate levels.

5.1.9 Contractors Site Operations Plan (SOP)

The selected remedial contractor will be required to prepare a work plan for submittal prior to soil disturbance activity. The Remedial Engineer has reviewed all plans and submittals for this remedial project (including those listed above and contractor and sub-contractor document submittals) and confirms that they are in compliance with this RAWP. The Remedial Engineer is responsible to ensure that all later document submittals for this remedial project, including contractor and sub-contractor document submittals, are in compliance with this RAWP. All remedial documents will be submitted to NYSDEC and NYSDOH in a timely manner and prior to the start of work.

5.1.10 Citizen Participation Plan

The NYSDEC and SNL Yonkers, LLC have established this CPP because the opportunity for citizen participation is an important component of the NYS BCP. This CPP describes how information about the project will be disseminated to the Community during the remedial process. As part of its obligations under the NYSDEC BCP, SNL Yonkers, LLC will maintain a repository for project documents and provide public notice at specified times throughout the remedial program. This Plan also takes into account potential environmental justice concerns in the community that surrounds the project Site. Under this Citizen Participation Plan, project documents and work plans are made available to the public in a timely manner. Public comment on work plans is strongly encouraged during public comment periods. Work plans are not approved by the NYSDEC until public comment periods have expired and all comments are formally reviewed. An explanation of cleanup plans in the form of a public meeting or informational session is available upon request to the NYSDEC's project manager assigned to this Site, Mr. Matthew Hubicki, who can be contacted about these issues or any other questions, comments or concerns that arise during the remedial process at (518) 402-9605.

A certification of mailing will be sent by the SNL Yonkers, LLC to the NYSDEC project 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 (specific date) and that it contained all of applicable project documents. All fact sheets will be translated into Spanish.

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

The approved CPP for this project is attached in **Appendix I**.

Document repositories have been established at the following locations and contain all applicable project documents:

Yonkers Public Library-Riverfront
4 River Street
Yonkers, NY 10701
Attn: Sandy Amoyaw
Phone: (914) 375-7947
Hours: Mon and Thurs 12p-7p
Tues, Wed, Fri 10a-5p

DECinfo Locator
https://gisservices.dec.ny.gov/gis/dil/

Online NYSDEC Document Repository
https://www.dec.ny.gov/cfmx/extapps/derexternal/index.cfm/C360211

5.2 General Remedial Construction Information

5.2.1 Project Organization

Impact Environmental Engineering and Geology PLLC

Impact will coordinate all Site activities being implemented to achieve the remedial objectives defined in the RAWP. Impact will provide continual review of all quality control measures implemented by the contractors to ensure compliance with the Site's remedial objectives. As such, Impact will provide oversight services for the duration of the remedial activities. The implementation of the on-Site Remedial Action construction will be sequenced based on construction requirements, environmental considerations, and logistics based on entry points and staging areas. Principal personnel from impact who will participate in the remedial action include:

- **Kevin Kleaka**, principal-in-charge of this project and as such he is responsible for all project elements and will act to ensure the success of the project.
- **Xin Yuan**, a professional engineer licensed in the State of New York, will be act as the Remedial Engineer and be responsible for certifying that the remediation construction was completed in substantial conformance with the approved RAWP and/or any NYSDEC-approved field changes. The Remedial Engineer will certify in the Final Engineering Report that the remedial activities were observed by qualified environmental professionals under his 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 in full conformance with that Plan.
- **Greg Mendez-Chicas**, is the Qualified Environmental Professional (QEP) for this project and will act as the overall manager for implementation of remedial actions. In this capacity, Mr. Mendez-Chicas will be responsible for the overall coordination associated with implementation of RAWP. He will coordinate and supervise IEC project and field engineers/scientists, as well as subcontractors; ensure adherence to and successful completion of RAWP tasks; interface with the data validator during development of Data Usability Summary Reports and subsequent reporting and documentation of the work performed.

- **Christopher Connolly**, will act as the Project Scientist, responsible for direction of the field program for implementation of the remedial action tasks. Responsibilities will include maintaining quality assurance policies related to various media sample collection, interface with the laboratory, directing subcontractor activities, and ensuring the successful completion of all RAWP field activities.
- **Marius Sidlauskas**, will act as the Site Superintendent, keeping detailed records of all remedial activities and health and safety monitoring
- **Alex Keenan,** will act as the health and safety coordinator for the project.
- **Juliana de la Fuente**, will be the Quality Assurance and Quality Control (QA/QC) officer and will be responsible for the overall quality assurance and review of the project deliverables. She will interface with the Project Manager to address technical issues and provide quality control for the entire project.
- **Sherif Mina**, of Meridian Consultant Group, Inc (MCG) will be utilized for Data Validation Services in relation to laboratory analytical reports generated as part of the confirmatory endpoint sample collection. Mr. Mina will prepare and issue Data Usability Summary Reports (DUSRs) for any Category B Data Deliverables generated as part of the onsite sampling and analysis.

Resumes of key personnel involved in the Remedial Action are included in **Appendix N**.

SNL Yonkers, LLC

As a managing member of the Volunteer, SNL Yonkers, LLC, Mr. Aaron Stevens will coordinate communications with regulatory agencies, provide general oversight of all aspects of the remediation, review, and submission of all documents, publish community notifications, and address community concerns.

Phoenix Environmental Laboratories, Inc.

Phoenix Environmental Laboratories, Inc. (Phoenix) will be utilized for all remediation construction-related analytical requirements. Phoenix is a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified laboratory. All results will be reported in electronic format deliverables prepared in accordance with NYSDEC requirements. Formal laboratory qualifications and Quality Assurance/Quality Control (QA/QC) information packages for Phoenix and any other analytical laboratories proposed for the project will be submitted to the NYSDEC or disposal facilities, if requested.

D-Best Industries

The soil Remedial Contractor is responsible for the excavation of portions of the Site to the required depths as well as transportation and disposal of contaminated excavated materials, and all other contaminated wastes generated, and non-contaminated materials (if any). They are also responsible for installation of the SSDS system, vapor barrier and other applicable ECs. The primary environmental obligations of this contractor include safely managing all excavated

materials, preventing the contaminated Site soils from being tracked off-Site, dust/odor control, and decontamination of equipment, as necessary.

5.2.4 Work Hours

The hours for operation of on-Site remedial construction will conform to the New York City Department of Buildings construction code requirements or according to specific variances issued by that agency. NYSDEC will be notified by the Volunteer/Applicant of any variances issued by the Department of Buildings. NYSDEC reserves the right to deny alternate remedial construction hours.

5.2.5 Site Security

Site access will be controlled by the existing exterior walls of the building, with access restricted by padlocked overhead shutters and padlocked doors. During all remedial activities access to the properties will be limited to authorized remedial and construction workers. Visitors to the Site will be required to sign a log book and meet applicable health and safety requirements. The area of work at the Site will be fenced to delineate and secure areas of excavation.

