COPYRITE PLASTIC SHEETS
BRONX COUNTY

BRONX, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: C203151

Prepared for:

Walton Street GC Developments LLC

1201 38th Street

Brooklyn, New York 12219

Prepared by:

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Astoria, New York 11105

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

DECEMBER 2025

CERTIFICATION STATEMENT

I, Ariel Czemerinski, certify that I am currently a NYS registered professional engineer as in defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and Green Remediation (DER-31).

Ariel Czemerinski _____P.E.

12/11/2025 _____DATE

(*Final SMP will be certified*)

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List of Acronyms

AS	Air Sparging
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
BMP	Best Management Practice
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
CLP	Contract Laboratory Program
COC	Certificate of Completion
CO2	Carbon Dioxide
CP	Commissioner Policy
DER	Division of Environmental Remediation
DUSR	Data Usability Summary Report
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ERP	Environmental Restoration Program
EWP	Excavation Work Plan
GHG	Greenhouse Gas
GWE&T	Groundwater Extraction and Treatment
HASP	Health and Safety Plan
IC	Institutional Control
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operation and Maintenance
OM&M	Operation, Maintenance and Monitoring
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
P.E. or PE	Professional Engineer
PFAS	Per- and Polyfluoroalkyl Substances
PID	Photoionization Detector
PRP	Potentially Responsible Party
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QEP	Qualified Environmental Professional
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study

ROD	Record of Decision
RP	Remedial Party
RSO	Remedial System Optimization
SAC	State Assistance Contract
SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective
SMP	Site Management Plan
SOP	Standard Operating Procedures
SOW	Statement of Work
SPDES	State Pollutant Discharge Elimination System
SSD	Sub-slab Depressurization
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program

ES EXECUTIVE SUMMARY

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

Site Identification:	C203151, Copyrite Plastic Sheets Site, 261-315 Grand Concourse & 270 Walton Avenue, Bronx, NY

Institutional Controls:	1. The property may be used for restricted residential, and commercial use;
	2. All ECs must be operated and maintained as specified in this SMP;
	3. All ECs must be inspected at a frequency and in a manner defined in the SMP;
	4. The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the NYC Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;
	5. Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
	6. Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
	7. All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
	8. Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
	9. Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;

Site Identification:	C203151, Copyrite Plastic Sheets Site, 261-315 Grand Concourse & 270 Walton Avenue, Bronx, NY

Institutional Controls:	10. Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement;	
	11. The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on Figure 6, and any potential impacts that are identified must be monitored or mitigated; and	
	12. Vegetable gardens and farming on the site are prohibited.	
Engineering Controls:	1. Active Sub-slab Depressurization System (SSDS)	
	2. Groundwater Monitoring Wells associated with In-Situ Technology and Source Removal	
Inspections:		Frequency
1. Active Sub-Slab Depressurization System		Monthly by trained superintendent and quarterly for the first year of operation by QEP/PE, and annually by QEP/PE thereafter
Monitoring:		
1. Groundwater Monitoring Wells (SW-1, SW-2 and SW-3)		Quarterly
2. Active Sub-Slab Depressurization System Monitoring Points		Monthly by trained superintendent and quarterly for the first year of operation by QEP/PE, and annually by QEP/PE thereafter

3. Soil Vapor Intrusion Evaluation for New Buildings	Prior to Building Occupancy
Maintenance:	
1. Blower maintenance	As needed
Reporting:	
1. Soil Vapor Intrusion Evaluation Sampling Results	Prior to Building Occupancy
2. Groundwater Sampling Data	Quarterly
3. Periodic Review Report	Annually (first PRR due 16 months after issuance of COC)

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

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the Copyrite Plastic Sheets site located in Bronx, New York (hereinafter referred to as the "Site"). See Figure 1. The Site is currently in the New York State (NYS) Brownfield Cleanup Program (BCP), Site No. C203151, which is administered by New York State Department of Environmental Conservation (NYSDEC or Department).

261 Grand Concourse LLC, original Applicant entered into a Brownfield Cleanup Agreement (BCA) on January 4, 2022 with the NYSDEC to remediate the southern portion of the site. The ownership of the site was transferred to Walton Street GC Developments LLC on November 23, 2022, and Walton Street GC Developments LLC submitted a major amendment to the original BCP site at 261 Grand Concourse (Lot 1) to include the two adjacent tax lots at 315 Grand Concourse (Lot 27) and 270 Walton Avenue (former Lot 11) to the BCP. The BCA was amended on December 21, 2023, to add the two tax parcels at 315 Grand Concourse and 270 Walton Avenue to the Brownfield Cleanup Program. Lots 1 and 11 were merged into one new Lot 1 for zoning purposes, and at NYSDEC's request, evidence was submitted on November 22, 2023. A figure showing the site location and boundaries of this site is provided in Figure 2. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in Appendix A.

After completion of the remedial work, some contamination was left at this site, which is hereafter referred to as "remaining contamination". Institutional and Engineering Controls (ICs and ECs) have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Bronx County Clerk, requires compliance with this SMP and all ECs and ICs placed on the site.

This SMP was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC); and
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6 NYCRR Part 375 and the BCA (Index #C203151-12-21; Site # C203151) for the site, and thereby subject to applicable penalties.

All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the site is provided in Appendix B of this SMP.

This SMP was prepared by AMC Engineering PLLC (AMC), on behalf of Walton Street GC Developments LLC, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

1.2 Revisions and Alterations

Revisions and alterations to this plan will be proposed in writing to the NYSDEC's project manager. The NYSDEC can also make changes to the SMP or request revisions from the remedial party. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shutdown of a

remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. All approved alterations must conform with Article 145 Section 7209 of the Education Law regarding the application of professional seals and alterations. For example, any changes to as-built drawings must be stamped by a New York State Professional Engineer. In accordance with the Environmental Easement for the site, the NYSDEC project manager will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

1. 60-day advance notice of any proposed changes in site use that are required under the terms of the BCA, 6 NYCRR Part 375 and/or Environmental Conservation Law.
2. 7-day advance notice of any field activity associated with the remedial program.
3. 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan. If the ground-intrusive activity qualifies as a change of use as defined in 6 NYCRR Part 375, the above mentioned 60-day advance notice is also required.
4. Notice within 48 hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
5. Notice within 48 hours of any non-routine maintenance activities.
6. Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
7. Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

8. At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the Brownfield Cleanup Agreement (BCA), and all approved work plans and reports, including this SMP.

9. Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

In-Text-Table 1 on the following page includes contact information for the above notifications. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix B.

In-Text-Table 1: Notifications*

Name	**Contact Information**	**Required Notification****
Sydney Sobol Project Manager, NYSDEC	(518) 402-4799 sydney.sobol@dec.ny.gov	All Notifications
Douglas MacNeal Section Chief, NYSDEC	(518) 402-9684 douglas.macneal@dec.ny.gov	All Notifications
Kelly Lewandowski NYSDEC Site Control	(518) 402-9569 Kelly.lewandowski@dec.ny.gov	Notifications 1 and 8
Anthony Perretta, Project Manager, NYSDOH	(518) 402-7880 BEEI@health.ny.gov	Notifications 4, 6, and 7

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

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

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location and Description

The site is located in Bronx, New York and is identified as Block 2344 and Lots 1 and 27 on the New York City Tax Map (see Figure 1). The site originally consisted of three tax lots (1, 11, and 27). Former Lot 11 was merged into Lot 1 and Lot 27. Current Lot 1 is 0.5951 acres and current Lot 27 is 0.2695 acres. The site is an approximately 0.865-acre area and is bounded by East 140th Street followed by a commercial building and a vacant lot to the north, East 138th Street followed by a public park to the south, Grand Concourse followed by mixed residential and commercial use buildings to the east, and an industrial warehouse and Walton Avenue followed by a gas station and vacant lot to the west (see Figure 2 – Site Layout Map). The underground tracks for the Metropolitan Transportation Authority (MTA) "4" and "5" lines run below Grand Concourse to the east of the Site. The boundaries of the site are more fully described in Appendix A –Environmental Easement. The owner(s) of the site parcel(s) at the time of issuance of this SMP is:

Walton Street GC Developments, LLC

2.2 Physical Setting

2.2.1 Land Use

The Site consists of the following: two new 14-story residential buildings. The southern tower (Building A) on Lot 1 consists of a 14-story residential building with no cellar, and the northern tower (Building B) on Lot 27 consists of a 14-story residential building with a partial cellar. The Site is zoned C6-2A (residential equivalent R8A) with mandotary inclusionary housing for residential and commercial use. The site is currently under final stages of construction for two residential buildings. Site occupants include residential tenants.

The properties adjoining the Site and in the neighborhood surrounding the Site primarily include a mix of commercial, residential, and industrial properties. The properties immediately south of the Site include roadways and public park; the properties immediately north of the Site include commercial properties; the properties immediately east of the Site include mixed commercial and residential properties; and the properties to the west of the Site include industrial properties.

2.2.2 Geology

Prior to remedial excavation, the stratigraphy of the Site, from the surface down, consists of approximately 2.5 feet of historic fill underlain by 2.5 feet of brown sand with traces of gravel and silt underlain by bedrock. The remedial excavation was extended into the bedrock, and therefore, no soil/fill remains at the site.

A geologic cross section is shown in Figure 3.

2.2.3 Hydrogeology

Groundwater elevations ranged from el. 5.43 feet (NAVD88) to el. 27.98 feet (NAVD88). The groundwater beneath the Site flows north to south toward the Harlem River.

A groundwater contour map is shown in Figure 4. Groundwater elevation data is provided in Table 6. Groundwater monitoring well construction logs are provided in Appendix D.

2.3 Investigation and Remedial History

Former Lot 1 was undeveloped as early as 1891; and developed in the southern portion with a two-story commercial building utilized as offices by 1908. Lot 1 was developed as part of two separate tax lots at the time. The two-story structure was demolished circa 1935, and the southern portion of the lot was utilized as part of a gasoline station, which occupied the main tax lot. The property was developed into the tax parcel configuration immediately before remediation sometime between 1935 and 1941 as two adjacent tax lots; and redeveloped with a one-story concrete and brick building utilized as

a plastic products manufacturing facility in the northern portion in 1947. The use of the building was changed to a warehouse circa 1977. The southern portion of the lot was utilized as parking between 1996 and 1998; and redeveloped as a one-story commercial building between 1998 and 2001. The two one-story buildings appear to be interconnected by 2004. The building appears to be vertically enlarged to two-story circa 2008. Demolition of the structures occurred in 2022 for remediation. Historical ownership of Lot 1 prior to 1984 was Fritzie Leibowitz, who transferred the property in 1984 to Kaytee Plastic Sales. Lot 1 was then transferred in 1987 to Marvin Siegel, again in 2007 to NOBR 261 LLC, then to 261 Grand Concourse LLC in 2020. In November 2022, Walton Street GC Developments LLC acquired the property.

Former Lots 11 and 27 were undeveloped as early as 1891. Former Lot 11 was developed partially as part of a two-story garage and auto supplies stock sometime between 1928 and 1935; Lot 11 was vacant circa 1944 when the property was configured to its current footprint; and redeveloped with the most recent two-story warehouse prior to remediation in 2002. Demolition of the structure occurred in 2024 for remediation. Historical ownership of Lot 11 of the Site prior to 1967 was US Reproduction Supplies Corp, which transferred the property in 1967 to N Teitelbaum Sons Inc, Lot 11 was then transferred in 1987 to Marvin Siegel, again in 1987 to Teklits Realty Corp, then to John Lage in 1996. In December 2022 Walton Street GC Developments LLC acquired the property.

Former Lot 27 was developed as part of a two-story private garage, one-story repair shop, and a one-story automobile sales service shop sometime between 1928 and 1935; it was then developed with a filling station with multiple unground storage tanks circa 1944 when the property was configured to its current footprint; the footprint of the filling station was expanded sometime between 1951 and 1977; the footprint of the structure was expanded once again circa 1992 when the property was converted to a filling station/car wash; and it was finally improved with the most recent building prior to remediation as a car wash in 2003. Demolition of the structure occurred in 2024 for remediation. Historical ownership of Lot 27 of the Site prior to 1967 was 3825 Broadway Corp, which transferred the property in 1967 to Meister Anton Ex of TR, Lot 27 was then transferred in 1970 to Chatham Associates Inc., again in 1972 to Avon Associates Inc., next was transferred to

Bentley Properties LTD in 1977, then to the Commissioner of Finance (NYC) in 1988, which transferred the property to the City of New York in 1991. The City of New York then transferred the property to New York City Economic Development Corp. in 2000, which transferred the property to 315 R.E. Corp in 2000. In December 2022 Walton Street GC Developments LLC acquired the property.

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

Environmental investigations were completed at the Site between 2019 and 2024 through multiple phases (RI and SRI), documented in reports by S & W Services, Inc. (S&W), Gallinger Environmental Management (GEM), Vektor, Environmental Business Consultants (EBC), and Brussee Environmental Corp. (BEC).

<u>Subsurface Investigation Report by S & W Services, Inc., dated November 4, 1999 for former Lots 11 and 27</u>

- S & W Services, Inc. (S&W) conducted a subsurface investigation at the former Lage Car Wash located at 315 Grand Concourse (Lot 27) in 1999 to determine the subsurface conditions due to the presence of underground storage tanks.

- According to the 1999 report, the car wash was located on the site of a former gasoline station. Although the gasoline station was no longer active, the USTs (a 6,000-gallon, a 4,000-gallon, and 550-gallon cluster) and associated piping were still in place.

- The scope of work included the installation and sampling of 14 soil borings. Select soil samples were analyzed for the Spill Technology and Remediation Series (STARS) VOCs and SVOCs via EPA Method 8021 and 8270, respectively. Based on the available soil boring logs, the soil samples were collected from 6 inches to 1.5 feet bgs interval in SB-1, SB-2, SB-7, and SB-8; 6 inches to 1 foot bgs interval in SB-3, SB-9, and SB-13; 6 inches feet to 4 feet bgs interval in SB-4, SB-6, and

SB-10; 6 inches feet to 6 feet bgs interval in SB-5; 6 inches to 3.5 feet bgs interval in SB-11; 6 inches to 2 feet bgs interval in SB-12; and 6 inches to 3 feet bgs interval in SB-14.

- Depth to bedrock was reported at depths ranging from 1 foot to 6 feet beneath the property.

- The results of the investigation are compared to the current Part 375 Unrestricted Use SCOs and Restricted Residential Use SCOs during the preparation of this RIR. The results showed the presence of petroleum impacts in the vicinity of each UST, and at higher concentrations immediately downgradient of tanks.

- As a result of their investigation, S&W recommended the removal of all USTs, associated piping, and impacted materials. A copy of a tank removal proposal dated November 9, 1999, was provided to the NYSDEC matching the description of the USTs; however, a tank closure report was not submitted.

<u>Phase I Screening Summary by Environmental Business Consultants (EBC), dated January 2019 for former Lots 11 and 27</u>

EBC identified one recognized environmental condition (REC) as a result of their screening as follows:

- Information from multiple historic sources indicate that Lot 27 at 315 Grand Concourse was occupied by garages, service stations and/or auto repair shops from at least 1935 through the early-2000s. Sanborn maps and database listings also indicate that at least eight underground storage tanks (USTs) were removed from Lot 27 in 2001, although no formal tank closure reports were provided for review. Lot 27 is also associated with an open/active NYSDEC spill incident dated in 1999. Therefore, the long-term historic use of the Site as a service station/repair shop, the presence of an active spill file, and the undocumented removal of multiple USTs was considered a REC.

Limited Subsurface Investigation by Gallinger Environmental Management Corp. (GEM), dated December 19, 2019 for former Lot 1

- At the time of the GEM investigation, former Lot 1 consisted of the current two-story commercial building with a parking garage, tool storage area, carpenter shop, loading dock, lobby, and offices.
- GEM's limited investigation consisted of a limited geophysical survey, installation of fourteen soil borings, and collection of six soil samples.
- GEM identified a possible underground storage tank (UST) fill pipe in the former parking garage (i.e.: north-northwest portion of the site). The geophysical scan reportedly revealed a strong signal extending approximately six feet off the pipe, indicative of a UST.
- Select soil samples were analyzed for CP-51 list volatile organic compounds (VOCs) via USEPA Method 8260C and semi-volatile organic compounds (SVOCs) via USEPA Method 8270D.
- Shallow bedrock was encountered across the subject property at depths ranging between 3 and 5 feet bgs. Groundwater was not encountered during the investigation.
- Fill material consisting of sand, brick, concrete, and asphalt was encountered from 1-foot bgs to the bedrock surface.
- No VOCs were detected in the soil samples.
- SVOCs, consisting of polycyclic hydrocarbons (PAHs), were detected in all six soil samples. Of these, benzo(a)anthracene (max. of 8.2 mg/kg), benzo(a)pyrene (max. of 6.9 mg/kg), benzo(b)fluoranthene (max. of 6.4 mg/kg), benzo(k)fluoranthene (max. of 5.7 mg/kg), chrysene (max. of 7.4 mg/kg), dibenzo(a,h)anthracene (max. of 2.1 mg/kg) and indeno(1,2,3-cd)pyrene (max. of 3.9 mg/kg) were detected at concentrations exceeding their respective NYSDEC Part 375 Restricted Use Soil Cleanup Objectives (SCOs) in three of the soil samples.

Phase I Environmental Site Assessment by Vektor, dated July 9, 2021 for former Lot 1

At the time of the site reconnaissance on July 1, 2021, Lot 1 consisted of one irregular-shaped lot that is approximately 10,242-square feet in area and was developed with a two-story slab on grade building. The two-story building was vacant and consisted of an office space in the southern section of the first floor, warehouse space in the northern portion of the first floor, and former offices on the second floor.

The Phase I ESA has revealed the following recognized environmental conditions (RECs) in connection with the former Lot 1:

- Based on the available review of available Fire Insurance Maps and City Directory listings, the subject property was utilized as part of a gasoline station in 1935, as a plastic products manufacturing facility from 1947 until at least 1951, and as various commercial and industrial uses at least until 2017.
- Presence of SVOCs at concentrations exceeding their respective Unrestricted Use SCOs and Restricted Use SCOs in soil beneath the Site that were identified during the 2019 GEM limited investigation.

The Phase I ESA has revealed the following environmental issues in connection with the former Lot 1:

- Listing on the New York E-Designation database (E-227) for hazardous materials, noise, and air quality as a result of rezoning of the general surrounding area (Lower Concourse Rezoning and Related Actions (CEQR # 08DCP071X)).
- Adjacent properties of environmental concern were identified as follows: the west adjacent properties across Walton Avenue were used as a piano factory and lumber storage facility (1908-1935), auto wrecking yard (1944-1951), cleansers manufacturer (1947), a service center (1956), and a gasoline station (1951-Present); the east adjacent property across Grand Concourse was used as a gasoline station (1935), and auto repair facilities (1944-2017); and the south adjacent property across East 138th Street was used as gasoline stations and auto repairs (1935).

Remedial Investigation Work Plan by Vektor, dated January 25, 2022 for former Lot 1

A Remedial Investigation Work Plan (RIWP) was prepared by Vektor in January 2022 and submitted to the NYSDEC to investigate and characterize the nature and extent of contamination at the former Lot 1. The scope of proposed work included performance of a geophysical survey, installation and sampling of six soil borings, installation and sampling of three monitoring wells, and installation and sampling of five soil vapor points.

Remedial Investigation Report by Brussee Environmental Corp. (BEC), dated April 2022 for former Lots 11 and 27

BEC conducted a RI at the former Lots 11 and 27 under the oversight of Mayor's Office of Environmental Remediation (OER) in March 2022. The scope of work included installation and sampling of ten soil borings, sampling of one existing monitoring well, and installation and sampling of eight soil vapor points.

BEC reportedly attempted to install groundwater monitoring wells across the site utilizing a 6610 Geoprobe. Refusal, due to shallow bedrock, was encountered across the site at a depth of approximately 2 ft below the surface of the sampling location. One monitoring well (labeled by BEC as MW2E) previously installed to a depth of approximately 11 feet below grade (cored approximately 7 feet through bedrock) as part of a geotechnical investigation was found in the Grand Concourse sidewalk and one groundwater sample was collected for chemical analysis.

The elevation of the site was measured between 21.53 feet above mean sea level in the southeast corner of the site to 35.84 feet above mean sea level in the northern end of former Lot 27.

The stratigraphy of the site, from the surface down, was determined as of 1 to 2 feet layer of a dark brown sand with gravel, followed by a thin layer of weathered bedrock, and then bedrock.

Summary of Soil Analytical Results

- Soil results were compared to the NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs), and Restricted Residential Use SCOs (RRSCOs).

- One VOC, acetone (max. of 71 µg/Kg) was detected above UUSCOs within soil boring sample SB8 (0-2'). Several VOCs were detected at trace concentrations below UUSCOS including 1,3,5-trimethylbenzene (at 2 µg/Kg), benzene (max. of 1.8 µg/Kg), carbon disulfide (at 6.6 µg/Kg), ethylbenzene (max. of 4.5 µg/Kg), m&p-xylenes (max. of 23 µg/Kg), methyl ethyl ketone (max. of 15 µg/Kg), methyl t-butyl ether (MTBE) (at 2 µg/Kg), naphthalene (at 200 µg/Kg), o-xylene (max. of 8.3 µg/Kg), styrene (at 0.67 µg/Kg), tetrachloroethene (max. of 640 µg/Kg in SB1(0-2), and 400 µg/Kg in SB2(0-2)), and toluene (max. of 200 µg/Kg).
- Two SVOCs including benzo(a)anthracene (max. of 1,100 µg/Kg) and indeno(1,2,3- cd)pyrene (max. of 680 µg/Kg) were detected above RRSCOs within three of the ten shallow soil samples. No other SVOCs were detected above UUSCOs.
- Two pesticides, including 4,4'-DDE (at 9.5 µg/Kg) and 4,4'-DDT (max. of 9.6 µg/Kg) were detected above UUSCOs within two of the soil samples. No pesticides were detected above RRSCOs.
- One PCB, PCB-1260 (at 420 µg/Kg) was detected above UUSCOs in one soil sample (SB6(0-2)). No PCBs were detected above RRSCOs.
- Four metals including copper (max. of 68.3 mg/Kg), lead (max. of 165 mg/Kg), mercury (max. of 0.39 mg/Kg), nickel (max. of 32.3 mg/Kg), and zinc (max. of 198mg/Kg) were detected above UUSCOs within soil samples collected across the Site. No metals were detected above RRSCOs.
- No PFAS compounds were detected in the soil sample.

Summary of Groundwater Analytical Results

- Groundwater sample results were collected during the RI and the results were compared to New York State 6NYCRR Part 703.5 Class GA groundwater quality standards (GQS).
- No SVOCs, Pesticides or PCBs were detected at measurable concentrations above GQS.

- No VOCs were detected at a concentration above GQS within the groundwater samples. Trace concentrations of the VOCs carbon disulfide (2.5 µg/L within the duplicate), methyl t-butyl either (MTBE) (max. of 31 µg/L within the duplicate), and tetrachloroethene (PCE) (at 0.77 µg/L) were present at concentrations below GQS.
- Several metals were identified in groundwater samples but only sodium (157 mg/L) were detected above GQS within the dissolved groundwater samples.

Summary of Soil Vapor Analytical Results

- The soil vapor results indicated low levels of petroleum-related VOCs and low levels of chlorinated VOCs.
- Total concentrations of petroleum-related VOCs (BTEX) within the soil vapor samples ranged from 3.67 µg/m^3 to 368 µg/m^3.
- The chlorinated solvents detected include carbon tetrachloride at a maximum concentration of 0.52 µg/m^3, methylene chloride at 3.68 µg/m^3 in one soil vapor sample, tetrachloroethene (PCE) in all eight soil vapor samples ranging from 1.85 µg/m^3 to 827 µg/m^3, and trichloroethene (TCE) in six of the eight soil vapor samples ranging from 0.27 µg/m^3 to 4.32 µg/m^3.
- The chlorinated VOC tetrachloroethene (PCE) was detected above the monitoring level range established within the NYSDOH soil vapor guidance matrix in one sample.

Supplemental Remedial Investigation Work Plan by Vektor, dated September 26, 2022 for former Lot 1

A Supplemental RIWP was prepared by Vektor in September 2022 to further delineate and investigate the elevated concentrations of metal (i.e., lead and chromium) identified during the implementation of the aforementioned RIWP at former Lot 1. The scope of work included performance of a geophysical surey, rock coring in southern, central, and northern portions of the lot to confirm bedrock depth, installation and sampling of one vertical delineation boring and eight step out horizontal delineation soil borings to delineate the extent of lead contamination identified in the central east portion of the lot (SB-2),

installation and sampling of one vertical delineation boring and eight step out horizontal delineation soil borings to bedrock to delineate chromium and lead contamination in the northwestern portion of the lot (SB-5), installation of two soil borings to bedrock and collection of one soil sample from each boring at the interval just above bedrock, in the central east portion of the lot (SB-4) and a northern upgradient location (SB-7) to further characterize soil quality, and installation of two on-site monitoring wells (MW-1X and MW-4) and one off-site monitoring well (MW-5) along Walton Street to the northwest of the former Lot 1, redevelopment of the two previously installed monitoring wells (MW-2 and MW-3) and collection of five groundwater samples.

Phase I Environmental Site Assessment by Vektor, dated November 2022 for former Lots 11 and 27

At the time of the site reconnaissance on November 4, 2022, former Lots 11 and 27 were utilized for commercial use. Lot 27 was improved with a one-story commercial/office building with a partial cellar that is utilized as a car wash and auto service station. Asphalt and brick-paved parking lot and driveway areas were located to the north, south, and east of the building. Lot 11 was improved with a two-story building that was utilized as storage for the car wash and auto service on Lot 27. An asphalt-paved parking lot was located on the east perimeter of the building. A series of fill ports and vent pipes associated with five aboveground storage tanks (ASTs) containing motor oil were observed on the eastern perimeter of the one-story commercial building on Lot 27.

The following RECs were identified as a result of this Phase I ESA:

- Based on the review of available records, Lot 27 was utilized as part of an auto repair shop in 1935 and as a filling station between at least 1944 and 2002. These facilities typically utilize hazardous substances or petroleum products as part of their operations, and potential historic releases from these facilities could have affected the subsurface conditions. A remedial investigation was conducted at the subject in 2022 under the New York City Mayor's Office of Environmental Remediation (NYCOER) oversight, and presence of petroleum-related VOCs (up to 368 $\mu g/m^3$) and chlorinated solvents (i.e., tetrachloroethylene up to 827 $\mu g/m^3$)

were identified in the soil vapor beneath the subject property. Furthermore, Lot 27 is identified on NY Spills and Underground Storage Tank (UST) databases for an active spill and undocumented removal of eight USTs, as further described in Section 5.2 of this report. Therefore, the historic uses of the Site as a filling station/auto repair in conjunction with an open spill case (#9909720) associated with former USTs with no supporting documentation represent a REC.

The following environmental issues were also identified in connection with the former Lots 11 and 27:

- The Site is listed on the E-Designation database (E-227) for hazardous materials, noise, and air quality as a result of rezoning of the general surrounding area (Lower Concourse Rezoning and Related Actions (CEQR # 08DCP071X)). An E-Designation is a New York City zoning map designation that indicates the presence of an environmental requirement pertaining to potential hazardous materials contamination, window/wall noise attenuation, or air quality impacts. Therefore, the listing of the subject property on the NY E-Designation database is considered an environmental concern.
- Lot 27 is listed on the NYSDEC PBS database for four 1,500-gallon and one 1,000-gallon ASTs containing motor/lube oil and waste oil. These ASTs were observed in the basement of the LMC Lube & Car Wash Center (one 1,500-gallon steel AST containing waste oil; two 1,500-gallon steel ASTs containing motor oil; one 750-gallon steel AST containing transmission fluid; and one 1,000-gallon steel AST containing motor oil). With the exception of slight discrepancies regarding their capacity and contents, the observed ASTs are consistent with the database listing. The ASTs were observed to be in good condition.
- Several adjacent properties were historically utilized as auto repair shops, furniture companies/warehouses, drycleaners, and garages. Potential impacts from off-site properties could not be ruled out.

Remedial Investigation Report by Vektor, dated January 2023 for former Lot 1

A Remedial Investigation Report summarizing the findings of the RIWP and SRIWP was prepared by Vektor in January 2023. The stratigraphy of the Site, from the surface down, was identified as approximately 2.5 feet of historic fill underlain by 2.5 feet of brown sand with traces of gravel and silt underlain by bedrock.

Ground elevation at the site was measured as 20.49 feet (NAVD88) in the south to 23.31 feet (NAVD88) in the north. The average depth to groundwater was measured as 9.7 feet bgs and the range in depth is 7.16 feet (MW-1X) (NAVD88) to 17.87 feet (MW-3) (NAVD88), or at depths approximately between 5.43 feet to 13.73 feet bgs. Groundwater flow was determined toward the south.

No nomalies or areas of concern indicative of potential USTs were identified.

Summary of Soil Analytical Results

- Soil results were compared to the NYSDEC Part 375 UUSCOs, and RRSCOs.
- VOC, methylene chloride, a common laboratory contaminant, was detected at concentrations slightly exceeding its respective UUSCO but below RRSCO in four soil samples.
- SVOCs, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene were detected at concentrations exceeding their respective RRSCOs, which also corresponds to the UUSCOs for these compounds in shallow soils (0-2 feet bgs) at SB-1 and SB-3, and at 4-5 feet bgs at SB-3.
- Pesticide, 4,4'-DDE was detected at a concentration slightly exceeding its respective UUSCO but below its RRSCO in one soil sample.
- No PCBs were detected in any of the soil samples.
- Metals, arsenic, cadmium, and mercury were detected at concentrations exceeding their respective RRSCOs in shallow soils (0-2 feet bgs) at SB-1, SB-3, and SB-6.

- Metal, lead was detected at elevated concentrations exceeding its respective RRSCO at 4-5 feet bgs at SB-2 (1,140 mg/kg) and at SB-5 (2,490 mg/kg).
- Metals, chromium hexavalent (473 mg/kg) and chromium trivalent (657 mg/kg), were detected at elevated concentrations exceeding their respective RRSCOs in shallow soil (0-2 feet bgs) at SB-5.
- Metal Lead Hotspot SB-2X: total lead was detected at high concentrations exceeding its respective RRSCO at depths (0-2) ft bgs at SB-2E1 (431 mg/kg), depths (4-4.5) ft bgs at SB-2X (3,900 mg/kg), SB-2S1 (1,080 mg/kg), and SB-2S2 (1,670 mg/kg). TCLP lead was detected at concentrations exceeding its USEPA Hazardous Waste Limit at depths (2-4) ft bgs at SB-2X (11.9 mg/L), and at depths (4-4.5) ft bgs at SB-2X (18 mg/L), SB-2S1 (10.1 mg/L), and SB-2S2 (24.4 mg/L). Hazardous lead contamination is present between 2 feet and bedrock in the central east portion of the Site. The southern extent of hazardous lead will be delineated during the waste characterization sampling.
- Metal Lead and Chromium Hotspot SB-5X: total lead was detected at concentrations exceeding its respective UUSCO in nine out of eleven soil samples, but none were detected above its respective RRSCO. Chromium was not detected above its respective UUSCO or USEPA Hazardous Waste Limit in any of the delineation samples.
- 1,4-dioxane (SVOC) was not detected in any of the soil samples.
- PFOS was detected above its Guidance Limit for UU in three shallow soil samples and one duplicate soil sample and PFOA was detected above its Guidance Limit for UU in the shallow duplicate soil sample. However, they were not detected above their respective Guidance Limits for Restricted Residential Use.
- No VOCs, PCBS, Pesticides, or PFAS compounds were detected in the groundwater above Ambient Water Quality Standards (AWQS) and in soil above the Protection of Groundwater SCOs (PGWSCOs).
- Several SVOCs were identified in the shallow soils of SB-1 and SB-3, and in the deeper soils at SB-3. Concentrations of VOCs detected in the groundwater above

AWQS and in soil above the PGWSCOs include Benzo(a)anthracene (maximum 3.35 mg/kg in shallow samples and 1.82 mg/kg in the SB-3 deep sample), Benzo(b)fluoranthene (maximum 2.63 mg/kg in shallow samples), Benzo(k)fluoranthene (maximum 2.54 mg/kg in shallow samples), and Chrysene (maximum 3.05 mg/kg in shallow samples and 1.93 mg/kg in the SB-3 deep sample).

- Several metals were identified in the shallow soils of SB-5, and in the deeper soils of SB-2, SB-2 delineation samples, SB-4, and SB-5. Concentrations of metals detected in the groundwater above AWQS and in soil above the PGWSCOs include total lead (maximum 3,900 mg/kg in deeper samples), silver (maximum 12.6 mg/kg in SB-4 deep sample), and chromium hexavalent (maximum 473 mg/kg in the SB-5 shallow sample).

Summary of Groundwater Analytical Results

- Groundwater results are compared to the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards (AWQS) and Guidance Values published in "Sampling, Analysis and Assessment of PFAS under NYSDEC's Part 375 Remedial Programs".
- No VOCs were detected above their respective AWQS in the groundwater samples.
- Total SVOCs, specifically PAHs, were detected above their respective AWQS in two of the groundwater samples (MW-2 and MW-3) collected from the central eastern and northern portions of the Site during the March 2022 RI. Same compounds were not detected above AWQS during the second round of SRI sampling in October-November 2022.
- No pesticides were detected in any of the groundwater samples.
- No PCBs were detected in any of the groundwater samples.
- Naturally occurring metals, including magnesium, selenium and sodium were detected in total and dissolved groundwater samples across the Site. It should be noted that naturally occurring metal contaminants in groundwater are not site-specific contaminants of concern and will not be addressed by the remedy.

- Non-naturally occurring metals, chromium, and chromium hexavalent were found in total and dissolved groundwater samples across the Site. Although not necessarily identified in the corresponding soil borings, chromium and lead were also identified in the soil.
- Non-naturally occurring metal, total lead, was found in two total groundwater samples at MW-2 and MW-4 on the north and east sides of the Site.
- Two PFAS compounds, PFOS and PFOA, were detected above the regulatory limits in all groundwater samples but one downgradient well (MW-1X). However, PFOS was detected in only three shallow soil samples and PFOA was detected in only one shallow duplicate soil sample above their UUSCOs but below RRSCOs.