5.2.6 Traffic Control

Drivers of trucks leaving the Site with soil/fill will be instructed to proceed without stopping in the vicinity of the Site to prevent neighborhood impacts. The planned route on local roads for trucks leaving the site is as follows:

1. Trucks should leave the Site heading south on McLean Avenue.
2. Take McLean Avenue south and then east until they reach the entrance ramp for the Major Deegan Expressway (Route 87).
3. Head south on Route 87 and onto the destination.

Refer to **Plate 16** for a map of truck route.

5.2.7 Contingency Plan

This contingency plan is developed for the remedial construction to address the discovery of unknown structures or contaminated media during excavation. Identification of unknown contamination source areas during invasive Site work will be promptly communicated to NYSDECs Project Manager. Petroleum spills will be reported to the NYSDEC Spill Hotline. These findings will be included in the daily report. If previously unidentified contaminant sources are found during on-Site remedial excavation or development-related excavation, sampling will be performed on contaminated source material, including sidewall and bottom endpoint samples, and reported to NYSDEC. Chemical analytical testing will be performed for TCL VOCs by USEPA Method 8260, TCL SVOCs by USEPA Method 8270, TAL metals by USEPA Method 6010, TCL pesticides by USEPA Method 8081, PCBs by USEPA Method 8082A, and NY List of 21 PFAS Compounds (Emerging Contaminants) by USEPA Method 537.

5.2.8 Worker Training and Monitoring

All general Site workers (as defined in OSHA 1910.120 (e)(3)(i)) that will be directly involved with soil disturbance activities will have received a minimum of 40 hours of initial health and safety training for hazardous waste site operations (40 Hour HAZWOPER training). Soil disturbance activities are defined as excavation, backfilling, and regrading materials at the Site prior to removal of all impacted material with concentrations exceeding RR SCOs.

5.2.9 Agency Approvals

A complete list of all local, regional, and national governmental permits, certificates or other approvals or authorizations required to perform the remedial and development excavation work, which will contain a citation of the law, statute or code to be complied with, the originating agency, and a contact name and phone number in that agency, will be included in the Final Engineering Report.

No planned remedial or construction work will occur in regulated wetlands or adjacent areas.

5.2.10 Pre-Construction Meeting with NYSDEC

A project kick-off meeting (likely virtual due to COVID-19) will be conducted with the Volunteer, IEC, NYSDEC, and the selected excavation Contractor and subcontractors responsible for construction of the SSDS, SVE and/or groundwater treatment prior to the commencement of any intrusive remedial activities proposed in this RAWP.

5.2.11 Emergency Contacts

An emergency contact sheet with names and phone numbers of the environmental team members is provided below. This table defines the specific project contacts for use by NYSDEC and NYSDOH in the case of a day or night emergency.

Title/Name	E-Mail	Phone Numbers
Medical, Fire and Police	-	911
One Call Center	-	(800) 272-4480 (3-day minimum notice required)
Poison Control Center	-	(800) 222-1222
NYSDEC Spills Hotline	-	(800) 457-7362
Principle/Kevin Kleaka (IEC)	kkleaka@impactenvironmental.com	631-269-8800 x129
Xin Yuan, Remedial Engineer (IEC)	xyuan@impactenvironmental.com	631-269-8800 x110
Greg Mendez-Chicas, Sr. Project Manager (IEC)	Gmendez-chicas@impactenvironmental.com	631-269-8800 x124
Matthew Hubicki (NYSDEC)	Matthew.hubicki@dec.ny.gov	(518) 402-9605
Jim Sullivan (NYSDOH)	Jim.sullivan@health.ny.gov	-
Aaron Stevens (representative of Volunteer)	as@snlstorage.com	(718) 753-0909

The Site-specific HASP will define the specific project contacts for use by NYSDEC and NYSDOH in the case of a day or night emergency. Since the contractors have not yet been selected, the emergency contact list will be prepared prior to the start of work and the HASP will be updated.

5.2.13 Remedial Action Costs (Track 2)

The total estimated cost for **On-Site Remedial Alternative 2** (Track 2) remedy is **$1,441,214**. The costs associated with On-Site Remedial Alternative 1 are significantly higher than On-Site Remedial Alternative 2 (Track 2) due to the additional excavation, backfill materials, and off-Site disposal that will be required to achieve Track 1 Unrestricted Use SCOs throughout the Site. On-Site Remedial Alternative 2 (Track 2) includes long term costs associated with implementation of the SMP, operation and maintenance of a composite cover system and supplemental monitoring. Refer to **Table 13** and **Table 14** for an itemized and detailed summary of remedial alternative cost estimates. This will be revised based on actual costs and submitted as an appendix in the FER.

5.3 Site Preparation

5.3.1 Mobilization

Mobilization will be conducted as necessary for each phase of work at the Site. These activities include:

1. Mobilization of equipment to the Site;
2. Field personnel orientation;
3. Installation of temporary perimeter fencing and traffic barricades to delineate the work zone and act as a work site security measure;
4. Installation of erosion and sediment control measures;
5. Set-up of decontamination facilities, which are expected to be limited due to the nature of the project; and,
6. Marking/staking sampling locations and utility mark-outs.

5.3.2 Monitoring Well Decommissioning

Existing groundwater monitoring wells will either be protected during former building slab demolition, remediation, and redevelopment for use in post-remedial monitoring, or will be properly decommissioned in accordance with NYSDEC policy CP-43. Based on their location, in the footprint of the proposed redevelopment, the following wells are anticipated to be decommissioned: WP-11, WP-15, MW-4a, MW-5a, MW-7a, and MW-9a.

5.3.3 Erosion and Sedimentation Controls

Erosion and sediment control measures identified in this remedial plan (e.g., silt fences and barriers, and hay bale checks) will be installed around the entire perimeter of the remedial construction area and inspected once a week and after every storm event to ensure that they are operating appropriately. Discharge locations will be inspected to determine whether erosion control measures are effective in preventing significant impacts to receptors. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. All necessary repairs shall be made immediately. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. Undercutting or erosion of the silt fence toe anchor will be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged

due to weathering.

5.3.5 Utility Marker and Easements Layout

The presence of utilities and easements on the Site will be fully investigated prior to the performance of invasive work such as excavation or drilling under this plan by using, at a minimum, the One-Call System (811). Underground utilities may pose an electrocution, explosion, or other hazard during excavation or drilling activities. All invasive activities will be performed incompliance with applicable laws and regulations including NYC Building Code to assure safety. Utility companies and other responsible authorities will be contacted to locate and mark the locations, and a copy of the Mark-Out Ticket will be retained by the contractor prior to the start of drilling, excavation or other invasive subsurface operations. Overhead utilities may also be present within the anticipated work zones. Electrical hazards associated with drilling in the vicinity of overhead utilities will be prevented by maintaining a safe distance between overhead power lines and drill rig masts.

The Volunteer and its contractors are solely responsible for the identification of utilities that might be affected by work under the RAWP and implementation of all required, appropriate, or necessary health and safety measures during performance of work under this RAWP. The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this RAWP. The Volunteer and its contractors must obtain any local, State or Federal permits or approvals pertinent to such work that may be required to perform work under this RAWP. Approval of this RAWP by NYSDEC does not constitute satisfaction of these requirements.