Summary of Soil Vapor Analytical Results

- Results showed low to moderate concentrations of petroleum related VOCs and chlorinated VOCs (CVOCs) in all soil vapor samples. More specifically, the highest concentrations of CVOCs detected were carbon tetrachloride (7.46 $\mu g/m^3$) and trichloroethylene (19.7 $\mu g/m^3$) in soil vapor sample SV-5, which was installed on the northern portion of the Site.

As a result of the RI and SRI, contaminants concern at Lot 1 were identified as PAH and metal impacts in soil and groundwater.

Remedial Investigation Report by Vektor, dated March 2023, revised March 2024 for former Lots 11 and 27

A Remedial Investigation Report summarizing the findings of their Phase II/remedial investigation at former Lots 11 and 27 was prepared by Vektor in March 2023, and revised in March 2024 upon NYSDEC review.

The scope of work consisted of a geophysical survey, installation and sampling of eight soil borings to refusal/bedrock, which ranged from approximately 1.5 feet bgs (southern portion) to 5 feet bgs in the (northern portion), installation and sampling of six bedrock wells, redeveloping and sampling of one existing monitoring well, and installation and sampling of eleven soil vapor points.

The stratigraphy of the former Lots 11 and 27, from the surface down, consisted of approximately 2.5 feet of historic fill underlain by 2 feet of brown/grey sand with some weathered rock and gravel. and traces of silt, underlain by bedrock.

Ground elevation at the site was measured between 20.68 feet (NAVD88) in the south and 31.92 feet (NAVD88) in the north. The groundwater elevation ranged from 19.27 feet (MW-3A) (NAVD88) to 27.98 feet (MW-7) (NAVD88), or at depths approximately between 1.16 feet to 5.95 feet bgs. Groundwater flow was determined from north to south.

No nomalies or areas of concern indicative of potential USTs were identified.

Summary of Soil Analytical Results

- No VOCs, SVOCs, or Pesticides were detected above their Unrestricted Use SCOs in any of the soil samples.
- No PCBs were detected in any of the soil samples.
- 1,4-dioxane was not detected in any of the soil samples.
- One heavy metal, arsenic, was detected at a concentration exceeding its respective RRSCO and PGWSCO of 16 mg/kg at 2-4 feet bgs at 23SB-6 (22 mg/kg).
- A naturally occurring metal, selenium, was detected in two shallow samples (23SB-3 (0-2') and duplicate 23SB-4 (0-2'), at concentrations exceeding its respective UUSCO of 3.9 mg/kg and PGSWSCO of 4 mg/kg but below its respective RRSCO.
- PFOS was detected in two shallow soil samples (0-2' bgs in 23SB-3 and 23SB-4), one intermediate soil sample (2'-4' bgs in 23SB-4), one deeper sample (4'-5' bgs in 23SB-4), and duplicate shallow soil sample 23SB-4 (0-2' bgs) above its Unrestricted Use SCO of 0.88 ug/kg and PGWSCO of 1 ug/kg. PFOS was not detected in the deeper vertical sample (2'-3') in 23SB-3 at concentrations above regulatory standards. PFOA was detected in the shallow soil sample (0-2' bgs) and intermediate sample (2'-4' bgs) from 23SB-4 above its respective Unrestricted Use SCO of 0.66 ug/kg and PGWSCO of 0.8 ug/kg. However, they were not detected above their respective Guidance Limits for Restricted Residential Use.

Summary of Groundwater Analytical Results

- Petroleum-related VOCs including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, acetone, benzene, chloroform, ethyl benzene, isopropylbenzene, methyl tert-butyl ether (MTBE), naphthalene, n-butylbenzene, n-propylbenzene, o-xylene, sec-butylbenzene, toluene, and total xylenes were detected above their respective AWQS in four groundwater samples MW-1A, MW-2A, MW-4A, and MW-6, which were collected from the southern and central portions of the Site. Acetone is a common laboratory contaminant. The majority of these petroleum-related VOCs were identified in MW-4A, immediately downgradient of the partial cellar, where the former USTs were present. No soil samples were collected from the partial cellar due to flooding; however, the presence of petroleum impacts at elevated concentrations in one monitoring well, MW-4A, is likely associated with the former USTs (cluster of 550-gallon tanks). Petroleum-related, methyl tert-butyl ether (MTBE) in MW-6 is likely associated with the former 4,000-gallon UST. The 1999 report shows MTBE in SB-5 (2.5 mg/kg), which appears to be located around the same general area as MW-6.
- No SVOCs were detected above their respective AWQS in the groundwater samples.
- No pesticides or PCBs were detected in any of the groundwater samples.
- Naturally occurring metals, sodium was detected in total and dissolved groundwater samples across the Site, nickel was detected in total and dissolved groundwater sample MW-1A, manganese was detected in total and dissolved groundwater samples MW-6 and MW-7, and selenium was detected in dissolved groundwater sample MW-1A.
- Non-naturally occurring metal chromium was detected in total and dissolved groundwater samples MW-1A, MW-2A, and MW-3A, chromium hexavalent was detected in dissolved groundwater samples MW-1A, MW-2A, and MW-3A, and silver was detected in total and dissolved groundwater sample MW-1A.
    - Chromium and chromium hexavalent contamination are present in groundwater across Lot 11 (i.e., the central portion of the BCP Site).

Although chromium hexavalent was also identified in soil across the Site, it was not detected at concentrations exceeding its respective PGWSCO at Lots 11 and 27. To note, chromium and chromium hexavalent were identified in groundwater above their AWQS. Chromium hexavalent was identified in soil above its PGWSCO at the south adjacent Lot 1 (i.e., the southern portion of the BCP Site), which is further described in Vektor's July 2023 Remedial Investigation Report for 261 Grand Concourse, Bronx, NY (Copyrite Plastic Sheets Site).

- Similarly, although silver was not identified in soil above its respective PGWSCOs at Lot 11, it was identified in soil above its PGWSCOs at Lot 1 (i.e., the southern portion of the BCP Site), which is further described in Vektor's July 2023 Remedial Investigation Report for 261 Grand Concourse, Bronx, NY (Copyrite Plastic Sheets Site).

- Two PFAS compounds, PFOS and PFOA, were detected above the regulatory limits in all groundwater samples. However, PFOS and PFOA were detected only in soil samples 23SB-3 and 23SB-4 at concentrations above their UUSCOs and PGWSCOs but below RRSCOs. 23SB-4 is downgradient of MW-6, both of which show PFOS and PFOA. Therefore, it is possible that background PFAS is present in groundwater.

- 1,4-Dioxane was detected in one groundwater sample MW-1A at a trace concentration.

Summary of Soil Vapor Analytical Results

- Results showed elevated concentrations of petroleum-related VOCs and chlorinated VOCs (CVOCs) in all soil vapor samples. More specifically, the highest concentrations of CVOC, tetrachloroethylene, were detected in soil vapor samples 399.999 µg/m^3 in 23SV-3 and 352.541 µg/m^3 in 23SV-4 in the central portion of the Site. Total concentrations of petroleum-related VOCs (BTEX) ranged from 20.51 µg/m^3 in 23SV-8 to 14,799 µg/m^3 in 23SV-6. The highest concentrations of petroleum-related VOCs were detected in the southern and western portions of the site.

As a result of the RI, contaminants concern at Lots 11 and 27 were identified as arsenic hotspot in soil, petroleum impacts in soil and groundwater, metals impacts in groundwater, petroleum and chlorinated VOCs impacts in soil vapor.

Interim Remedial Measures Work Plan (AST Removal) by AMC, dated January 2024

An Interim Remedial Measures Work Plan (IRMWP) was prepared by AMC. for the removal of five aboveground storage tanks (ASTs) prior to the demolition of the building on former Lot 27. The ASTs registered with the NYSDEC Petroleum Bulk Storage (PBS) #2-402877 included one 1,500-gallon steel AST containing waste oil, two 1,500-gallon steel ASTs containing motor oil, one 750-gallon steel AST containing transmission fluid, and one 1,000-gallon steel AST containing motor oil. The IRMWP summarized the protocols and implementation of community air monitoring plan during the AST removal.

Remedial Action Work Plan by AMC, dated March 2024

A Remedial Action Work Plan (RAWP), dated March 2024, was prepared by AMC to provide remedial alternatives analysis and describe the strategies and technologies to address the contamination identified at the site. Although a Track 4 restricted use with site-specific soil cleanup objectives was selected as the remedy, during the construction it was deemed feasible to remove all soil/fill to bedrock, and therefore, the remedy was changed to Conditional Track 1 unrestricted use. The selected remedy included excavation, groundwater treatment, and vapor mitigation.

Construction Completion Report (AST Removal) by AMC, dated June 2024

An IRMWP was implemented at 315 Grand Concourse (former Lot 27) between March 20 and April 3, 2024, for the removal of one 1,500-gallon steel AST containing waste oil, two 1,500-gallon steel ASTs containing motor oil, one 750-gallon steel AST containing transmission fluid, and one 1,000-gallon steel AST containing motor oil.

Five ASTs were cleaned and removed from the partial cellar of the former auto car wash and service station on former Lot 27 by ABC Fuel Oil Tank Cleaning (ABC) of Brooklyn,

New York. The NYSDEC Petroleum Bulk Storage (PBS) registration (PBS #2-402877) was updated once the tanks were properly cleaned and removed from Site.

The ASTs were removed in accordance with the applicable procedures described under the NYSDEC Memorandum for the Permanent Abandonment of Petroleum Storage Tanks and Section 5.5 of DER-10 (May 2010) as follows:

- Removed all products to their lowest draw-off point;
- Drained and flushed piping into the tanks;
- Vacuumed out the tank bottoms consisting of water product and sludge;
- Removed the fill tube and disconnected the fill, gauge, product, and vent lines and pumps. Capped and plugged open ends of lines;
- Temporarily plugged all tank openings, removed the tanks and placed them in a secure location;
- Rendered the tank safe and check the tank atmosphere to ensure that petroleum vapors have been satisfactorily purged from the tanks;
- Cleaned the tanks;
- After cleaning, the tanks were made acceptable for disposal at a scrap yard cleaning the tank interior with a high-pressure rinse and cutting the tanks in several pieces.
- AST carcasses were disposed of as metal scraps, in accordance with Section 5.5 of DER-10.

During the tank and associated fill/vent line removal, all tanks were screened with a photoionization detector (PID). No readings were observed above 0.0 ppm. No staining was observed in the basement.

<u>Groundwater Treatment Pilot Study Work Plan by AMC, dated June 2024</u>

The RAWP included preparation and implementation of a groundwater treatment plan to address petroleum and metals in groundwater beneath the site. In order to determine design considerations and evaluate bedrock fractures and flow patterns as well as velocity within bedrock, a Pilot Study Work Plan was prepared by AMC. The work plan proposed installation of one injection well (IW-1) and one monitoring well (MW-8) into the bedrock on former Lot 27, where petroleum contamination was identified. Then conducting dye

tracing to evaluate flow from IW-1 to existing MW-4A and new MW-8. The plan further proposed installation of one injection well (IW-2) and one monitoring well (MW-9) into the bedrock on former Lot 1, where metals impacts was identified. Then conducting dye tracing to evaluate flow from IW-2 to existing MW-3 and new MW-9.

Petroleum Contamination Groundwater Treatment Plan by AMC, dated August 2024

This Plan presented the design and implementation details for in-situ chemical oxidation (ISCO) treatment of petroleum-related VOCs detected in groundwater beneath former Lot 27 (315 Grand Concourse). This plan was developed following the results of the aforementioned pilot study conducted in June 2024.

The Work Plan proposed injecting PetroFix®, a remedial reagent, as the technology to achieve these specific project treatment goals. PetroFix® was recommended for remediation as it is better suited for eliminating low-level hydrocarbon contamination to achieve drinking water standards over In-Situ Chemical Oxidation (ISCO) options. As PetroFix® is a carbon sorption and enhanced bioremediation strategy, it was selected over the ISCO alternative as it can be introduced to the Site in a single application versus the two applications needed for ISCO.

Based on the past groundwater investigations and the results of the pilot study, 5,200 pounds of PetroFix® Remedial Fluid and 260 pounds of Electron Acceptor Blend were planned to introduced into the approximately 2,600 square foot work area utilizing a high-pressure pump. The remedial fluid and blend would be mixed with approximately 800 gallons of fresh water within 8 injection points with a target treatment depth of 4-15 feet below grade to achieve the remediation goals.

Prior to groundwater treatment, a network of groundwater treatment injection points and monitoring wells would need to be installed into the bedrock. The total proposed number of injections was determined to be 8 locations. Three bedrock monitoring wells would be utilized to monitor the effects of the applied PetroFix® mix.

Post-treatment work after the introduction of the PetroFix® mix would consist of groundwater monitoring and sampling approximately 3 months after the injections to confirm the efficacy of the remediation.

Groundwater Sampling and Monitoring Work Plan by AMC, dated March 2025

A total of eight bedrock injection wells were advanced approximately 2 feet into bedrock during the groundwater treatment program in accordance with the Groundwater Treatment Plan on September 5 and 6, 2024. Coastal Environmental Solutions (Coastal) was retained to implement the injection program. Coastal conducted the injection event from a graduated bulk tank containing the Petrofix solution into each of the eight injection wells on October 2, 2025 using a Honda WB20XT pump. The discharge hose was attached via a pressure fitting to each injection well independently, and the approximate volume delivered to each well was recorded. During the injection event, Petrofix was only successfully injected into IW-4, although at a much smaller volume that was intended to be injected as per the Groundwater Treatment Plan. Petrofix could not be injected into any of the other seven wells. A second injection attempt was performed on October 30, 2025 by Coastal. The second attempt yielded similar results to the first; Petrofix was only successfully injected into IW-4. The site has been excavated to bedrock, all historic tanks have been previously removed, and all soils and have been removed from the site, therefore no source material remains. In light of the uninjectable bedrock, the petroleum groundwater treatment plan was deemed infesible. As a result, AMC and Vektor proposed collecting a round of groundwater samples from the on-site monitoring wells to evaluate the groundwater conditions after partial in-situ treatment and source removal. Vektor collected three groundwater samples; however, samples from MW-8 were diluted in the laboratory, elevating the method detection limits. Therefore, AMC and Vektor proposed collecting another round of samples. However, due to the ongoing construction activities, since the on-site monitoring wells were destroyed, based on a meeting with the NYSDEC, AMC submitted a Work Plan to install three off-site monitoring wells on the adjacent sidewalks to Lot 27.

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Decision Document dated May 2024 are as follows:

Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

Soil

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

Soil Vapor

RAOs for Public Health Protection

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

2.5 Remaining Contamination

2.5.1 Soil

The entirety of the site was excavated to bedrock. As such, no residual soil contamination remains at the site.

2.5.2 Groundwater

The excavation at the site was advanced into bedrock, and no perched water remains at the site. Prior to the remedy, petroleum and metals impacts were identified in the groundwater beneath the site. A round of groundwater samples were collected from the seven on-site monitoring wells at Lot 1 upon removal of all soil/fill (i.e., source material). Based on the results, only total and dissolved antimony, manganese, and sodium were detected in exceedance of AWQGS in three monitoring wells. It was determined that the source removal was successful in remediating the metals impacts in groundwater beneath Lot 1. A round of samples was also collected from Lot 27 upon removal of all soil/fill and post partial in-situ groundwater treatment. One VOC, methylene chloride (10 ug/l), was detected above its AWQS of 5 ug/l in MW-8. One SVOC, bis(2-ethylhexylphalate) (5.5 ug/l) was detected above its AWQS of 5 ug/L in MW-4A. Although the three post-excavation groundwater samples collected from Lot 27 did not show elevated concentrations of VOCs, the MDLs were higher than the regulatory standards due to high dilution. Therefore, resulting in MDLs in exceedance of AWQS.

Whether petroleum contamination remains in groundwater or not will be determined upon sampling of off-site monitoring wells. It is expected that the concentrations of contaminants in groundwater should decrease over time due to the source removal. The results of the groundwater sampling will be reported in the Quarterly Groundwater Monitoring Report.

Table 7 and Figure 5 summarize the results of all samples of groundwater that exceed the SCGs after completion of the remedial action.

2.5.3 Soil Vapor

Prior to the remedy, chlorinated VOCs and petroleum-related VOCs were identified in soil vapor at concentrations above the NYSDOH Soil Vapor Guidance threshold values across the site. The presence of petroleum-related VOCs was attributed to the former underground storage tanks. However, since all source material was removed by excavating the entire footprint of the Site into bedrock, it is expected that no soil vapor contamination remains at the Site. If there is residual soil vapor contamination left, it will be addressed by the active sub-slab depressurization system installed beneath the two buildings. A soil vapor intrusion evaluation will be conducted during the heating season, and results will be provided in a Soil Vapor Intrusion Evaluation Report.

Figure 6 shows the active SSDS layout.

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

Since remaining contamination exists at the site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC project manager.

This plan provides:

- A description of all IC/ECs on the site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the site remedy, as determined by the NYSDEC project manager.

3.2 Institutional Controls

A series of ICs is required by the RAWP and Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to residential or commercial uses only. Adherence to these ICs on the site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or

extinguishment of the Environmental Easement. The IC boundaries are shown on Figure 6. These ICs are:

- The property may be used for: restricted residential or commercial use;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the NYC Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement;
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on Figure 6, and any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the site are prohibited.

3.3 Engineering Controls

3.3.1 Active Sub-Slab Depressurization System

An active SSDS was installed at the Site as an engineering control to prevent potential migration of contaminated soil vapor into the new buildings. The SSDS design was included in the RAWP dated March 2024; however, during construction, the design was slightly amended due to the revisions to foundation plan (i.e., installation of large mat slabs). The amended layout still encompasses the footprint of both buildings, and ensure sufficient vacuum is achieved across the entire site.

The SSDS consists of a network of horizontal pipe set in the middle of a gas permeable layer approximately 6-inches in depth and immediately beneath the concrete building slab and vapor barrier system, respectively. The SSDS consists of nine loops installed underneath both buildings' foundations. The horizontal piping consists of 4-inch Schedule 40 perforated, corrugated PVC pipes connected to a 6-inch cast iron riser pipe that penetrates the slab and travels vertically through the building to the roof. The gas permeable layer consists of a 6-inch thick layer of ¾-inch gravel located beneath the entire building slabs and surrounding the perforated pipe. A vapor barrier system was installed over the SSDS and below the buildings' concrete slabs. Each individual SSDS loop has a stub rising above the first floor slab. After penetrating through the slab, Loops 1 and 2, Loops 5 and 6, and Loops 7 and 8 were manifolded on the first floor. Loops 3, 4, and 9 were not manifolded. Seventeen (17) pressure/monitoring points were installed throughout the buildings' slab on the ground floor to confirm the efficacy of the system and for future sampling. Six Radon Away (model RP265) fans were installed and hardwired on the roof line. The vertical risers include a rain cap on the roof to prevent water infiltration. The pressure gauge and alarm consist of a magnehelic pressure gauges and Radon Away alarms located on the first floor. The PE for the Remedial Action inspected the system and confirmed that the effluent discharge point is a minimum of 10 feet from any operable window or air intake for any building as per the NYC Mechanical Code.

Procedures for operating and maintaining the active sub-slab depressurization system are documented in the Operation and Maintenance Plan (Section 5.0 of this SMP). As-built drawings, signed and sealed by a PE who is licensed and registered in New York

State, are included in Appendix I – Operations and Maintenance Manual. Figure 6 shows the location of the ECs for the site.

3.3.2 Groundwater Monitoring Wells associated with In-Situ Technology and Source Removal

Groundwater monitoring to assess the efficacy of the partial in-situ Petrofix injections and source removal will continue until residual groundwater concentrations achieve asymptotic levels (i.e. below AWGQS). In order to evaluate the remaining concentrations over an extended period, three off-site monitoring wells (SW-1 through SW-3) were installed to the north and east of Lot 27. The monitoring wells will be sampled quarterly for TCL VOCs and SVOCs. Monitoring will continue until NYSDEC grants approval for termination.

Figure 7 shows the off-site monitoring well locations.

3.3.3 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10. Unless waived by the NYSDEC, confirmation samples of applicable environmental media are required before terminating any remedial actions at the site. Confirmation samples require Category B deliverables and a Data Usability Summary Report (DUSR).

As discussed below, the NYSDEC may approve termination of a groundwater monitoring program. When a remedial party receives this approval, the remedial party will decommission all site-related monitoring, injection and recovery wells as per the NYSDEC CP-43 policy.

The remedial party will also conduct any needed site restoration activities, such as asphalt patching and decommissioning treatment system equipment. In addition, the

remedial party will conduct any necessary restoration of vegetation coverage, trees and wetlands, and will comply with NYSDEC and United States Army Corps of Engineers regulations and guidance. Also, the remedial party will ensure that no ongoing erosion is occurring on the site.

3.3.3.1 – Sub-Slab Depressurization (SSD) System

The SSD system will not be discontinued unless prior written approval is granted by the NYSDEC and the NYSDOH project managers. If monitoring data indicates that the SSD system may no longer be required, a proposal to discontinue the SSD system will be submitted by the remedial party to the NYSDEC and NYSDOH project managers.

3.3.3.2 - Monitoring Wells associated with In-Situ Technology and Source Removal

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

4.0 MONITORING AND SAMPLING PLAN

4.1 General

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC project manager. Details regarding the sampling procedures, data quality usability objectives, analytical methods, etc. for all samples collected as part of site management for the site are included in the Quality Assurance Project Plan provided in Appendix F.

This Monitoring and Sampling Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor, soils);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance (SCGs), particularly groundwater standards and Part 375 SCOs for soil; and
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;

To adequately address these issues, this Monitoring and Sampling Plan provides information on:

- Sampling locations, protocol and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and

- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site – wide Inspection

Site-wide inspections will be performed annually or at a minimum of once per year. These periodic inspections must be conducted when the ground surface is visible (i.e. no snow cover). Site-wide inspections will be performed by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State. Modification to the frequency or duration of the inspections will require approval from the NYSDEC project manager. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix H – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- Whether stormwater management systems, such as basins and outfalls, are working as designed;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

Inspections of all remedial components installed at the site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the

SMP schedule, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and
- If site records are complete and up to date.

Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC project manager must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the site by a qualified environmental professional, as defined in 6 NYCCR Part 375. Written confirmation must be provided to the NYSDEC project manager within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public. The remedial party will submit follow-up status reports to the NYSDEC within 45 days of the event on actions taken to respond to any emergency event requiring ongoing responsive action, describing and documenting actions taken to restore the effectiveness of the ECs.

4.3 Treatment System Monitoring and Sampling

4.3.1 SSDS Remedial System Monitoring

Monitoring of the active SSDS will be performed on a routine basis, as identified in In-Text-Table 2 - Remedial System Monitoring Requirements and Schedule (see below).

The monitoring of remedial systems must be conducted by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager. A visual inspection of the complete system will be conducted during each monitoring event. Unscheduled inspections and/or sampling may take place when a suspected failure of the active sub-slab depressurization system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Active sub-slab depressurization system components to be monitored include, but are not limited to, the components included in In-Text-Table 2 below.

In-Text-Table 2 – Remedial System Monitoring Requirements and Schedule

Remedial System Component	Monitoring Parameter	Operating Range	Monitoring Schedule
SSDS Vacuum Fans	Power and alarm test	Design parameter ≤-0.02 inwc; and acceptable parameter ≤-0.004 inwc	Operation will be monitored monthly by trained superintendent, and vacuum from monitoring points will be inspected quarterly by QEP/PE first year, annually thereafter
SSDS Gauges and Alarms	Alarm system test and visual gauge readings	Pass or Fail	
SSDS Risers	Visual inspection of the above grade cast iron risers	N/A	
Building Slab	Visual inspection of penetrations/disturbance	N/A	

A complete list of components to be inspected is provided in the Inspection Checklist, provided in Appendix H – Site Management Forms. If any equipment readings are not within their specified operation range, any equipment is observed to be malfunctioning or the system is not performing within specifications; maintenance and repair, as per the Operation and Maintenance Plan, is required immediately.

4.4 Post-Remediation Media Monitoring and Sampling

4.4.1 SSDS Remedial System Monitoring and Sampling

A round of indoor air samples will be collected from both buildings during the heating season. Results will be provided to the NYSDEC and NYSDOH in a soil vapor intrusion evaluation report. The components of the system will be checked by a trained superintendent on a monthly basis and by a QEP/PE on a quarterly basis for the first year, and on an annual basis thereafter. Soil vapor samples will be collected annually until the system is terminated with permission of the NYSDEC and NYSDOH.

Samples shall be collected from the monitoring points on a routine basis (annually). Sampling locations, required analytical parameters and schedule are provided in In-Text-Table 3 – Remedial System Sampling Requirements and Schedule below. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

Detailed sample collection and analytical procedures and protocols are provided in Appendix E – Field Activities Plan and Appendix F – Quality Assurance Project Plan.

4.4.2 Groundwater Sampling

Groundwater monitoring will be performed quarterly to assess the performance of the remedy. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

Three off-site monitoring wells were installed to monitor groundwater conditions at the site. Remedial excavation was completed into the bedrock, thus, the source material for petroleum contamination was removed. Petroleum contamination was identified on Lot 27 during the RI and prior investigations. Quarterly sampling events will be completed upon approval of this SMP. The quarterly events will be continued until contamination concentrations reduce below the AWQGS. Groundwater samples will be collected utilizing USEPA low-flow sampling protocols and will be analyzed for VOCs and SVOCs. During each sampling event, depth to water and water quality parameters such as pH, temperature, ORP, DO, turbidity, and conductivity will be measured. Groundwater samples will be containerized in pre-cleaned laboratory-supplied glassware, stored in a chilled cooler ($4^{o}C$), and submitted to a New York State Department of Health certified laboratory.

The remedial party will properly dispose of all wastes generated by the remedial system at off-site disposal facilities according to local, state and federal laws and regulations. Wastes will be tested before disposal to comply with the permit conditions of the disposal facility. Wastes generated at this site include: purged groundwater. Groundwater purged from the monitoring wells during sampling will be placed into 55-gallon drums and properly disposed of off-site after sampling event.

The network of monitoring wells has been installed to monitor upgradient, on-site and downgradient groundwater conditions at the site. The network of off-site wells has been designed based on the following criteria:

- The locations of the wells focus on the contaminant source area (Lot 27).

The monitoring well network includes three sentinel wells that monitor downgradient plume migration. Sentinel wells are uncontaminated wells located directly downgradient of the plume and upgradient of sensitive receptors. The monitoring well network for this site includes the following sentinel wells: SW-1, SW-2, SW-3.

In-Text-Table 3 – Post Remediation Sampling Requirements and Schedule

Sampling Location	**Analytical Parameters**			**Schedule**
	VOCs (EPA Method 8260)	SVOCs (EPA Method 8270)	VOCs (EPA Method TO-15)	

SW-1	X	X		Quarterly
SW-2	X	X		
SW-3	X	X		
Indoor Air			X	Heating Season 2025
Sub-slab Vapor			X	Quarterly (first year), annually (after first year)

In-Text-Table 4 summarizes the wells' identification numbers, as well as the purpose, location, depths, diameter and screened intervals of the wells. As part of the groundwater monitoring, one upgradient well, one cross-gradient well, and one downgradient wells will be sampled to evaluate the effectiveness of the remedial system. The remedial party will measure depth to the water table for each monitoring well in the network before sampling.

In-Text-Table 4 – Monitoring Well Construction Details

Monitoring Well ID	Well Location	Coordinates (longitude/ latitude)	Well Diameter (inches)	Elevation (above mean sea level)			
				Casing	Surface	Screen Top	Screen Bottom
SW-1	Upgradient	(40.814908, -73.9292121)	2	35.46	35.76	32.81	22.81
SW-2	Crossgradient	(40.8146172, -73.9292470)	2	30.64	30.94	27.94	17.94
SW-3	Downgradient	(40.8143248, -73.9294850)	2	27.12	27.42	23.92	13.92

The 2" diameter monitoring wells were installed into bedrock using a sonic drill rig by advancing steel casing 5 feet into bedrock, grouting the annulus within the boreholde, and drilling another 5 feet into rock from the bottom of casing. Each bedrock well consists of 10 feet of 0.010-inch slotted PVC well screen. Morrie no. 1 sand was used to fill the annular gap around the screen and above the top of the screened interval. Bentonite was

used to seal above the sand and the remainder of the borehole was backfilled to grade with clean sand. They are all flushed to sidewalk and protected with steel manhole covers.

Monitoring well construction logs are included in Appendix D of this document.

Monitoring wells were developed by using a surge block until sediment free water was producted and water turbidity was 50 nephelometric turbidity units (NTU) or less. If biofouling or silt accumulation occurs in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC project manager will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent Periodic Review Report. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC project manager. Well abandonment will be performed in accordance with NYSDEC's guidance entitled "CP-43: Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC project manager.

The sampling frequency may only be modified with the approval of the NYSDEC project manager. This SMP will be modified to reflect changes in sampling plans approved by the NYSDEC project manager.

Deliverables for the groundwater monitoring program are specified in Section 7.0 – Reporting Requirements.

4.4.2 Soil Vapor Intrusion Sampling

Soil vapor intrusion sampling will be performed quarterly for the first year of operation, and annually thereafter to assess the performance of the remedy. If possible, this sampling will be performed during heating season (prior to the occupancy) to assess the performance of the remedy. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

The network of on-site soil vapor intrusion sample locations has been designed based on the following criteria:

- Six sub-slab vapor samples, six co-located indoor air samples, and one ambient air sample will be collected during the heating season;
- Samples will be submitted to an ELAP-certified laboratory for analysis of VOCs via EPA Method TO-15.

The sampling frequency may only be modified with the approval of the NYSDEC project manager. This SMP will be modified to reflect changes in sampling plans approved by the NYSDEC project manager.

Deliverables for the soil vapor intrusion sampling program are specified in Section 7.0 – Reporting Requirements.

4.4.3 Monitoring and Sampling Protocol

All sampling activities will be recorded in a field book and associated sampling log as provided in Appendix H – Site Management Forms. Other observations (e.g., groundwater monitoring well integrity) will be noted on the sampling log. The sampling log will serve as the inspection form for the monitoring network. Additional detail regarding monitoring and sampling protocols are provided in the site-specific Field Activities Plan provided as Appendix E of this document.

5.0 OPERATION AND MAINTENANCE PLAN

5.1 General

This Operation and Maintenance Plan provides a brief description of the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the site. This Operation and Maintenance Plan:

- Includes the procedures necessary to allow individuals unfamiliar with the site to operate and maintain the active SSDS;
- Will be updated periodically to reflect changes in site conditions or the manner in which the active SSDS are operated and maintained.

Further detail regarding the Operation and Maintenance of the active SSDS is provided in Appendix I – Operation and Maintenance Manual. A copy of this Operation and Maintenance Manual, along with the complete SMP, is to be maintained at the site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of this SMP.

5.2 Remedial System (or other Engineering Control) Performance Criteria

Active SSDSs were installed at the Site to prevent the potential for vapor intrusion into the new buildings. The systems are designed to operate continuously at all times. The SSDS consists of nine loops installed underneath both buildings' foundations. The horizontal piping consists of 4-inch Schedule 40 perforated, corrugated PVC pipes connected to a 6-inch cast iron riser pipe that penetrates the slab and travels vertically through the building to the roof. The gas permeable layer consists of a 6-inch thick layer of ¾-inch gravel located beneath the entire building slabs and surrounding the perforated pipe. A vapor barrier system was installed over the SSDS and below the buildings' concrete slabs. Each individual SSDS loop has a stub rising above the first floor slab. After penetrating through the slab, Loops 1 and 2, Loops 5 and 6, and Loops 7 and 8 were manifolded on the first floor. Loops 3, 4, and 9 were not manifolded. Seventeen (17) pressure/monitoring points were installed throughout the buildings' slab on the ground

floor to confirm the efficacy of the system and for future sampling. The operation and monitoring of the system is described below.

5.3 Operation and Maintenance of Sub-slab Depressurization System

The following sections provide a description of the operations and maintenance of active SSDS. Cut-sheets and as-built drawings for active SSDS are provided in Appendix I – Operations and Maintenance Manual.

5.3.1 System Start-Up and Testing

The system was tested upon installation of the fans over the risers located on the roofs of the buildings. After allowing sufficient time for the system to equilibrate, vacuum was measured at each of the 17 monitoring points and confirmed the design goal of -0.02 in wc has been achieved. Individual alarms on risers were confirmed to be functioning properly. Alarm was disconnected by removing the tubing between the riser and alarm, and the disconnection activadted the alarm, thus confirming its efficacy.

The system testing described above will be conducted if, in the course of the estimated 5 years system lifetime, the system goes down or significant changes are made to the system and the system must be restarted.

5.3.2 Routine System Operation and Maintenance

The SSDS has been installed and is currently operating as designed. The long-term operation and maintenance (O&M) program described herein will remain in effect throughout the system's lifecycle to ensure continuous and reliable performance. Following system start-up, the SSDS is intended to function continuously with no required modifications or repairs beyond routine maintenance activities. No changes to the operating schedule or interruptions in system operation—except for those necessary to perform maintenance—are allowed without prior written approval from the NYSDEC and NYSDOH.

The O&M program includes manufacturer-recommended replacement guidelines for any failed components, routine inspection and maintenance procedures, a defined

operational schedule, and troubleshooting protocols. A differential pressure switch has been integrated into the system to activate an alarm if a blower malfunction or other condition results in a loss of vacuum in the SSDS riser, enabling prompt corrective action.

The SSDS will remain active unless and until the property owner submits a formal request to discontinue its use and obtains written approval from both NYSDEC and NYSDOH. Ongoing performance verification will be conducted through quarterly inspections during the first year of operation and annually thereafter, performed under the supervision of a QEP or PE.