5.3.6 Structural Stability

Appropriate management of structural stability of on-Site or off-Site structures during on-Site activities include excavation is the sole responsibility of the Volunteer and its contractors.

5.3.7 Equipment and Material Staging

Equipment and materials for the on-Site remedial construction will be staged on-Site in a designated, secure area.

5.3.8 Stabilized Construction Entrance(s)/Decontamination Area

Due to the nature of the project, the building slab and roof will be removed and development related construction will be ongoing at the same time. Therefore, a stabilized construction entrance/exit is required for this Site. Care will be taken to avoid spillage of soil onto the sidewalk asphalt outside the work area, to the extent practicable. Once excavation is complete any soil spilled will be removed and the asphalt will be restored. Any soil spilled on the sidewalk or street immediately adjacent to the Site will be promptly removed and the street will be cleaned.

5.3.9 Site Fencing

Site access will be controlled by the buildings existing exterior walls, locked doors, locked overhead entrances, and a 8-foot-high chain link fence during the bulk of construction. The Contractor shall protect the work areas by installation of temporary Site perimeter fencing to control public access and protect the site from theft and vandalism. The Contractor shall erect, maintain, and dismantle temporary fencing around construction site and materials storage areas. Unless otherwise indicated, type of temporary chain link fencing shall be Contractor's option. Other fencing is acceptable if in compliance with the NYC Department of Building's requirements.

The fences and gates will be closed and locked when there is no activity on the Site and any breaks or gaps will be repaired immediately. Cones or other portable barricades will supplement the perimeter fencing to delineate and secure the area of ongoing remediation activities within the Site such as soil stockpiles and health and safety exclusion zones.

5.3.10 Demobilization

Demobilization will include:

- As necessary, restoration of temporary access areas and areas that may have been disturbed to accommodate support areas (e.g., staging areas, decontamination areas, storage areas, temporary water management areas, and access area);
- Removal of sediment from erosion control measures and disposal of materials in accordance with applicable laws and regulations;
- Equipment decontamination, and;
- General refuse disposal.

Equipment will be decontaminated and demobilized at the completion of all field activities. In addition, all investigation and remediation derived waste will be appropriately disposed.

5.4 Reporting

Site activities and progress will be reported on a daily and monthly basis as described below. All daily and monthly Reports will be included in the FER.

5.4.1 Daily Reports

Daily reports will be submitted to NYSDEC and NYSDOH Project Managers by noon each day following the reporting period and will include:

- An update of progress made during the reporting day;
- Locations of work and quantities of material imported and exported from the Site;
- Photographs of daily activities;
- References to alpha-numeric map for Site activities;
- A summary of any and all complaints with relevant details (names, phone numbers);
- A summary of CAMP finding, including excursions;
- An explanation of notable Site conditions; and,
- Description of anticipated activities.

Daily reports are not intended to be the mode of communication for notification to the NYSDEC of emergencies (accident, spill), requests for changes to the RAWP, or other sensitive or time critical information. However, such conditions must also be included in the daily reports. Emergency conditions and changes to the RAWP will be addressed directly to NYSDEC Project Manager via personal communication. The NYSDEC assigned project number will appear on all reports.

5.4.2 Monthly Reports

Monthly reports will be submitted to NYSDEC and NYSDOH Project Managers by the 10th day of the following month and will include:

- Activities relative to the Site during the previous reporting period and those anticipated for the next reporting period, including a quantitative presentation of work performed (i.e., tons of material exported and imported, etc.);
- Description of approved activity modifications, including changes of work scope and/or schedule.
- Sampling results received following internal data review and validation, as applicable; and, an update of the remedial schedule including the percentage of project completion, unresolved delays encountered or anticipated that may affect the future schedule, and efforts made to mitigate such delays.

5.4.3 Complaint Management Plan

All complaints from citizens will be promptly reported to the NYSDEC Project Manager. Complaints will be addressed, and outcomes will also be reported to NYSDEC as soon as possible and will also be documented in daily reports. Notices to NYSDEC will include the nature of the complaint, the party providing the complaint, and the actions taken to resolve any problems.

5.4.4 Deviations from the Remedial Action Work Plan

All changes to the RAWP will be reported to, and approved by, the NYSDEC Project Manager and will be documented in daily reports and reported in the Final Engineering Report (FER). Deviations from the on-Site RAWP will be fully explained in the FER. The process to be followed if there are any deviations from the RAWP will include a request for approval for the change from NYSDEC noting the following:

- Reasons for deviating from the approved RAWP;
- Effect of the deviations on overall remedy; and,
- An approval process will be followed for changes/editions to the RAWP with basis that the remedial action with the deviation(s) is protective of public health and the environment.

6 ON-SITE REMEDIAL ACTION: MATERIAL REMOVAL FROM SITE

The demolition of the existing building's first and second floor slabs will be completed prior to the approval of the RAWP. The NYSDEC was provided with a Change of Use Application pertaining to the demolition of building slabs, removal of a 5,000-gallon underground storage tank, and installation of bracing, footings, and sub-slab vapor barrier, on July 17, 2022, at least 60-days prior to demolition. The Department acknowledged the Change of Use on July 21, 2022. Furthermore, IEEG has coordinated the completion of several IRMs prior to the approval of this RAWP, as discussed in Section 3. An IRM Construction Completion Report (IRM CCR) was provided to the Department on June 30, 2023. The NYSDEC is currently in the process of reviewing the IRM CCR.

The removal of materials from the Site will include removal of the concrete building slabs, shallow bedrock (which is prevalent beneath the slab), and incidental, non-remedial related soils: It is estimated that approximately 300-450 tons (200-300 cubic yards) of incidental soil will be removed from the Site as part of the remedy and disposed of at a facility licensed to accept such material.

6.1 Excavation

Excavation and off-site disposal of soils from the Site which exceed the RR SCO, listed in 6NYCRR Part 375-6, Table 375-6.8(b), were completed as part of the IRM hotspot removal. Refer to **Plate 12** for a Hotspot Removal Map. It is understood, based on the RI results, that no other material exceeds the RRSCOs at the Site.

Additional soil will be removed to support the redevelopment of the Site. Soil and materials management on-Site and off-Site will be conducted in accordance with the SMMP as described below.

6.2 Soil Cleanup Objectives

The remedy selected for this Site includes Track 2 cleanup to comply with the RR SCOs, as applicable, listed in 6NYCRR Part 375-6, Table 375-6.8(b). The SCOs are protective of human health and the environment and are justified based on the planned remedial activities and future Site use. Excavation in the hotspot areas completed as part of the IRM, extended until endpoint confirmation samples meeting RR SCOs were achieved. A post hotspot removal endpoint analytical results map is shown in **Plate 12**.

6.3 On-Site Remedial Performance Evaluation

Performance of the Track 2 on-Site Remedial Action with respect to soil must demonstrate remaining materials meet RR SCOs and verify the effectiveness of ECs. Documentation samples are used to verify soil conditions in the locations of the hotspots. End-point sampling and reporting was conducted as part of the IRM in accordance with DER-10.

Confirmation soil samples were collected to confirm that the SCOs for metals in soil have been met following

implementation of the IRM hotspot removals. No additional endpoint samples are anticipated as part of the Remedial Action.