System monitoring will include visual inspection of the SSDS components, verification of blower operation, review of airflow and vacuum gauge readings and alarm status, identification and repair of defects such as cracks, leaks, or condensation buildup, and measurement of vacuum at six designated monitoring points. Flow rate and vacuum data will be recorded for each of the SSDS branches and used to confirm sub-slab depressurization and to recalibrate controls as needed. Faulty gauges will be repaired or replaced. For any necessary repairs or adjustments, the manufacturer's specifications and the troubleshooting guide will be followed.

A summary of scheduled routine maintenance is provided in In-Text-Table 2, and the complete O&M Manual is included in Appendix I.

5.3.3 Non-Routine Operation and Maintenance

In general, non-routine maintenance will be prompted by operational anomalies detected by the SSDS alarm system. The primary function of the alarm system is to alert personnel to conditions that could impact the effectiveness or compromise the performance of the SSDS. Alarm activation may signal potential issues such as damage, obstruction, or degradation of the system's piping or blower components. Once such irregularities are detected, appropriate corrective actions will be implemented. These potential issues will be investigated and addressed as part of the system's ongoing monitoring and maintenance protocol.

5.3.4 System Monitoring Devices and Alarms

The active SSDS system has a warning device to indicate that the system is not operating properly. In the event that warning device is activated, applicable maintenance and repairs will be conducted, as specified in the Operation and Maintenance Plan, and the active SSDS will be restarted. Operational problems will be noted in the Periodic Review Report to be prepared for that reporting period.

The alarm device operate continuously together with the fans and it may only be disconnected for routine maintenance or repairs, as necessary. A Checkpoint II A alarm was installed on each riser together with a differential pressure gauge. In the event of pressure loss, the alarm activates automatically. On-site building personnel will be responsible for investigating the cause of the failure and notifying the QEP or PE for corrective action.

Fans must not remain connected to the system without power for more than 48 hours to avoid potential damage from extended inactivity. These fans do not require periodic servicing and, if needed, will be returned to the manufacturer or an authorized service provider.

5.3.5 Fire Safety

The remedial party will conduct an annual facility walk with the local fire chief and/or fire suppression team. The site walk will allow for the addition of the facility to any local preplanning efforts. The NYSDEC project manager will be provided with the local fire chief's/fire suppression team's recommendations as soon as they become available. Following review, the NYSDEC project manager may direct the remedial party to implement the recommendations and/or revise the SMP.

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a current vulnerability assessment that evaluates the vulnerability of the site and/or engineering controls to severe storms/weather events and associated flooding. This section also identifies vulnerability assessment updates that will be conducted for the site in Periodic Review Reports.

- Flood Plain: The Site is not located within a flood plain.
- Sea Level Rise: Site is not near the shoreline and and not susceptible to sea level rise or storm surge events.
- Site Drainage and Storm Water Management: Site drainage and stormwater is connected to the municipal combined sewer system.
- Erosion: No evidence of erosion was observed at the site and the majority of the Site is covered with concrete slabs; therefore, erosion is not expected.
- High Wind: The SSDS fans on the roof may be susceptible to damage during high wind since they are located on the roofs.
- Drought: Drought is not expected to occur at the site and impact the function of the active SSDS.
- Electricity: The active SSDS is susceptible to electricity loss. In the event of a power loss, the system would be temporarily shut down and power is restored.
- Spill/Contaminant Release: The active SSDS is not susceptible to a spill or contaminant release due to storm-related damage caused by flooding, erosion, high winds, or loss of power.
- Wildfires: Wildfired around the site is not expected and would not impact the function of the SSDS.

6.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section provides an environmental footprint analysis of the remedy, as implemented at the time of this SMP. This section of the SMP also provides a summary of green remediation evaluations to be completed for the site during site management and reported in Periodic Review Reports (PRRs).

Green Remediation Components

Relevant evaluation of the SMP post-construction sampling process was not performed during the remedial investigation or the remedy implementation, thus green and sustainable remediation will be evaluated at this stage. Green remediation principles and techniques will be implemented to the extent feasible in the site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long-term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

Environmental Footprint Analysis

The site management stage of the remedial program consists of one component: post-construction sampling. The post-construction sampling consists of material use for sampling, transportation of materials, samples, and participants, and equipment use. These actions generate greenhouse gas emission and waste that are part of this environmental footprint analysis.

Using the accepted environmental footprint calculator, SEFA, the environmental footprint of the SMP phase of the remedial program was calculated using approximations from the plans. As part of implementing the phase, the approximated footprint will be assessed for accuracy. The total energy required for the execution of the SMP is 101 MMbtus, approximately 80% which is generated by off-site processes, and approximately 20% which is from transportation of participants and equipment. The total greenhouse gas emissions are approximately 15,703 pounds CO_{2e}, approximately 82% which is generated from transportation of participants and materials, and approximately 18% which is generated from other off-site processes. The Green and Sustainable Remediation (GSR) summary is provided in Appendix L.

While there is a footprint associated with this stage, decisions were made to make the actions greener by reducing emissions and waste. Participants performing site visits for quarterly sampling reported plans to use the NYC subway system to reduce their transportation emissions as opposed to using individual gasoline-powered cars. Additionally, the annual PRR inspection will be conducted concurrently with one of the post-construction quarterly groundwater sampling events, thus reducing emissions relating to transportation by limiting the required site visits.

Discussion and Measurement of Environmental Impacts

The only waste generated during this post-construction monitoring and sampling phase is the materials required for sampling. There will be materials such as nitrile gloves required for protection of the sampling personnel as well as drums for purged groundwater during groundwater samples. The associated waste generation cannot be prevented due to the importance of having barriers to prevent contact between the sampler and the

groundwater. There will also be waste generated from the sampling equipment due to the importance of decontamination. The disposal of the sampling equipment is handled by a third-party laboratory, whom also provides the equipment. Therefore, waste associated with this equipment cannot be minimized by the sampling personnel.

Energy usage will be required for the transportation of personnel and the sampling glassware and equipment needed to properly gauge and sample each of the three wells during the post-construction monitoring. The energy required for transportation can be minimized by a participant's decision to use public transportation, particularly by utilizing the NYC subway system, which generates less emissions per person than a personal car or public bus. Groundwater sampling will only occur when necessary, at four times a year, thus minimizing the amount of energy used for sampling.

The total greenhouse gas emissions associated with this post-construction monitoring and sampling phase are 15,277 tons CO_{2e}. Other emissions from this remedial stage are 65 pounds of NOx, 12 pounds of SOx, 4 pounds of particulate matter, and 3 pounds of hazardous air pollutants. Most of the emissions are from transportation and from off-site processes, mainly relating to energy production for transportation. The participants that can utilize public transport, particularly trains, have noted their goals to do so, which will lower energy use and emissions. Those that are unable to, due to the equipment they are transporting, will minimize their emissions by limiting idling time. When they are at the Site to deliver the equipment, engines will be turned off to limit unnecessary emissions relating to idling time.

There is no public water usage associated with this stage of the post-construction monitoring. There is no land disturbance associated with this stage of the post-construction monitoring. The minimal land disturbance minimizes the possibility for ecological disturbance.

Best Management Practices (BMPs)

Best Management Practices (BMPs) are implemented at the site to reduce the environmental footprint in the SMP. BMPs associated with groundwater monitoring and sampling include:

- Taking groundwater samples with precaution and proper protocols. While this is a BMP for standard operations, it helps reduce the environmental footprint. Utilization of a high efficiency, variable speed pumps for groundwater extraction, Using the proper protocols and procedures ensures there will be a minimal amount of waste produced while maintaining the integrity of the sample.
- Ensuring accurate data will ensure no unnecessary follow-up actions are taken and no contaminants remain unnecessarily due to faulty data. Unnecessary follow-up actions such as continued sampling would increase the energy usage and thus emissions associated with the SMP. Improper sampling indicating a clean sample in a contaminated area would be an inaccurate representation of the impact of the groundwater on the environment, which has a long-term environmental impact,
- To protect the local ecosystem and ecosystem services, minimally invasive technology for sampling will be employed. Real-time data collecting technologies, such as Photo Ionization Detectors (PIDs) are minimally invasive, protecting the local ecosystem and ecosystem services while providing relevant and accurate sampling data,
- Participating in a low-energy project management program. Under this program, whenever possible, meetings were held using remote communication technologies, such as videoconferencing and teleconferencing to reduce energy consumption and traffic congestion associated with personal transportation, and
- Reducing the amount of unnecessary material used on-site will reduce both material consumption and waste generation, and will reduce the emissions associated with extraction, processing/production, use, and disposal of the implemented material. The BMP implemented under this principle includes reducing paper usage by using electronic copies of plans and drawings.

6.2.1 Timing of Green Remediation Evaluations

For major remedial system components, green remediation evaluations and corresponding modifications will be undertaken as part of a formal Remedial System

Optimization (RSO), or at any time that the NYSDEC project manager feels appropriate, (e.g. during significant maintenance events or in conjunction with storm recovery activities).

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine operation and maintenance activities after approval from the DER project manager. Reporting of these modifications will be presented in the PRR.

6.2.2 Remedial Systems

Remedial systems will be operated properly considering the current site conditions to conserve materials and resources to the greatest extent possible. Consideration will be given to operating rates and use of reagents and consumables. Spent materials will be sent for recycling, as appropriate.

The active SSDS is electrically powered and has minimal fuel emissions associated with it.

6.2.3 Building Operations

Structures including buildings and sheds will be operated and maintained to provide for the most efficient operation of the remedy, while minimizing energy, waste generation and water consumption.

6.2.4 Frequency of System Checks, Sampling and Other Periodic Activities

Transportation to and from the Site, use of consumables in relation to visiting the Site in order to conduct system checks and/or collect samples, and shipping samples to a laboratory for analyses have direct and/or inherent energy costs. The schedule and/or means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces expenditure of energy or resources.

Considerations will be given to reduced site visits. Quarterly groundwater sampling and SSDS inspections will be conducted on the same day to minimize energy use and emissions generation.

6.2.5 Metrics and Reporting

As discussed in Section 7.0 and as shown in Appendix H – Site Management Forms, information on energy usage, solid waste generation, transportation and shipping, water usage and land use and ecosystems will be recorded to facilitate and document consistent implementation of green remediation during site management and to identify corresponding benefits. A set of metrics has been developed and will be evaluated over time to ensure that green remediation actions are achieving the desired results.

Electricity use that is utilized by the SSDS fans and emissions generated by the field team during quarterly inspections and sampling will be tracked over time and reported in PRRs. Additionally, any carbon footpring to dispose off the drums utilized groundwater sampling will be tracked.

6.3 Remedial System Optimization

A Remedial System Optimization (RSO) study will be conducted any time that the NYSDEC project manager or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The management and operation of the remedial system is exceeding the estimated costs;
- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Plume shift has potentially occurred;

- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the site management to another remedial party or agency; and
- A new and applicable remedial technology becomes available.

An RSO will provide a critique of a site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the site's cleanup goals, gather additional performance or media specific data and information and provide recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

The RSO study will focus on overall site cleanup strategy, process optimization and management with the intent of identifying impediments to cleanup and improvements to site operations to increase efficiency, cost effectiveness and remedial time frames. Green remediation technology and principals are to be considered when performing the RSO.

7.0. REPORTING REQUIREMENTS

7.1 Site Management Reports

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in Appendix H. These forms are subject to NYSDEC revision. All site management inspection, maintenance, and monitoring events will be conducted by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of the following In-Text-Table 5 and summarized in the Periodic Review Report.

In-Text-Table 5: Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Inspection Report	Quarterly for the first year of SSDS inspection, and annually aftrer the first year, and quartery for groundwater sampling until the monitoring program is terminated.
Periodic Review Report	Annually, or as otherwise determined by the NYSDEC

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

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;

- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;

- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Description of non-routine activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

7.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the NYSDEC project manager beginning sixteen (16) months after the Certificate of Completion is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually to the NYSDEC project manager or at another frequency as may be required by the NYSDEC project manager. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix A -Environmental Easement. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections, fire inspections and severe condition inspections, if applicable.

- Description of any change of use, import of materials, or excavation that occurred during the certifying period.

- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.

- Identification of any wastes generated during the reporting period, along with waste characterization data, manifests, and disposal documentation.

- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions.

- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These tables and figures will include a presentation of past data as part of an evaluation of contaminant concentration trends, including but not limited to:
  - Trend monitoring graphs that present groundwater contaminant levels from before the start of the remedy implementation to the most current sampling data;
  - Trend monitoring graphs depicting system influent analytical data on a per event and cumulative basis;
  - O&M data summary tables;
  - A current plume map for sites with remaining groundwater contamination; and
  - A groundwater elevation contour map for each gauging event.
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.

- A site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the site-specific Remedial Action Work Plan (RAWP), ROD or Decision Document;
  - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;

- Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;

- Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan;

- An update to the climate change vulnerability assessment if site or external conditions have changed since the previous assessment, and recommendations to address vulnerabilities.

- A summary of the Green Remediation evaluation, including a quantitative and qualitative overview of a site's environmental impacts and recommendations to improve the remedy's environmental footprint. The PRR will include the completed Summary of Green Remediation Metrics form provided in Appendix H.

- An evaluation of trends in contaminant levels in the affected media to determine if the remedy continues to be effective in achieving remedial goals as specified by the RAWP, ROD or Decision Document; and

- The overall performance and effectiveness of the remedy.

- A performance summary for all treatment systems at the site during the calendar year, including information such as:

  - The number of days the system operated for the reporting period;

  - A description of breakdowns and/or repairs along with an explanation for any significant downtime;

  - A description of the resolution of performance problems;

  - Alarm conditions;

  - Trends in equipment failure;

  - A summary of the performance, effluent and/or effectiveness monitoring; and

  - Comments, conclusions, and recommendations based on data evaluation. Recommendations must address how receptors would be impacted. Recommendations can include:

    - Proposals to address efficiency and costs such as: instituting remote operation, system changes to decrease maintenance costs and downtime, and system changes to decrease energy use; and

- Proposals to modify or shut down a treatment system due to remediation completion, system performance or changed conditions. System shutdowns are addressed in Section 6.4 of DER-10.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a qualified environmental professional as defined in 6 NYCRR Part 375 or Professional Engineer licensed to practice and registered in New York State will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

"*For each institutional or engineering control identified for the site, I certify that all of the following statements are true:*

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the site is compliant with the environmental easement;*
- *The engineering control systems are performing as designed and are effective;*

- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and*

- *The information presented in this report is accurate and complete.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Ariel Czemerinski, of 18-36 42nd Street, Queens, NY, am certifying as Owner's/Remedial Party's Designated Site Representative for the site."

- *No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid; and*

- *The assumptions made in the qualitative exposure assessment remain valid.*

The signed certification will be included in the Periodic Review Report.

The Periodic Review Report will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager. The Periodic Review Report may also need to be submitted in hard-copy format if requested by the NYSDEC project manager.

7.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control or failure to conduct site management activities, a Corrective Measures Work Plan will be submitted to the NYSDEC project manager for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC project manager.

7.4 Remedial System Optimization Report

If an RSO is to be performed (see Section 6.3), upon completion of an RSO, an RSO report must be submitted to the NYSDEC project manager for approval. A general outline for the RSO report is provided in J. The RSO report will document the research/ investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. A final engineering report and update to the SMP may also be required.

The RSO report will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager.

8.0 REFERENCES

- 6 NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.
- Groundwater Treatment Pilot Study Work Plan by AMC Engineering PLLC, June 2024
- Groundwater Sampling and Monitoring Work Plan by AMC Engineering PLLC, March 2025
- Interim Remedial Measures Work Plan (AST Removal) by AMC Engineering PLLC, January 2024
- Limited Subsurface Investigation by Gallinger Environmental Management Corp., dated December 19, 2019
- NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation".
- NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).
- Petroleum Contamination Groundwater Treatment Plan by AMC Engineering PLLC, August 2024
- Phase I Environmental Site Assessment by Vektor Consultants, dated July 9, 2021
- Remedial Investigation Report (261 Grand Concourse) by Vektor Consultants, July 2023
- Remedial Investigation Report (270 Walton & 315 Grand Concourse) by Vektor Consultants, March 2024
- Remedial Action Work Plan by AMC Engineering PLLC, March 2024
- NYSDOH "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006 with updates.
- United States Environmental Protection Agency (USEPA), Low Flow Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, September 19, 2017.
- United States Geological Survey (USGS), Bedrock and engineering geologic maps of Bronx County and parts of New York and Queens Counties, New York: U.S. Geological Survey, Miscellaneous Investigations Series Map I-2003, Baskerville, C.A., 1992.

TABLES

Table 6
Groundwater Elevations
Copyrite Plastic Sheets Site

Well ID	Well Diameter (in)	Surface Elevation	TOC (Elevation)	Depth to Water (feet)	Groundwater Elevation
MW-4A	2	24.34	26.29	6.3	19.99
MW-6	2	20.94	27.65	7.45	20.2
MW-8	2	20.53	22.52	9.07	13.45
SW-1	2	35.76	35.46	3.75	31.71
SW-2	2	30.94	30.64	5.77	24.87
SW-3	2	27.42	27.12	6.29	20.83

Table 7
VOCs in Groundwater (Post-Remediation)
Copyrite Plastic Sheets Site

Sample ID		NYSDEC TOGS Standards and Guidance Values - GA	MW-6		MW-4A		MW-8	
Laboatory ID			24L1726-01		24L1726-02		24L1633-01	
Sampling Date			12/26/24		12/26/24		12/23/24	
Sample Matrix			Groundwater		Groundwater		Groundwater	
Compound	**CAS Number**		Result	Q	Result	Q	Result	Q
VOCs		ug/L	ug/L		ug/L		ug/L	
Dilution Factor			5		5		25	
1,1,1,2-Tetrachloroethane	630-20-6	5	1.08	U	1.08	U	5.4	U
1,1,1-Trichloroethane	71-55-6	5	1.33	U	1.33	U	6.65	U
1,1,2,2-Tetrachloroethane	79-34-5	5	1.28	U	1.28	U	6.4	U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	5	1.43	U	1.43	U	7.15	U
1,1,2-Trichloroethane	79-00-5	1	1.24	U	1.24	U	6.22	U
1,1-Dichloroethane	75-34-3	5	1.36	U	1.36	U	6.8	U
1,1-Dichloroethylene	75-35-4	5	1.64	U	1.64	U	8.18	U
1,2,3-Trichlorobenzene	87-61-6	5	1.11	U	1.11	U	5.55	U
1,2,3-Trichloropropane	96-18-4	0.04	1.36	U	1.36	U	6.82	U
1,2,4-Trichlorobenzene	120-82-1	5	0.69	U	0.69	U	3.45	U
1,2,4-Trimethylbenzene	95-63-6	5	1.55	U	1.55	U	7.75	U
1,2-Dibromo-3-chloropropane	96-12-8	0.04	2.16	U	2.16	U	10.8	U
1,2-Dibromoethane	106-93-4	0.0006	1.08	U	1.08	U	5.38	U
1,2-Dichlorobenzene	95-50-1	3	1.35	U	1.35	U	6.75	U
1,2-Dichloroethane	107-06-2	0.6	1.88	U	1.88	U	9.42	U
1,2-Dichloropropane	78-87-5	1	1.64	U	1.64	U	8.18	U
1,3,5-Trimethylbenzene	108-67-8	5	1.74	U	1.74	U	8.68	U
1,3-Dichlorobenzene	541-73-1	3	1.42	U	1.42	U	7.08	U
1,3-Dichloropropane	142-28-9	5	1.3	U	1.3	U	6.5	U
1,4-Dichlorobenzene	106-46-7	3	1.56	U	1.56	U	7.78	U
2-Butanone	78-93-3	50	2.1	U	2.1	U	10.5	U
2-Hexanone	591-78-6	50	1.6	U	1.6	U	8	U
4-Methyl-2-pentanone	108-10-1	~	1.82	U	1.82	U	9.12	U
Acetone	67-64-1	50	**11.3**	D	**8.2**	JD	33.5	U
Acrolein	107-02-8	5	2.24	U	2.24	U	11.2	U
Acrylonitrile	107-13-1	~	2.11	U	2.11	U	10.6	U
Benzene	71-43-2	1	1.4	U	1.4	U	6.98	U
Bromochloromethane	74-97-5	5	1.77	U	1.77	U	8.85	U
Bromodichloromethane	75-27-4	50	1.22	U	1.22	U	6.12	U
Bromoform	75-25-2	50	0.815	U	0.815	U	4.08	U
Bromomethane	74-83-9	5	0.595	U	0.595	U	2.98	U
Carbon disulfide	75-15-0	~	1.81	U	1.81	U	9.05	U
Carbon tetrachloride	56-23-5	5	1.02	U	1.02	U	5.1	U
Chlorobenzene	108-90-7	5	1.42	U	1.42	U	7.1	U
Chloroethane	75-00-3	5	2.24	U	2.24	U	11.2	U
Chloroform	67-66-3	7	1.22	U	1.22	U	6.08	U
Chloromethane	74-87-3	5	**3.7**	D	1.86	U	9.3	U
cis-1,2-Dichloroethylene	156-59-2	5	1.47	U	1.47	U	7.35	U
cis-1,3-Dichloropropylene	10061-01-5	0.4	1.31	U	1.31	U	6.55	U
Cyclohexane	110-82-7	~	2.46	U	2.46	U	12.3	U
Dibromochloromethane	124-48-1	50	0.73	U	0.73	U	3.65	U
Dibromomethane	74-95-3	~	1.02	U	1.02	U	5.08	U
Dichlorodifluoromethane	75-71-8	5	2.26	U	2.26	U	11.3	U
Ethyl Benzene	100-41-4	5	1.45	U	1.45	U	7.25	U
Hexachlorobutadiene	87-68-3	0.5	1.2	U	1.2	U	6.02	U
Isopropylbenzene	98-82-8	5	2.02	U	2.02	U	10.1	U
Methyl acetate	79-20-9	~	2.21	U	2.21	U	11	U
Methyl tert-butyl ether (MTBE)	1634-04-4	10	1.22	U	1.22	U	6.1	U
Methylcyclohexane	108-87-2	~	2.38	U	2.38	U	11.9	U
Methylene chloride	75-09-2	5	1.98	U	1.98	U	**10**	JBD
Naphthalene	91-20-3	10	1.06	U	1.06	U	5.3	U
n-Butylbenzene	104-51-8	5	2	U	2	U	9.98	U
n-Propylbenzene	103-65-1	5	1.92	U	1.92	U	9.6	U
o-Xylene	95-47-6	5	1.3	U	1.30	U	6.52	U
p- & m- Xylenes	179601-23-1	~	2.89	U	2.89	U	14.4	U
p-Diethylbenzene	105-05-5	~	1.7	U	1.7	U	8.52	U
p-Ethyltoluene	622-96-8	~	1	U	1	U	5	U
p-Isopropyltoluene	99-87-6	5	1.88	U	1.88	U	9.42	U
sec-Butylbenzene	135-98-8	5	2.22	U	2.22	U	11.1	U
Styrene	100-42-5	5	1.28	U	1.28	U	6.38	U
tert-Butyl alcohol (TBA)	75-65-0	~	**19.8**	D	3.04	U	15.2	U
tert-Butylbenzene	98-06-6	5	1.84	U	1.84	U	9.18	U
Tetrachloroethylene	127-18-4	5	1.2	U	1.2	U	5.98	U
Toluene	108-88-3	5	1.73	U	1.73	U	8.65	U
trans-1,2-Dichloroethylene	156-60-5	5	1.4	U	1.4	U	6.98	U
trans-1,3-Dichloropropylene	10061-02-6	0.4	1.14	U	1.14	U	5.72	U
Trichloroethylene	79-01-6	5	1.24	U	1.24	U	6.22	U
Trichlorofluoromethane	75-69-4	5	1.68	U	1.68	U	8.42	U
Vinyl Chloride	75-01-4	2	2.34	U	2.34	U	11.7	U
Xylenes, Total	1330-20-7	5	4.2	U	4.2	U	21	U

NOTES:
Any Regulatory Exceedences are color coded by Regulation

Q is the Qualifier Column with definitions as follows:
D=result is from an analysis that required a dilution
J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated
U=analyte not detected at or above the level indicated
B=analyte found in the analysis batch blank
~=this indicates that no regulatory limit has been established for this analyte

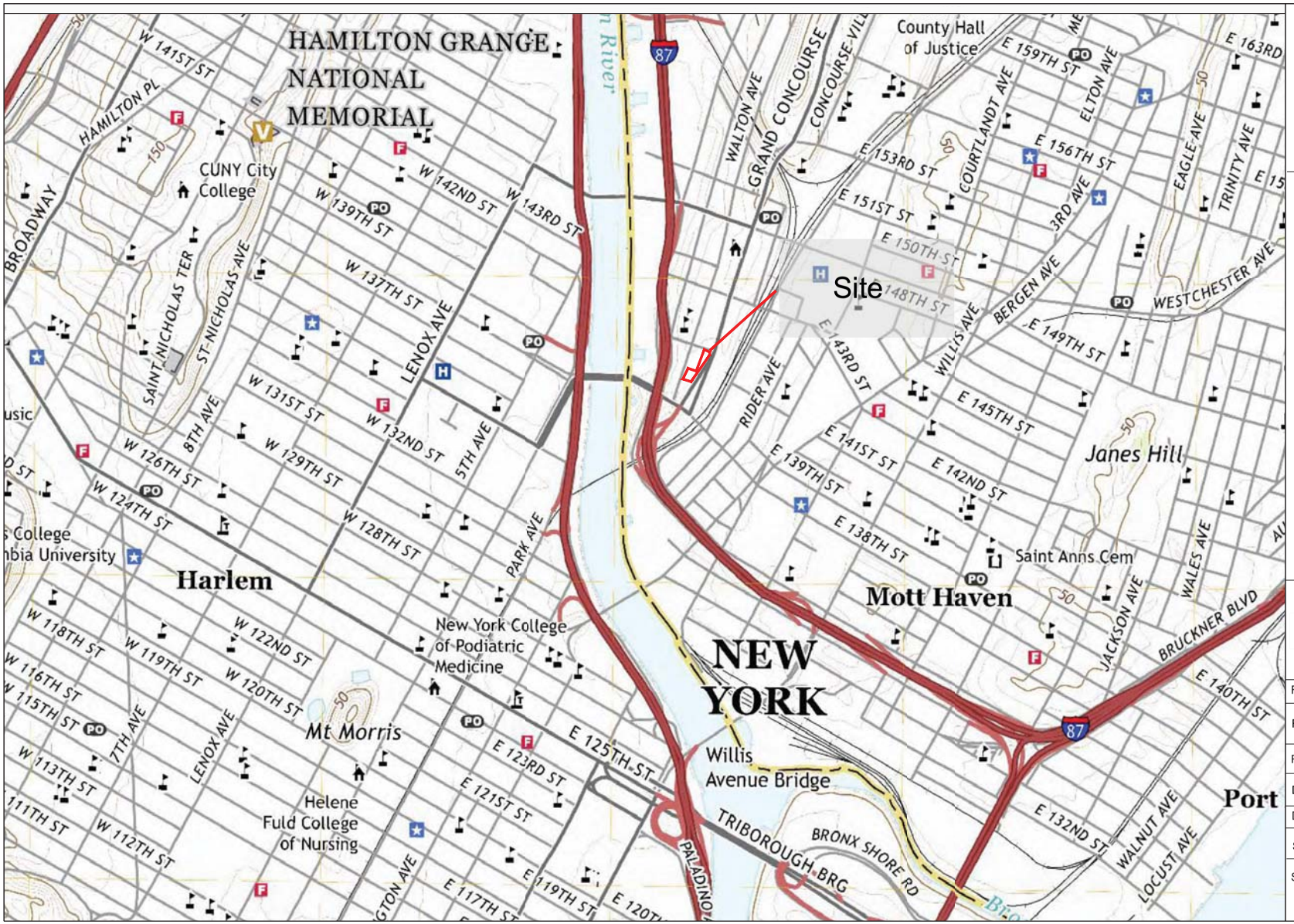
Table 7
SVOCs in Groundwater (Post-Remediation)
Copyrite Plastic Sheets Site

Sample ID		NYSDEC TOGS Standards and Guidance Values - GA	MW-6		MW-4A		MW-8	
Laboatory ID			24L1726-01		24L1726-02		24L1633-01	
Sampling Date			12/26/24		12/26/24		12/23/24	
Sample Matrix			Groundwater		Groundwater		Groundwater	
Compound	CAS Number		Result	Q	Result	Q	Result	Q
SVOCs		ug/L	ug/L		ug/L		ug/L	
Dilution Factor			1		1		1	
1,1-Biphenyl	92-52-4	~	5	U	5	U	2.5	U
1,2,4,5-Tetrachlorobenzene	95-94-3	~	5	U	5	U	2.5	U
2,3,4,6-Tetrachlorophenol	58-90-2	~	5	U	5	U	2.5	U
2,4,5-Trichlorophenol	95-95-4	1	5	U	5	U	2.5	U
2,4,6-Trichlorophenol	88-06-2	1	5	U	5	U	2.5	U
2,4-Dichlorophenol	120-83-2	5	5	U	5	U	2.5	U
2,4-Dimethylphenol	105-67-9	50	5	U	5	U	2.5	U
2,4-Dinitrophenol	51-28-5	10	5	U	5	U	2.5	U
2,4-Dinitrotoluene	121-14-2	5	5	U	5	U	2.5	U
2,6-Dinitrotoluene	606-20-2	5	5	U	5	U	2.5	U
2-Chloronaphthalene	91-58-7	10	5	U	5	U	2.5	U
2-Chlorophenol	95-57-8	1	5	U	5	U	2.5	U
2-Methylnaphthalene	91-57-6	~	5	U	5	U	2.5	U
2-Methylphenol	95-48-7	1	5	U	5	U	2.5	U
2-Nitroaniline	88-74-4	5	5	U	5	U	2.5	U
2-Nitrophenol	88-75-5	1	5	U	5	U	2.5	U
3- & 4-Methylphenols	65794-96-9	~	5	U	5	U	2.5	U
3,3-Dichlorobenzidine	91-94-1	5	5	U	5	U	2.5	U
3-Nitroaniline	99-09-2	5	5	U	5	U	2.5	U
4,6-Dinitro-2-methylphenol	534-52-1	~	5	U	5	U	2.5	U
4-Bromophenyl phenyl ether	101-55-3	~	5	U	5	U	2.5	U
4-Chloro-3-methylphenol	59-50-7	1	5	U	5	U	2.5	U
4-Chloroaniline	106-47-8	5	5	U	5	U	2.5	U
4-Chlorophenyl phenyl ether	7005-72-3	~	5	U	5	U	2.5	U
4-Nitroaniline	100-01-6	5	5	U	5	U	2.5	U
4-Nitrophenol	100-02-7	1	10	U	10	U	5	U
Acetophenone	98-86-2	~	5	U	5	U	2.5	U
Benzaldehyde	100-52-7	~	5	U	5	U	2.5	U
Benzyl butyl phthalate	85-68-7	50	5	U	5	U	2.5	U
Bis(2-chloroethoxy)methane	111-91-1	5	5	U	5	U	2.5	U
Bis(2-chloroethyl)ether	111-44-4	1	2	U	2	U	1	U
Bis(2-chloroisopropyl)ether	108-60-1	5	5	U	5	U	2.5	U
Caprolactam	105-60-2	~	5	U	5	U	2.5	U
Carbazole	86-74-8	~	5	U	5	U	2.5	U
Dibenzofuran	132-64-9	~	5	U	5	U	2.5	U
Diethyl phthalate	84-66-2	50	5	U	5	U	2.5	U
Dimethyl phthalate	131-11-3	50	5	U	5	U	2.5	U
Di-n-butyl phthalate	84-74-2	50	5	U	5	U	2.5	U
Di-n-octyl phthalate	117-84-0	50	5	U	5	U	2.5	U
Hexachlorocyclopentadiene	77-47-4	5	10	U	10	U	5	U
Isophorone	78-59-1	50	5	U	5	U	2.5	U
N-nitroso-di-n-propylamine	621-64-7	~	5	U	5	U	2.5	U
N-Nitrosodiphenylamine	86-30-6	50	5	U	5	U	2.5	U
Phenol	108-95-2	1	1.5	U	1.5	U	0.75	U
Propargite	2312-35-8	~	5	U	5	U	2.5	U
Pyridine	110-86-1	50	5	U	5	U	2.5	U
Acenaphthene	83-32-9	20	0.1	U	0.1	U	0.05	U
Acenaphthylene	208-96-8	~	0.1	U	0.1	U	0.05	U
Anthracene	120-12-7	50	0.1	U	0.1	U	0.05	U
Atrazine	1912-24-9	~	1	U	1	U	0.5	U
Benzo(a)anthracene	56-55-3	0.002	0.1	U	0.1	U	0.05	U
Benzo(a)pyrene	50-32-8	0.002	0.1	U	0.1	U	0.05	U
Benzo(b)fluoranthene	205-99-2	0.002	0.1	U	0.1	U	0.05	U
Benzo(g,h,i)perylene	191-24-2	~	0.1	U	0.1	U	0.05	U
Benzo(k)fluoranthene	207-08-9	0.002	0.1	U	0.1	U	0.05	U
Bis(2-ethylhexyl)phthalate	117-81-7	5	1	U	**5.52**		0.5	U
Chrysene	218-01-9	0.002	0.1	U	0.1	U	0.05	U
Dibenzo(a,h)anthracene	53-70-3	~	0.1	U	0.1	U	0.05	U
Fluoranthene	206-44-0	50	0.1	U	0.1	U	0.05	U
Fluorene	86-73-7	50	0.1	U	0.1	U	0.05	U
Hexachlorobenzene	118-74-1	0.04	0.04	U	0.04	U	0.02	U
Hexachlorobutadiene	87-68-3	0.5	1	U	1	U	0.5	U
Hexachloroethane	67-72-1	5	1	U	1	U	0.5	U
Indeno(1,2,3-cd)pyrene	193-39-5	0.002	0.1	U	0.1	U	0.05	U
Naphthalene	91-20-3	10	0.1	U	0.1	U	0.05	U
Nitrobenzene	98-95-3	0.4	0.5	U	0.5	U	0.25	U
N-Nitrosodimethylamine	62-75-9	~	1	U	1	U	0.5	U
Pentachlorophenol	87-86-5	1	0.5	U	0.5	U	0.25	U
Phenanthrene	85-01-8	50	0.1	U	0.1	U	0.05	U
Pyrene	129-00-0	50	0.1	U	0.1	U	0.05	U