Prior to the on-Site remedial construction, the Remedial Engineer will review all engineering drawings and details, import material specifications (if applicable), and import soil quality data (if applicable) to confirm compliance with this RAWP.

6.3.1 End Point Sampling Frequency

Post-Remediation Confirmation Sampling

Confirmatory endpoint samples for contaminated soil at hotspots HS-1, HS-3, and HS-10a were completed as part of the IRM at a frequency as directed by DER-10. To confirm the performance of the remedy with respect to soil meeting the RRSCOs for metals, confirmation soil samples were collected for laboratory analysis of NYCRR Part 375 metals by USEPA Method 6010 parameters from the excavation termination areas, as applicable.

Soil samples were collected from side walls of the excavations at one soil sample per sidewall (expected to be less than 30 linear feet each sidewall), and one bottom excavation sample was collected at one per 900 square feet, where possible, due to the presence of abundant bedrock in the excavations. Refer to **Plate 12** for a hotspot sample location map.

6.3.2 Methodology

Each new sample was inspected for visual evidence of contamination (i.e., staining, presence of petroleum or odors) and field screened for VOCs using a PID. Soil samples were placed in a laboratory sample jar and transported to the laboratory in an iced container.

6.3.3 Reporting of Results

The laboratory has reported analytical results for end-point samples in ASP Category B deliverable packages. An electronic data deliverable (EDD) in the required NYSDEC format will also be provided by the laboratory. All end-point sample data generated for the on-Site Remedial Action will be logged in a database and organized to facilitate data review and evaluation. The electronic dataset will include the data flags provided in accordance with USEPA Laboratory Data Validation Functional Guidelines for Evaluating Organic Analysis and Inorganic Analyses, as well as additional comments of the data review for ASP/CLP analyses. The data flags include such items as: 1) concentration below required detection limit, 2) estimated concentration due to poor recovery below required detection limit, 3) estimated concentration due to poor spike recovery, and 4) concentration of chemical also found in laboratory blank.

6.3.4 Quality Assurance and Quality Control

QA/QC samples serve as checks on both the sampling and measurements systems and assist in determining the overall data quality with regard to representation, accuracy, and precision. The QAPP, provided as **Appendix K**, describes QA/QC procedures and sampling for the project.

6.3.5 Data Usability Summary Report

A Data Usability Summary Report (DUSR) will be prepared to evaluate the end-point samples by a party independent from the laboratory performing the analysis and the project team in accordance with Appendix 2B of DER 10. The QAPP, provided as **Appendix K**, describes the DUSR to be prepared for the project. DUSRs for existing samples to be used as confirmation and/or documentation samples are provided in Appendix B of the RIR.

6.3.6 Reporting of End-Point Data in FER

The environmental laboratories used for all end-point sample results and contingency sampling will be NYSDOH ELAP certified. End-point sampling frequency is described in Section 6.3.1. The FER will provide a tabular summary of the results of all documentation samples and map summary of the exceedances of SCOs. The report will provide a tabular summary of the results of all confirmation samples and map summary of the exceedances of SCOs, along with an evaluation of the contaminant mass removed from the source area. This data will also be reported in the subsequent FER.

6.4 Estimated Material Removal Quantities

The removal of materials from the Site will include: 1) removal and off-site disposal of general construction debris; 2) excavation and off-site disposal of soil to comply with applicable SCOs; 3) excavation for building foundation elements; 4) removal of building foundation elements associated with the former demolished building slabs from the subsurface as applicable; and 5) hot-spot area excavation. It is estimated that approximately 300-450 tons (200-300 cubic yards) of soil from hot-spots will be removed as part of the remedy, with an additional 300-450 tons (200-300 cubic yards) of soil generated from new building construction (items 1-4 above).

6.5 Soils/Materials Management Plan

The following sections provide the SMMP, which will be implemented during the on-Site Remedial Action.

6.5.1 Soil Screening Methods

Visual, olfactory and PID soil screening and assessment will be performed by a qualified environmental professional or experienced field scientist under the direction of the Remedial Engineer during all remedial and development (if any) excavations into known or potentially contaminated material. Soil screening will be performed regardless of when the

invasive work is done and will include all excavation and invasive work performed during the remedy phase and development (if any), such as excavations for utility work, prior to issuance of the Certificate of Completion.

6.5.2 Temporary Soil Staging Methods

Although direct-loading of trucks will be performed to the extent practical, excavated soil may be stored as temporary stockpiles or in roll-off containers. Stockpiles, if any, will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. Stockpiles will be lined and covered with polyethylene sheeting and continuously encircled with silt fences or hay bales (except where material is being loaded or removed). Hay bales or inlet protection covers will be used as needed near catch basins and other discharge points. Water will be available on-Site at suitable supply and pressure for use in dust control. Roll-off containers will be covered. If wet soil is encountered, roll-offs will be lined.

6.5.3 Materials Transport Off-Site

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

<u>Inbound from Route 87:</u>

- Head north on Route 87.
- Take McLean Avenue west and then north.
- Trucks should enter the Site heading north on McLean Avenue.

<u>Outbound from Site:</u>

- Trucks should leave the Site heading south on McLean Avenue.
- Take McLean Avenue south and then east until they reach the entrance ramp for the Major Deegan Expressway (Route 87).
- Head south on Route 87 and onto the destination.

Proposed in-bound and out-bound truck routes to the Site are shown on **Plate 16**. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites to the extent practicable; (b) use of city mapped truck routes; (c) prohibiting off- Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport; [(g) community input [where necessary]].

The Site is not large enough to allow the queuing of trucks on-Site in order to minimize off-Site disturbance. Off-Site queuing will be prohibited, and a solution will be established with transportation company. Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.

Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development.

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

6.5.4 Material Excavation and Load-Out, Transportation and Off-Site Disposal

The total estimated quantity of 300-450 tons (200-300 cubic yards) of soil is expected to be removed and disposed from hot-spots during implementation of the remedy, with an additional 300-450 tons (200-300 cubic yards) related to new building construction. The Remedial Engineer or a qualified environmental professional under his/her supervision will oversee all invasive work, including the excavation and load-out of all excavated material.

The Volunteer and its contractors are solely responsible for safe performance of all invasive work, the structural integrity of excavations, and the stability of structures that may be affected by the excavations (e.g., sidewalks, drainage structures, parking lot islands, electrical service, etc.). If necessary, SOE (e.g., trench boxes or other temporary means) will be used to support the excavations).

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded. Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site. Off-Site queuing will be minimized to the extent practicable. Truck transport routes are as described in Section 6.5.3. All trucks loaded with Site materials will exit the vicinity of the Site using only these approved truck routes.

Locations where vehicles enter or exit the Site shall be inspected daily for evidence of tracking soil off the Site. Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development.

The disposal locations will be determined prior to implementation of the on-Site Remedial Action and will be reported to the NYSDEC Project Manager.

Unregulated off-Site management of materials from this Site is prohibited without formal NYSDEC approval. Material

that does not meet Track 1 UU SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-15 Registration Facility).

The following documentation will be obtained and reported by the Remedial Engineer for each disposal location used in this project to fully demonstrate and document that the disposal of material derived from the Site conforms with all applicable laws: (1) a completed disposal facility application for each receiving facility describing the material to be disposed and requesting formal written acceptance of the material. This application will state that material to be disposed of is contaminated material generated at an environmental remediation Site in New York State. The application will provide the project identity. The application will include as an attachment a summary of all chemical data for the material being transported (including Site Characterization data); and (2) a letter from all receiving facilities stating it is in receipt of the correspondence (above) and is approved to accept the material. These documents will be included in the FER.

The FER will include an accounting of the destination of all material removed from the Site during this on-Site Remedial Action, including excavated soil, solid waste, hazardous waste (if any), non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. This information will also be presented in a tabular form in the FER.

Bill of Lading system or equivalent will be used for off-Site movement of non-hazardous wastes and contaminated soils. This information will be reported in the FER.

Hazardous wastes (if any), derived from on-Site will be stored, transported, and disposed of in full compliance with applicable local, State, and Federal regulations.

6.5.5 Materials Reuse On-Site

This section provides the details required for reuse of materials on-Site. 'Reuse On-Site' means material that was originally derived from the Site will be reused on the Site as part of the remedy.

Soil originating on the Site may be reused on the site provided laboratory analysis of the soil demonstrates compliance with SCGs as detailed in DER-10 Table 5.4(e)4. Otherwise, soil will be disposed of in a permitted treatment, storage or disposal facility. Procedure for determining if soil reuse is appropriate:

- The number of samples required to demonstrate compliance with SCGs is dependent on the volume of soil identified for reuse.
- Grab soil samples are required for VOC analysis by USEPA Method 8260, and discrete samples from 3 to 5 random locations from the volume of soil to be tested are composited for SVOCs by USEPA Method 8270, PCBs, organochlorine pesticides, TAL metals and PFAS compound analysis.

- Levels of contamination must not exceed the lower of the protection of groundwater and residential use levels.
- A summary table of the reuse analytical results compared to the Restricted Residential Use SCOs will be submitted to the NYSDEC for evaluation and approval.
- A "Request to Import/Reuse Fill Material" form will be filed with the NYSDEC project manager for review and approval prior to material reuse on the site. A copy of the form is presented in **Appendix P**.
- A pre-construction meeting with the construction contractor will determine the stockpile segregation, staging area for stockpiles and the size of stockpiles which will be submitted to the NYSDEC prior to commencement of excavation work at the Site.

The Remedial Engineer will ensure that procedures defined for materials reuse in this RAWP are followed and that unacceptable material will not remain on-Site. The following also apply to material reuse on Site:

- Concrete crushing or processing on-Site is prohibited, unless NYSDEC has specifically approved on-site processing and reuse of acceptable demolition material.
- Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site is prohibited for reuse on-Site.
- Contaminated on-Site material, including historic fill and contaminated soil, removed for grading or other purposes will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines. This will be expressed in the final Site Management Plan.

6.5.6 Fluids Management

Dewatering is not anticipated. If any are generated, liquids to be removed from the Site will be handled, transported, and disposed of in accordance with applicable local, State, and Federal regulations.

6.5.7 Demarcation

A demarcation layer or barrier will be placed to distinguish between clean soil and soil exceeding UUSCOs. Apart from hot-spot removal areas, the building foundation will serve as the demarcation layer, if necessary.

6.5.8 Backfill from offsite Sources

Materials proposed for import onto the Site will be approved by the Remedial Engineer and NYSDEC and will be in compliance with provisions in this RAWP prior to receipt at the Site. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) may be brought in to establish the designed grades at the Site. Sampling of backfill material will be completed in accordance with the QAPP. Native material from a virgin quarry source with less than 10 % fines will not require sampling prior to use as backfill on the Site.

Select types of backfill may be imported to the site without sampling as described in Part 375 (i.e., virgin stone). If sampling is required, all imported soils will meet NYSDEC approved soil quality objectives for this Site. The NYSDEC-approved soil quality objectives for the on-Site Remedial Action are the lower of the PGW SCOs or the RR SCOs. Additionally, backfill imported to the Site will be tested for 1,4-dioxane and PFAS contamination in general conformance with DER-10, Section 5.4(e). Results for PFOA and PFOS should be compared to the applicable guidance values. If PFOA or PFOS is detected in any sample at or above the guidance values then the source of backfill should be rejected, unless a site-specific exemption is provided by DER based on Synthetic Precipitation Leaching Procedure (SPLP) testing, for example. If, based on SPLP testing, the concentrations of PFOA and PFOS in leachate are at or above 10 ppt, then the soil is not acceptable. Non-compliant soils will not be imported onto the Site without prior approval by NYSDEC.

Material from industrial sites, spill sites, other environmental remediation sites or other potentially contaminated sites will not be imported to the Site without prior approval by NYSDEC.

Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360 (i.e., soils from another construction Site outside of New York City), but do not meet backfill objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC.

6.5.9 Erosion and Sedimentation Controls

- Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.
- Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.
- All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.
- Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.
- Erosion and sediment control measures identified in the RAWP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.
- Silt fencing or hay bales will be installed around the entire perimeter of the remedial construction area.

6.5.10 Contingency Plan

In the unlikely event that USTs or other previously unidentified contaminant sources are found during on-Site remedial excavation, sampling will be performed on surrounding soils and collected from sidewalls and excavation bottoms.

Chemical analytical work will be for full scan parameters (TAL metals, TCL VOCs and SVOCs, TCL pesticides, PCBs, and PFAS "emerging contaminants"). These analyses will not be limited to CP-51/Soil Cleanup Guidance parameters where tanks are identified without prior approval by NYSDEC.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to NYSDEC's Project Manager. These findings will also be included in daily reports.

6.5.11 Community Air Monitoring Plan

Real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the exclusion zone or work area will be performed. Continuous monitoring will be performed for all ground intrusive activities and during the handling of contaminated or potentially contaminated media. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pit excavation or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be performed during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection, for instance, will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well bailing/purging, and taking a reading prior to leaving a sample location. Depending upon the proximity of potentially exposed individuals, continuous monitoring may be performed during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence. Exceedances of action levels observed during performance of the Community Air Monitoring Plan (CAMP) will be reported to the NYSDEC Project Manager and included in the Daily Report.

<u>VOC Monitoring, Response Levels, and Actions</u>

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis during invasive work. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

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 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 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

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

All 15-minute readings must be recorded and be available for NYSDEC personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) 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 mcg/m3 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 mcg/m3 above the upwind level, work will be stopped, and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m3 of the upwind level and in preventing visible dust migration.

All readings will be recorded and be available for NYSDEC personnel to review.

Exceedances observed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers and included in the

Daily Report.

6.5.12 Odor, Dust and Nuisance Control Plan

The FER will include the following certification by the Remedial Engineer: "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 on-Site Remedial Action Work Plan."

6.5.12.1 Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-Site. Specific odor control methods to be used on a routine basis will include wetting the Site down with available water supply. If nuisance odors are identified, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of all other complaints about the project. Implementation of all odor controls, including the halt of work, will be the responsibility of the Volunteer's Remedial Engineer, who is responsible for certifying the Final Engineering Report.