NOTES:
Any Regulatory Exceedences are color coded by Regulation

Q is the Qualifier Column with definitions as follows:
U=analyte not detected at or above the level indicated
~=this indicates that no regulatory limit has been established for this analyte

FIGURES



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Legend:

Site Location

Notes:

1. All feature locations are approximate
2. Base Maps is USGS 7.5 Minute-Central Park, NY 2019 Map

Scale:

0 Miles 0.25 0.5

Figure No.	1
Figure Name:	SITE LOCATION
Report:	SITE MANAGEMENT PLAN
Date:	2/20/2025
Drawn By:	KB
Site Name:	COPYRITE PLASTIC SHEETS
Site Address:	261-315 GRAND CONCOURSE BRONX, NY

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Legend:

BCP SITE BOUNDARY

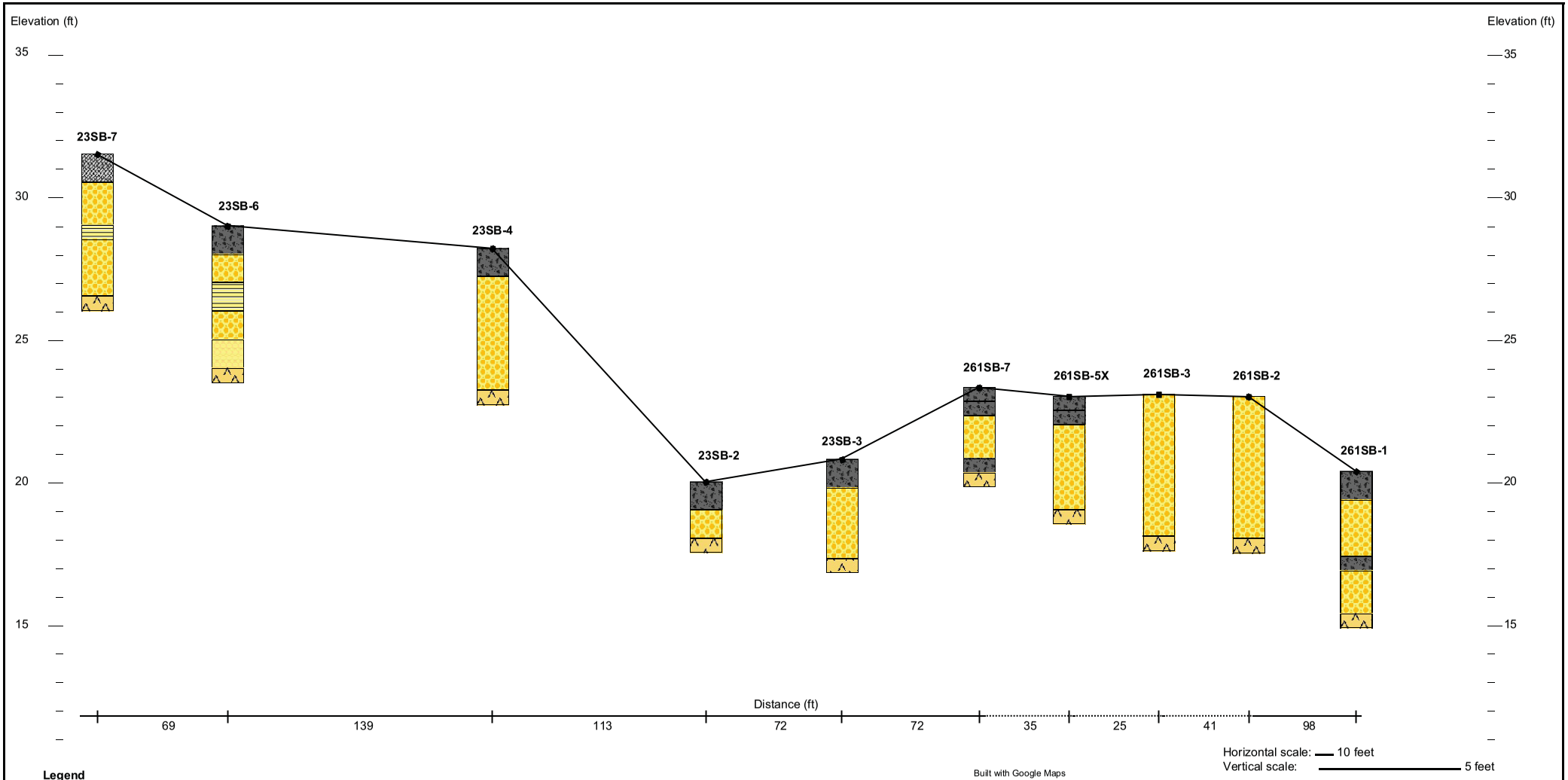
Notes:

1. Base Map provided by Google

Scale:

0 25' 50' 100'

Figure No.	2
Figure Name:	SITE PLAN
Report:	SITE MANAGEMENT PLAN
Date:	2/20/2025
Drawn By:	KB
Site Name:	COPYRITE PLASTIC SHEETS
Site Address:	261-315 GRAND CONCOURSE BRONX, NY



Legend

- WASTE
- Poorly graded SAND (SP)
- SEDIMENTARY Rock
- BEDROCK
- CONCRETE
- Poorly graded SAND with silt (SP-SM)

- Water Level During Drilling
- Water Level at End of Drilling
- Cap
- Screen
- Annular Seal
- Sanitary Seal
- Filter Pack
- Backfill

Built with Google Maps

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Figure No:	3
Figure Name:	GEOLOGIC CROSS SECTIONS
Report Name:	SITE MANAGEMENT PLAN
Site Address:	261-315 GRAND CONCOURSE BRONX, NY

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Legend:

- Site Boundary
- 23.77 Groundwater Elevation (feet)
- Groundwater Elevation Contour Line (feet) Contour Interval = 1.5 feet

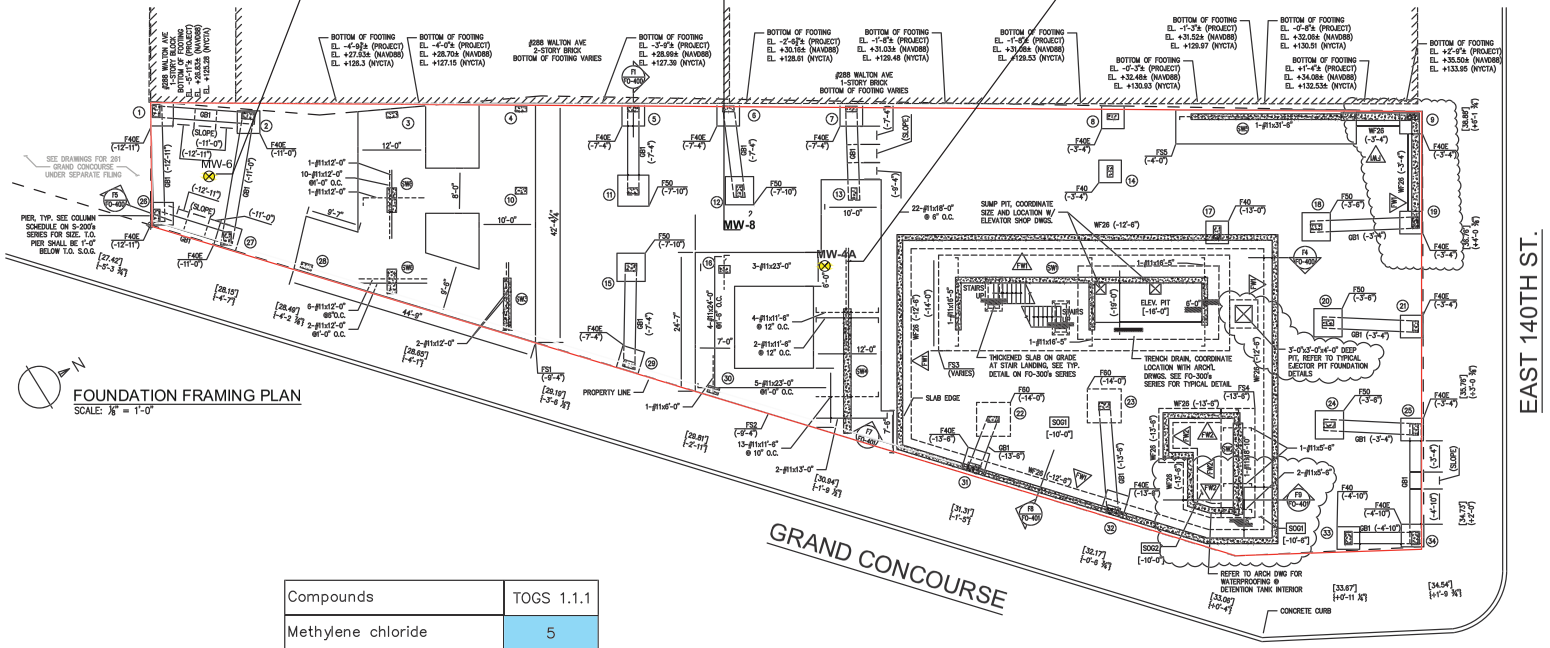
Scale: 0 25' 50' 100'

Figure No.	4
Figure Name:	GROUNDWATER CONTOUR MAP
Report:	SITE MANAGEMENT PLAN
Date:	02/20/2025
Drawn By:	KB
Site Name:	COPYRITE PLASTIC SHEETS
Site Address:	261-315 GRAND CONCOURSE BRONX, NY

Sample ID	MW–6
Sampling Date	12/26/2024
VOCs	NE
SVOCs	ND

Sample ID	MW–8	
Sampling Date	12/23/2024	
VOCs	Result	Q
Methylene chloride	10	JBD
SVOCs	ND	

Sample ID	MW–4A	
Sampling Date	12/26/2024	
VOCs	NE	
SVOCs	Result	Q
Bis(2–ethylhexyl)phthalate	5.52	



FOUNDATION FRAMING PLAN
SCALE: 1/8" = 1'-0"

Compounds	TOGS 1.1.1
Methylene chloride	5
Bis(2–ethylhexyl)phthalate	5

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Legend:

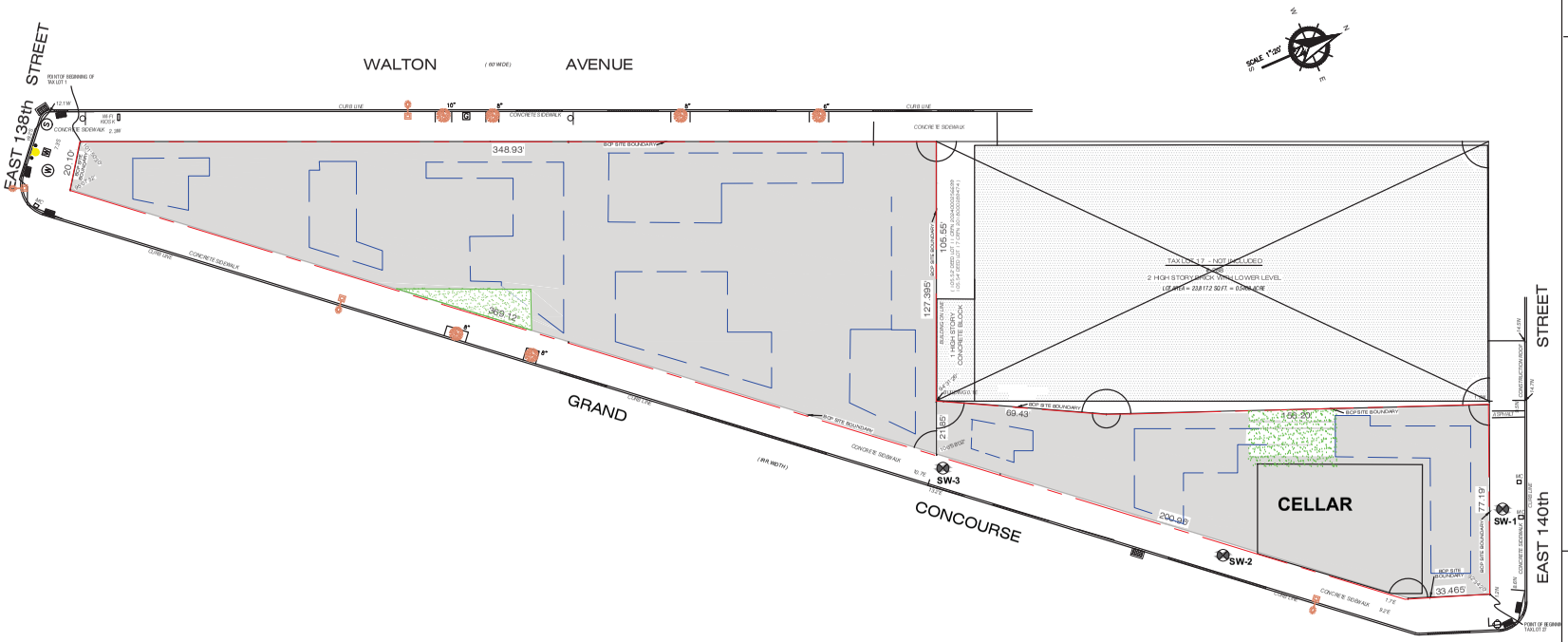
- Partial Site Boundary
- MW-X — Post-Remedial Monitoring Well Locations (Destroyed)

Notes:

1. All feature locations are approximate
2. Base Map is FO-100 Drawing
3. All results are reported in micrograms per liter (ug/L)

Scale: AS SHOWN

Figure No.	5
Figure Name:	POST-REMEDIAL GROUNDWATER EXCEEDANCES
Report:	SITE MANAGEMENT PLAN
Date:	5/05/2025
Drawn By:	EK
Site Address:	261-315 GRAND CONCOURSE BRONX, NY



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Legend:

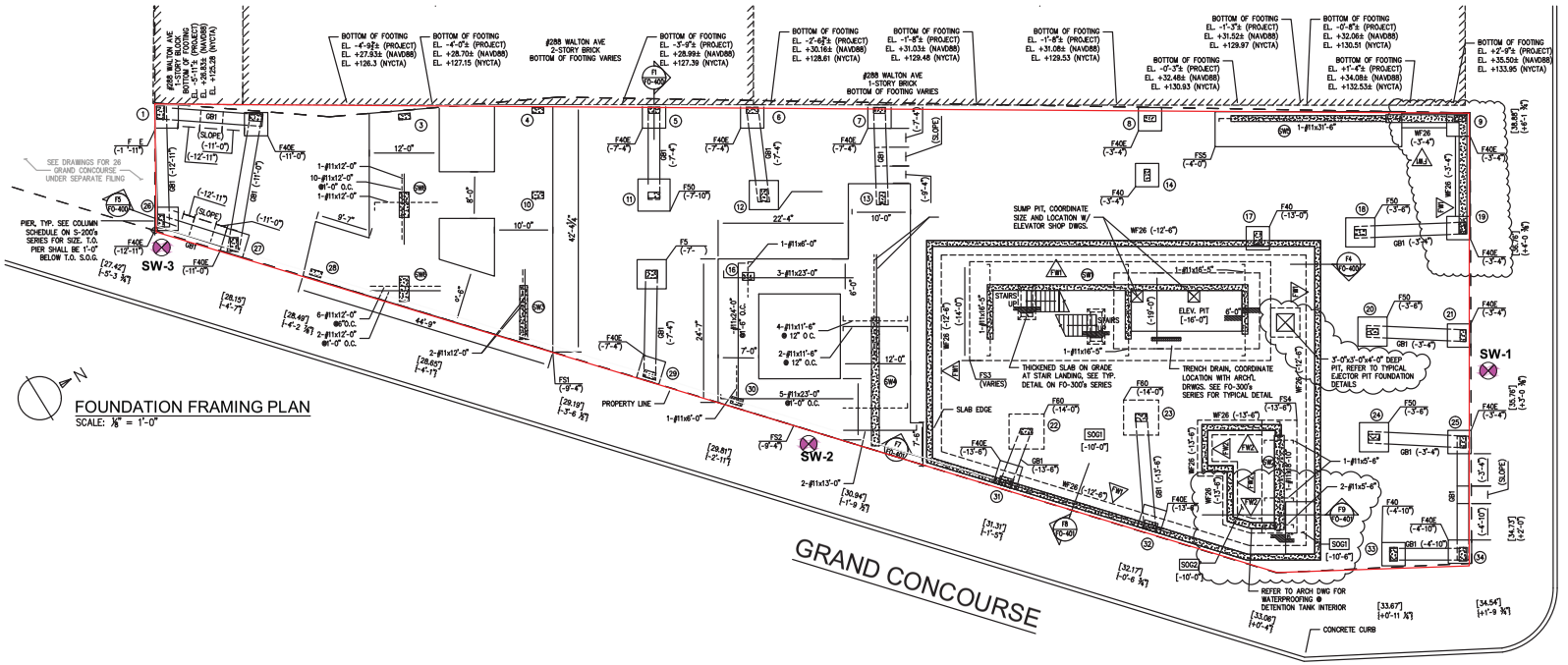
- BCP SITE BOUNDARY / IC BOUNDARY (CONDITIONAL TRACK 1 AREA)
- EC LOCATION: SSDS LOOPS
- CONCRETE SLAB OVER IMPORTED GRAVEL
- 2' IMPORTED CLEAN FILL
- OFF-SITE MONITORING WELLS SW-X