All 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 foams to cover exposed odorous soils; [add other elements as appropriate]. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

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.

6.5.12.2 Dust Control Plan

A dust suppression plan that addresses dust management during invasive on-Site work, will include, at a minimum, the items listed below and will comply with NYSDEC DER-10 Appendix 1B – Fugitive Dust Control:

Dust suppression will be achieved through applying water on haul roads; wetting equipment and excavation faces; spraying water on buckets during excavation and dumping; hauling materials in properly tarped or watertight containers; restricting vehicle speeds to 10 mph; covering excavated areas and material after excavation activity ceases; and reducing the excavation size.

6.5.12.3 Other Nuisances

A plan for rodent control will be developed and utilized by the contractor prior to and during Site clearing and Site grubbing, and during all remedial work. A plan will be developed and utilized by the contractor for all remedial work and will conform, at a minimum, to NYCDEP noise control standards.

7 REMAINING CONTAMINATION ON-SITE

Since remaining groundwater contamination will exist beneath the Site after the remedy is complete, ECs and ICs are required to protect human health and the environment. These ECs and ICs are described hereafter. Long-term management of EC/ICs and of remaining contamination will be implemented under a Site-specific SMP that will be developed and approved by NYSDEC and NYSDOH.

Groundwater

Post-remediation groundwater monitoring will be performed to monitor groundwater quality conditions identified during the RI and subsequent groundwater sampling in December 2022. Two rounds of post-remediation synoptic groundwater gauging and sampling will be performed over the course of 6 months to document and track groundwater quality trends documented from May 2022.

ECs will be implemented to protect public health and the environment by appropriately managing residual contamination. The Controlled Property (the Site) will have one (1) primary EC system. This is:

- A composite cover system, comprising of a vapor barrier and 4- to 6-inch-thick concrete slab will be installed as part of construction to mitigate migration of soil vapors into the site building, and as a cap to protect inhabitants/workers from residual soil contamination remaining onsite in excess of the Part 375 UUSCOs.

The FER will report residual contamination, if any, on the Site in tabular and map form. This will include presentation of exceedances of both Track 1 SCOs and Track 2 SCOs sites.

8 POST REMEDIAL GROUNDWATER WELL REPLACEMENT AND SAMPLING

The objective of post-remediation groundwater monitor is to monitor groundwater quality conditions identified during the RI and subsequent groundwater sampling in December 2022. Two rounds of post-remediation synoptic groundwater gauging and sampling will be performed over 6 months to document and track groundwater quality trends documented from May 2022.

Due to anticipated damage that will occur to existing on-site monitoring wells during building rehabilitation, construction of five (5) replacement wells (see **Plate 19**), if required, will be undertaken within 30 days of substantial completion of construction to avoid damage to the wells from heavy equipment. The abandonment and decommissioning of wells that will be damaged will either be removed entirely or abandoned and decommissioned pursuant to the NYSDEC's CP-43: Groundwater Monitoring Well Decommissioning Policy, in order to remove a potential pathway for the vertical migration of potentially impacted groundwater and/or surface water runoff. Construction of new and replacement monitoring wells will either match abandoned well details or be determined by subsurface geology (i.e., screened intervals). After installation, new monitoring wells will be properly developed as described herein. Protective casings and surface seals will be installed on all new and replacement wells.

Each new well will be left undisturbed for a minimum of 24 hours following installation before development activities begin to ensure that the cement/bentonite grout has set. Prior to development, well integrity will be evaluated and the static water level and well depth will be measured. Development will be accomplished using a suction-lift pump, air-displacement pump, bottom-discharging bailer, or a Waterra™ hand pump via purge and surge methodologies. Development will be recorded on field forms and considered completed when the pH, specific conductivity and temperature have stabilized; and when the turbidity is below 50 NTU or has stabilized above 50 NTU and a minimum of 10 well volumes have been removed. Stability is defined as variation between measurements of 10 percent or less and no overall upward or downward trend in the measurements. Water removed during development will be discharged to the ground surface no closer than 50 feet in any radial direction from the monitoring well unless visual non-aqueous phase liquid (NAPL) is present, in which case it will be drummed for characterization and disposal.

Field personnel will perform visual NAPL surveillance during development of each well. All data collected during well development will be recorded on Groundwater Well Development and Purge Logs. A detailed description of well development procedures, including the field forms, and calibration and maintenance of field instruments used to measure stability parameters are presented in the Quality Assurance Project Plan (QAPP) provided in **Appendix K** of this RAWP.

New well installations will be surveyed to determine their location relative to New York State Plane (1983 NAD) coordinates and elevation. Groundwater elevation data will be collected during each sampling event and an isopotential map prepared. This site-specific isopotential map will be used to determine the groundwater flow direction and hydraulic gradients.

The monitoring wells in the program will be sampled using USEPA Region II Low Stress (i.e., low flow) Purging and Sampling technique. The low-flow method produces samples with lower turbidity and smaller volumes of purge water than using conventional bailer techniques. Low-flow sampling also produces less agitation of the groundwater. As a result, the low-flow method provides a more representative sample, in relation to actual groundwater conditions, by not drastically altering the chemistry of the groundwater while withdrawing the sample.

Groundwater monitoring well samples will be collected for laboratory analysis of Full Target Compound List (TCL) parameters for VOCs via EPA Method 8260 and Semi-VOCs via EPA Method 8270. Subsequent groundwater monitoring requirements or additional remedial efforts after the initial two (2) rounds will be determined in consultation with the NYSDEC. The remedial goal is to document complete cut-off of the off-site source and enhanced natural attenuation of groundwater contamination. The data generated from the groundwater sampling will be used to evaluate post-excavation and post-treatment conditions and establish dissolved-phase contaminant trends over time. A minimum of four (4) rounds of sampling over a period of one year is anticipated.

Upon completion of the groundwater monitoring described, a report will be provided to the NYSDEC to summarize the events and include sampling data, discussion of results, isopotential map, and analytical data presented as tables and maps.

9 POST REMEDIAL SOIL VAPOR SCREENING EVALUATION

The objective of the proposed work is to provide supplemental sub-slab soil vapor analytical data during the heating season (typically from November 15th to March 31st) given the initial soil vapor assessment was conducted in May 2022 as part of the RI, although no actionable concentrations above the NYSDOH criteria was detected. This work will commence once the new building foundation has been installed to verify that no additional measures (e.g., sub-slab depressurization) are required post-remediation to mitigate potential human exposures to contaminated subsurface vapors, if present. The proposed work will be conducted in accordance with the *NYS Department of Health (DOH), Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (NYSDOH October 2006, and subsequent updates).

To meet this objective, seven (7) sub-slab soil vapor samples (i.e., SV-1 through SV-7) as shown in **Plate 18**, will be installed following installation of the new building foundation. The sub-slab points will be installed using a hand-held hammer drill. A ⅜-inch core hole will be advanced through the concrete slab and approximately 3 inches into the sub-slab material to create an open cavity. New Vapor-Pin® sampling points will be inserted into the concrete slab at each sample location, approximately 1 inch above the sub-slab material. Each sample point will be capped with a stainless-steel, airtight Swagelok® fitting until tracer testing is conducted. A typical schematic of a sub-slab point is presented in **Appendix Q** for reference. Samples will be collected over a 2-hour period.

After installation of the sub-slab sampling points and prior to collecting any samples, a tracer gas test will be performed, using helium, to assess the integrity of the vapor point installations. Helium will be introduced into a shroud covering the intersection of the sample tubing and the ground. The atmosphere under the shroud will consist of an initial concentration of 80 percent (%) helium or greater. After introducing the tracer gas to the shroud, three volumes (i.e., the volume of the sample probe and tube) will be purged from each sampling location at a rate not to exceed 200 milliliters per minute. The purge volume will be consistent across all the samples collected. Purge air will be tested for the helium tracer gas using real-time monitoring equipment. If the percentage of helium in the purge air is greater than 10% of the current shroud concentration, the seal will be fixed and the tracer test re-administered. Should the helium level still be greater than 10% after re-testing, the sample location should be reassessed, and a determination will be made if it is necessary to abandon the vapor point and install a new vapor point at a nearby location. Additionally, if water or significant condensation is observed in the vapor tubing, the vapor point will not be used for sample collection, and a new vapor point will be installed at a nearby location. Helium data and vapor point conditions will be noted on the sampling log.

Sub-slab samples will be collected following the successful passing of the helium tracer test described above. Sub-slab samples will be collected over a commercial occupant period of approximately 2 hours. Samples will be collected using passive (less than -28 inches of mercury [in. Hg]) 2.75- liter, stainless-steel SUMMA canisters supplied from a laboratory with current Environmental Laboratory Approval Program (ELAP) certification. The canisters will be individually certified clean by the laboratory and supplied with vacuum gauges and pre-set flow controllers capable of collecting a sample at a rate not to exceed 0.2 liter per minute to minimize outdoor air infiltration during sampling. Once a canister is full (i.e., -5 in. Hg remaining, as measured by an analog pressure gauge), it will be sealed and labeled with the sample

identification number for the sub-slab vapor point. Each canister shipment will be sealed with chain-of-custody tape, and chain-of-custody forms will be completed in triplicate. Samples will be either shipped via overnight carrier or driven directly to the analytical laboratory on the day that collections are completed.

Sub-slab vapor samples will be analyzed by an ELAP-certified laboratory using United States Environmental Protection Agency Method TO-15 (Determination of volatile organic compounds [VOCs] in Air Collected in Specially Prepared Canisters and Analyzed by Gas Chromatography Mass Spectrometry). Whole-air samples will be analyzed for VOCs using a quadrupole or ion-trap gas chromatograph/mass spectrometer system to provide compound reporting limits of at or below the NYSDOH guidance values.

Upon completion of the fieldwork and receipt of laboratory analytical data, a Supplemental Soil Vapor Evaluation Letter Report will be prepared and presented to the NYSDEC.

10 ENGINEERING CONTROLS

10.1 Vapor Mitigation

Although significant residual soil vapor is not anticipated post remediation, the potential for soil vapor intrusion will be evaluated by way of the soil vapor screening evaluation described in Section 9. If the results of the soil vapor evaluation dictate, the enhanced measures to mitigate and prevent soil vapor intrusion will be implemented. A required sealing layer in the form of a vapor barrier will be installed beneath the building slab and on the exterior of foundation walls. Specifications for the vapor barrier are provided in **Appendix L**.

Vapor Barrier

Although not an element of the proposed remedy, a vapor barrier/waterproofing membrane will be installed as an element of foundation construction and will consist of a Stego Industries branded Stego Wrap Vapor Intrusion Barrier 20-mil thick chemical resistant waterproofing membrane for horizontal applications beneath the building foundation slab. See **Plates 17a** and **17b** for Vapor Barrier design and layout.

The Stego Wrap Vapor Intrusion Barrier waterproofing membrane lengths will be joined using manufacturer recommended sealant tape (for low temp and hot weather applications) with a minimum six-inch overlap between each section. The vapor barrier can be adhered to the vertical portions of the foundation walls using tape. Any penetrations in the membrane will be sealed using manufacturer recommended mastic or tape or other accessories. The vapor barrier/waterproofing membrane will extend throughout the area occupied by the footprint of the new building and will be installed in accordance with manufacturer specifications.

11 CRITERIA FOR COMPLETION OF REMEDIATION/TERMINATION OF REMEDIAL SYSTEMS

11.2 Groundwater Monitoring

Groundwater monitoring activities to assess the performance of the remedy, or natural attenuation following the removal of on-site contaminant source, will continue, as determined by NYSDOH and NYSDEC, until residual groundwater concentrations are found to be below NYSDEC standards or have become asymptotic over an extended period. Monitoring will continue until permission to discontinue is granted in writing by NYSDEC and NYSDOH. Monitoring activities will be outlined in the Monitoring Plan of the SMP. It is anticipated that a minimum of two quarterly monitoring events will be performed.

12 INSTITUTIONAL CONTROLS

After the remedy is complete, the Site may have residual contamination remaining in place. Engineering Controls (ECs) for the residual contamination have been incorporated into the remedy to render the overall Site remedy protective of public health and the environment. Two elements have been designed to ensure continual and proper management of residual contamination in perpetuity: an Environmental Easement and a Site Management Plan.

All as-built drawings, diagrams, calculations, and manufacturer documentation for treatment systems will be presented in the FER. A Site -specific Environmental Easement will be recorded with Westchester County to provide an enforceable means of ensuring the continual and proper management of residual contamination and protection of public health and the environment in perpetuity or until released in writing by NYSDEC. It requires that the grantor of the Environmental Easement and the grantor's successors and assigns adhere to all Engineering and Institutional Controls (ECs/ICs) placed on this Site by this NYSDEC-approved remedy. ICs provide restrictions on Site usage and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. The SMP describes appropriate methods and procedures to ensure compliance with all ECs and ICs that are required by the Environmental Easement. Once the SMP has been approved by the NYSDEC, compliance with the SMP is required by the grantor of the Environmental Easement and grantor's successors and assigns.

12.1 Environmental Easement

An Environmental Easement, as defined in Article 71 Title 36 of the Environmental Conservation Law, is required when residual contamination is left on-Site after the Remedial Action is complete. As part of this remedy, an Environmental Easement approved by NYSDEC will be filed and recorded with the Westchester County Office of the City Register. The recorded Environmental Easement will be submitted as part of the FER.

The Environmental Easement renders the Site a Controlled Property. The Environmental Easement:

1. Requires the remedial party or Site owner to complete and submit to the NYSDEC a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
2. Allows the continued use and development of the controlled property for restricted-residential (which allows for commercial and industrial uses) as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
3. Restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or Article 141 of the NYCDOH code; and
4. Requires compliance with the Department approved SMP.

The Environmental Easement renders the Site a Controlled Property. The Environmental Easement must be recorded with the Queens County Office of the City Register before the Certificate of Completion can be issued by NYSDEC. A

series of Institutional Controls are required under this remedy to implement, maintain and monitor these Engineering Control systems, prevent future exposure to residual contamination by controlling disturbances of the subsurface soil and restricting the use of the Site to restricted residential use(s) only. These Institutional Controls are requirements or restrictions placed on the Site that are listed in, and required by, the Environmental Easement. Institutional Controls can, generally, be subdivided between controls that support Engineering Controls, and those that place general restrictions on Site usage or other requirements. Institutional Controls in both of these groups are closely integrated with the SMP, which provides all of the methods and procedures to be followed to comply with this remedy.

The ICs that support ECs are:

- Compliance with the Environmental Easement by the Grantee and the Grantee's successors and adherence of all elements of the SMP is required;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs on the Controlled Property must be inspected and certified at a frequency and in a manner defined in the SMP;
- Data and information pertinent to Site Management for the Controlled Property must be reported at the frequency and in a manner defined in the SMP;
- On-Site environmental monitoring devices, if any, must be protected and replaced as necessary to ensure proper functioning in the manner specified in the SMP; and
- ECs may not be discontinued without an amendment or extinguishment of the Environmental Easement.
- Adherence to these ICs for the Site is mandated by the Environmental Easement and will be implemented under the SMP (discussed in the next section). The Controlled Property will also have a series of ICs in the form of Site restrictions and requirements. The restrictions that apply to the Controlled Property are:
- Vegetable gardens and farming on the Controlled Property are prohibited, with the exception of raised planters;
- Use of groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for intended purpose;
- All future activities on the Controlled Property that will disturb remaining contaminated material are prohibited unless they are conducted in accordance with the soil management provisions in the SMP;
- The Controlled Property may be used for commercial use (and industrial uses defined in 6 NYCRR Part 375) only, provided the long-term ECs and ICs included in the SMP are employed;

- The Controlled Property may not be used for a higher level of use, such as restricted residential, residential, or unrestricted use without an amendment or extinguishment of this Environmental Easement; and

- Grantor agrees to submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow. This annual statement must be certified by an expert that the NYSDEC finds acceptable.

12.2 Site Management Plan

Site Management is the last phase of remediation and begins with the approval of the Final Engineering Report and issuance of the Certificate of Completion (COC) for Remedial Action. The Site Management Plan is submitted as part of the FER but will be written in a manner that allows its removal and use as a complete and independent document. Site Management continues in perpetuity or until released in writing by NYSDEC. The Volunteer property owner is responsible to ensure that all Site Management responsibilities defined in the Environmental Easement and the Site Management Plan are performed.

The SMP is intended to provide a detailed description of the procedures required to manage residual contamination left in place at the Site following completion of the Remedial Action in accordance with the BCA with the NYSDEC. This includes: (1) development, implementation, and management of all Engineering and Institutional Controls; (2) development and implementation of monitoring systems and a Monitoring Plan; (3) development of a plan to operate and maintain any treatment, collection, containment, or recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual); (4) submittal of Site Management Reports, performance of inspections and certification of results, and demonstration of proper communication of Site information to NYSDEC; and (5) defining criteria for termination of treatment system operation.

To address these needs, this SMP will include four plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems; and (4) a Site Management Reporting Plan for submittal of data, information, recommendations, and certifications to NYSDEC. The SMP will be prepared in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation and the guidelines provided by NYSDEC.

Site management activities, reporting, and EC/IC certification will be scheduled on a certification period basis. The certification period will be annually. The Periodic Review Report will be based on the certifying period relative to the date of issuance of the COC. The first submission will be due 16 months after the issuance of the COC, and annually thereafter.

No exclusions for handling of residual contaminated soils will be provided in the SMP. All handling of residual contaminated material will be subject to provisions contained in the SMP.

13 FINAL ENGINEERING REPORT

An FER will be submitted to NYSDEC following implementation of the on-Site Remedial Action defined in this RAWP. The FER provides the documentation that the on-Site remedial work required under this RAWP has been completed and has been performed in compliance with this plan. The FER will include as-built drawings for all constructed elements, certifications, manifests, and bills of lading. The FER will provide a description of the deviations in the on-Site Remedial Action from the elements provided in the RAWP. The FER will provide a comprehensive account of the locations and characteristics of all material removed from the Site. The FER will provide a tabular summary of all material characterization results and other sampling and chemical analysis performed as part of the on-Site Remedial Action (if any). The FER will be prepared in conformance with DER 10.

The FER will include written and photographic documentation of all remedial work performed under the on-Site Remedial Action.

The FER will provide a thorough summary of all remaining contamination left on the Site after the remedy is complete. Remaining contamination includes all contamination that exceeds the Track 1 UUSCOs in 6NYCRR Part 375-6. A table that shows exceedances from Track 1 UUSCOs for all soil/fill remaining at the Site after the on-Site Remedial Action and a map that shows the location and summarizes exceedances from Track 1 Unrestricted Use SCOs for all soil/fill remaining at the Site after the on-Site Remedial Action will be included in the FER.

The FER will provide a thorough summary of all remaining contamination that exceeds the SCOs defined for the Site in the RIR/RAWP and must provide an explanation for why the material was not removed as part of the on-Site Remedial Action. A table that shows remaining contamination in excess of Site SCOs and a map that shows remaining contamination in excess of Site SCOs will be included in the FER.

The FER will include an accounting of the destination of all material removed from the Site, including excavated contaminated soil, historic fill, solid waste, hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. It will provide an accounting of the origin and chemical quality of all material imported onto the Site.

Before approval of an FER and issuance of a Certificate of Completion, all project reports must be submitted in the NYSDECs standardized EDD format.

13.1 Certifications

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

I, [PE name], certify that I am currently registered professional engineer licensed by the State of New York. I had primary direct responsibility for the implementation of the subject construction program for the [Site name] Site (NYSDEC BCA Index No. Wx-xxxx-xx-xx Site No. Cxxxxxx).

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 [Site name] 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/or any operation and maintenance requirements applicable to the site are contained in an environmental easement created and recorded pursuant to ECL 71-3605 and that any 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 for the continual and proper operation, maintenance, and monitoring of any engineering controls employed at the site including the proper maintenance of any 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 were taken to facilities licensed to accept this material in full compliance with all Federal, State and local laws.

I certify that all import of soils from off-Site, including source approval and sampling, has 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.

14 SCHEDULE

A schedule for performance of the remedial work is as follows:

ACTIVITY DESCRIPTION	ESIMATED DATE
Construction Mobilization	September-October 2022
Demolition of Existing Building Slabs	October 2022 - December 2023
IRM Activities – 5,000-gallon UST Removal	October 2022
IRM Activities – Post UST Removal GW Sampling	December 2022
IRM Activities – Hydraulic Lift Removal	October – December 2022
IRM Activities – Hot Spot Excavation	December 2022 – April 2023
Installation of Sub-Slab Stego® Wrap Vapor Barrier System	October 2022 – August 2023
Supplemental Soil Vapor Intrusion Study	November 2023
File Environmental Easement	August 2023
Draft Site Management Plan	August 2023
Draft Final Engineering Report	October 1, 2023
Receipt of Certificate of Completion	December 2023

Refer to **Appendix N** for a Gantt chart of the projected construction schedule.