Notes:

1. All feature locations are approximate
2. IC: Institutional Control
3. EC: Engineering Contol
4. Base Map is the Easement Survey

Scale:

Figure No.	6
Figure Name:	INSTITUTIONAL CONTROLS/ ENGINEERING CONTROLS
Report:	SITE MANAGEMENT PLAN
Date:	5/10/2025
Drawn By:	EK
Site Address:	261-315 GRAND CONCOURSE BRONX, NY



FOUNDATION FRAMING PLAN
SCALE: 1/8" = 1'-0"

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Legend:

- Site Boundary
- SW-X — Off-Site Monitoring Well Locations

Notes:

1. All feature locations are approximate
2. Base Map is FO-100 Drawing

Scale: AS SHOWN

Figure No.	7
Figure Name:	OFF-SITE MONITORING WELL LOCATIONS
Report:	SITE MANAGEMENT PLAN
Date:	3/05/2025
Drawn By:	KB
Site Address:	315 GRAND CONCOURSE, 270 WALTON AVENUE, BRONX, NY

APPENDIX A – ENVIRONMENTAL EASEMENT

APPENDIX B – LIST OF SITE CONTACTS

Name	Phone/Email Address
Site Owner / Remedial Party	Walton Street GC Developments LLC Mordy Beitel (718) 977-5666 mbeitel@beitel.com
Qualified Environmental Professional	Vektor Consultants Ezgi Karayel (347) 871-0750 ezgi@vektorconsultants.com
Remedial Engineer	AMC Engineering Ariel Czemerinski, P.E. (718) 545-0474 ariel@amc-engineering.com
NYSDEC DER Project Manager	Sydney Sobol 518 402-4799 Sydney.sobol@dec.ny.gov
NYSDEC DER Project Manager's Supervisor	Douglas MacNeal Douglas.macneal@dec.ny.gov 518 402-9662
NYSDEC Site Control	Kelly Lewandowski (518) 402-9569 Kelly.lewandowski@dec.ny.gov
NYSDOH Project Manager	Anthoney Perretta 518-402-7867 Anthony.perretta@health.ny.gov

APPENDIX C
RESPONSIBILITIES OF
OWNER and REMEDIAL PARTY

Responsibilities

The responsibilities for implementing the Site Management Plan ("SMP") for the Copyrite Plastic Sheets site (the "site"), number C203151, are divided between the site owner(s) and a Remedial Party, as defined below. The owner(s) is/are currently listed as:
Walton Street GC Developments LLC, 1201 38th Street, Brooklyn, NY 11219 (the "owner").

Solely for the purposes of this document and based upon the facts related to a particular site and the remedial program being carried out, the term Remedial Party ("RP") refers to any of the following: certificate of completion holder, volunteer, applicant, responsible party, and, in the event the New York State Department of Environmental Conservation ("NYSDEC") is carrying out remediation or site management, the NYSDEC and/or an agent acting on its behalf. The RP is:
Walton Street GC Developments LLC, 1201 38th Street, Brooklyn, NY 11219

Nothing on this page shall supersede the provisions of an Environmental Easement, Consent Order, Consent Decree, agreement, or other legally binding document that affects rights and obligations relating to the site.

Site Owner's Responsibilities:

1) The owner shall follow the provisions of the SMP as they relate to future construction and excavation at the site.

2) In accordance with a periodic time frame determined by the NYSDEC, the owner shall periodically certify, in writing, that all Institutional Controls set forth in an Environmental Easement remain in place and continue to be complied with. The owner shall provide a written certification to the RP, upon the RP's request, in order to allow the RP to include the certification in the site's Periodic Review Report (PRR) certification to the NYSDEC.

3) In the event the site is delisted, the owner remains bound by the Environmental Easement and shall submit, upon request by the NYSDEC, a written certification that the Environmental Easement is still in place and has been complied with.

4) The owner shall grant access to the site to the RP and the NYSDEC and its agents for the purposes of performing activities required under the SMP and assuring compliance with the SMP.

5) The owner is responsible for assuring the security of the remedial components located on its property to the best of its ability. If damage to the remedial components or vandalism is evident, the owner shall notify the site's RP and the NYSDEC in accordance with the timeframes indicated in Section 1.3 - Notifications.

6) If some action or inaction by the owner adversely impacts the site, the owner must notify the site's RP and the NYSDEC in accordance with the time frame indicated in Section 1.3 - Notifications and coordinate the performance of necessary corrective actions with the RP.

7) The owner must notify the RP and the NYSDEC of any change in ownership of the site property (identifying the tax map numbers in any correspondence) and provide contact information for the new owner of the site property. 6 NYCRR Part contains notification requirements applicable to any construction or activity changes and changes in ownership. Among the notification requirements is the following: Sixty days prior written notification must be made to the NYSDEC. Notification is to be submitted to the NYSDEC Division of Environmental Remediation's Site Control Section. Notification requirements for a change in use are detailed in Section 1.3 of the SMP. A change of use includes, but is not limited to, any activity that may increase direct human or environmental exposure (e.g., day care, school or park). A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.

8) Until such time as the NYSDEC deems the vapor mitigation system unnecessary, the owner shall operate the system, pay for the utilities for the system's operation, and report any maintenance issues to the RP and the NYSDEC.

9) In accordance with the tenant notification law, within 15 days of receipt, the owner must supply a copy of any vapor intrusion data, that is produced with respect to structures and that exceeds NYSDOH or OSHA guidelines on the site, whether produced by the NYSDEC, RP, or owner, to the tenants on the property. The owner must otherwise comply with the tenant and occupant notification provisions of Environmental Conservation Law Article 27, Title 24.

Remedial Party Responsibilities

1) The RP must follow the SMP provisions regarding any construction and/or excavation it undertakes at the site.

2) The RP shall report to the NYSDEC all activities required for remediation, operation, maintenance, monitoring, and reporting. Such reporting includes, but is not limited to, periodic review reports and certifications, electronic data deliverables, corrective action work plans and reports, and updated SMPs.

3) Before accessing the site property to undertake a specific activity, the RP shall provide the owner advance notification that shall include an explanation of the work expected to be completed. The RP shall provide to (i) the owner, upon the owner's request, (ii) the NYSDEC, and (iii) other entities, if required by the SMP, a copy of any data generated during the site visit and/or any final report produced.

4) If the NYSDEC determines that an update of the SMP is necessary, the RP shall update the SMP and obtain final approval from the NYSDEC. Within 5 business days after NYSDEC approval, the RP shall submit a copy of the approved SMP to the owner(s).

5) The RP shall notify the NYSDEC and the owner of any changes in RP ownership and/or control and of any changes in the party/entity responsible for the operation, maintenance, and monitoring of and reporting with respect to any remedial system (Engineering Controls). The RP shall provide contact information for the new party/entity. Such activity constitutes a Change of Use pursuant to 375-1.11(d) and requires 60-days prior notice to the NYSDEC. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html .

6) The RP shall notify the NYSDEC of any damage to or modification of the systems as required under Section 1.3 - Notifications of the SMP.

7) The RP is responsible for the proper maintenance of any installed vapor intrusion mitigation systems associated with the site, as required in Section 5 or Appendix I (Operation, Monitoring and Maintenance Manual) of the SMP.

8) Prior to a change in use that impacts the remedial system or requirements and/or responsibilities for implementing the SMP, the RP shall submit to the NYSDEC for approval an amended SMP.

9) Any change in use, change in ownership, change in site classification (*e.g.*, delisting), reduction or expansion of remediation, and other significant changes related to the site

may result in a change in responsibilities and, therefore, necessitate an update to the SMP and/or updated legal documents. The RP shall contact the NYSDEC project manager to discuss the need to update such documents.

Change in RP ownership and/or control and/or site ownership does not affect the RP's obligations with respect to the site unless a legally binding document executed by the NYSDEC releases the RP of its obligations.

Future site owners and RPs and their successors and assigns are required to carry out the activities set forth above.

APPENDIX D
MONITORING WELL CONSTRUCTION LOGS

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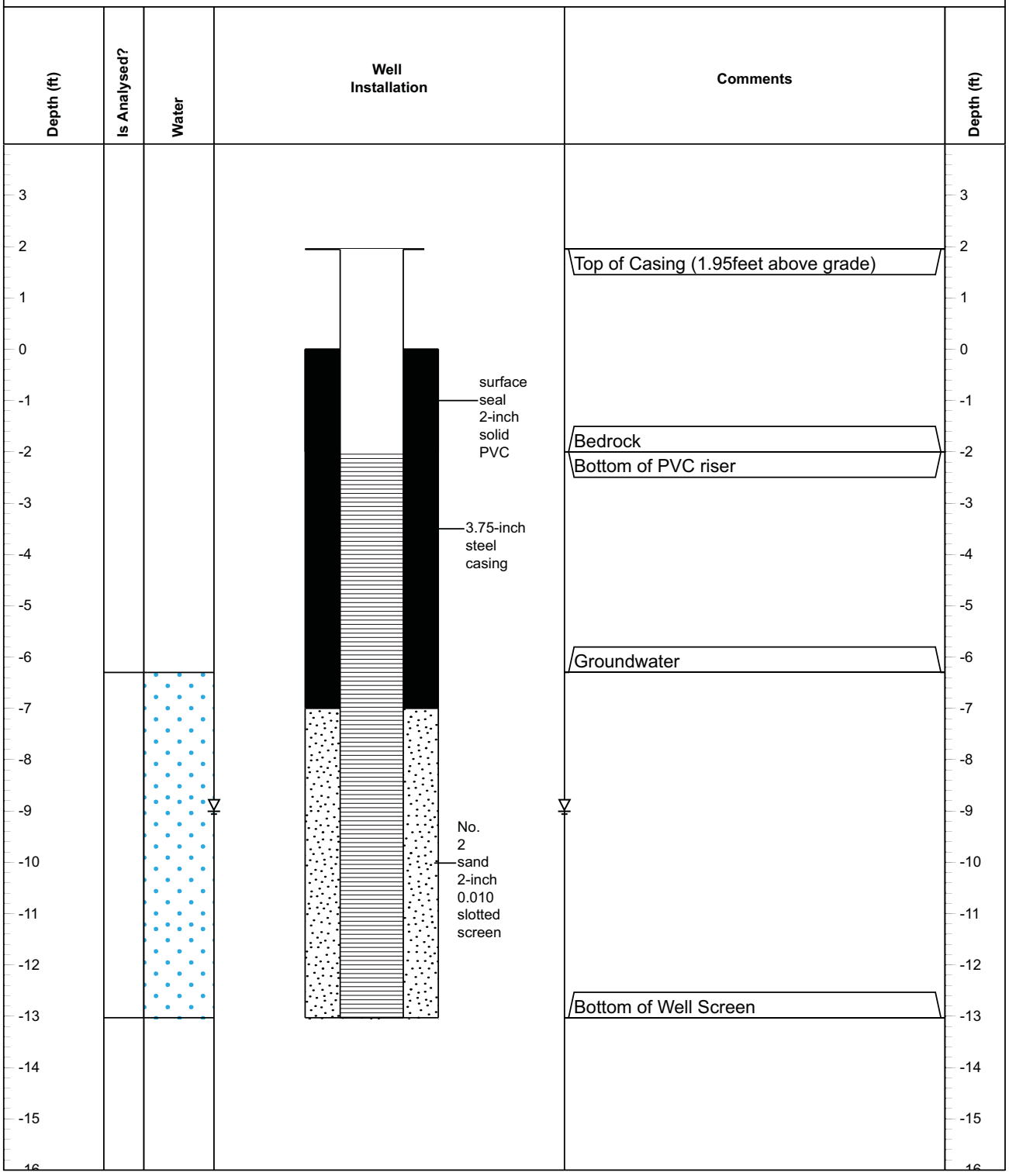
MONITORING WELL MW-4A

PROJECT NAME 261-315 Grand Concourse and 270 Walton Avenue
ADDRESS 315 Grand Concourse, Bronx, NY
DRILLING DATE 7/10/24
DIAMETER 3.75" steel outer 2" PVC inner

DRILLING COMPANY Coastal Environmental
DRILLER Pat Slavin
DRILL RIG Geoprobe 7822DT
TOTAL DEPTH 13.03 feet bgs
BGS Below Grade Surface
Bedrock Beginning at 2 feet bgs

SURFACE ELEVATION
WELL TOC 1.95 feet above grade
DEPTH TO WATER 6.3 feet bgs
SCREENED DEPTH 2-13.03 feet bgs
LOGGED BY David Klein

Well ID: MW-1X



Disclaimer This bore log is intended for environmental not geotechnical purposes.

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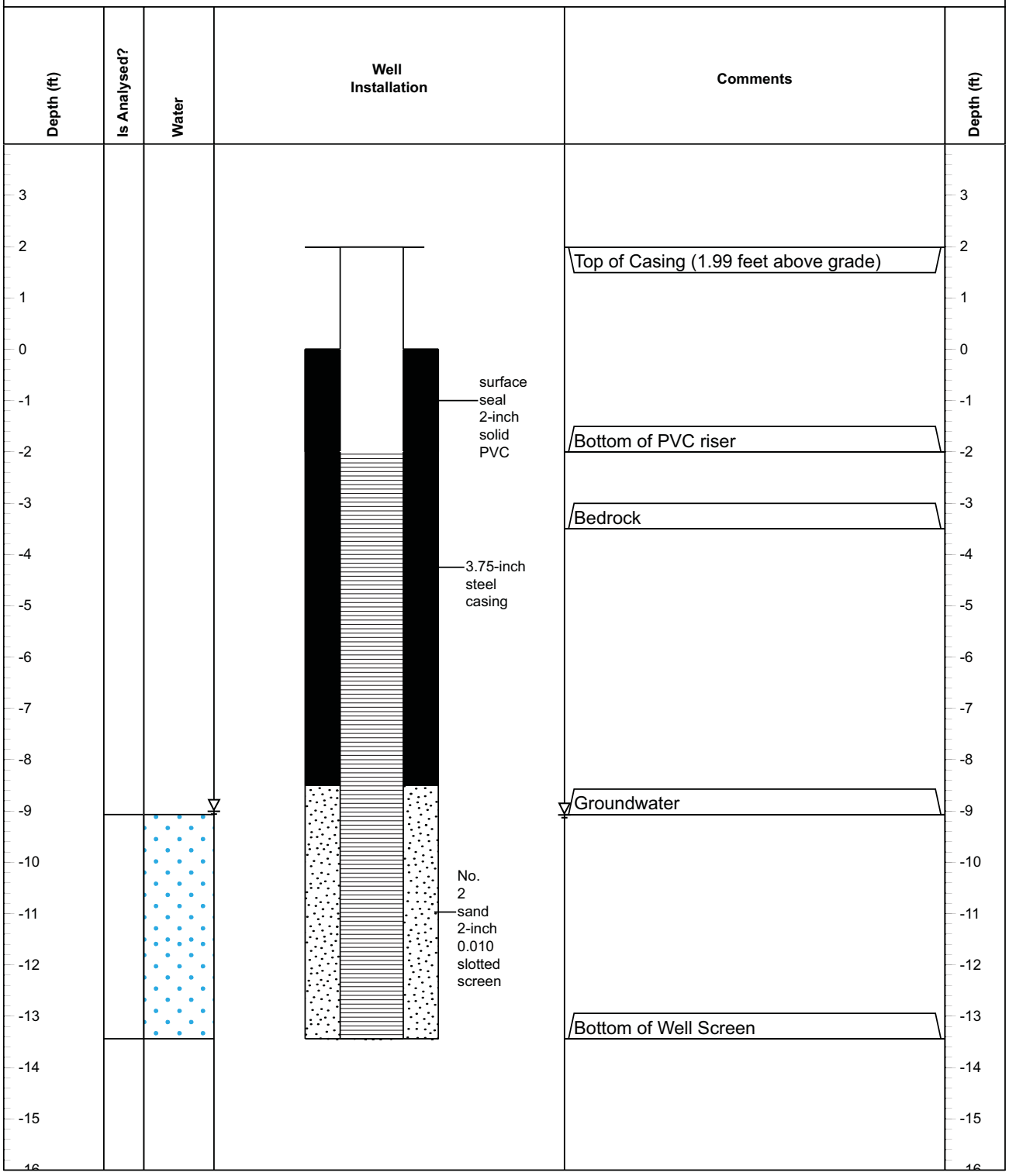
MONITORING WELL MW-8

PROJECT NAME 261-315 Grand Concourse and 270 Walton Avenue
ADDRESS 315 Grand Concourse, Bronx, NY
DRILLING DATE 7/10/24
DIAMETER 3.75" steel outer 2" PVC inner

DRILLING COMPANY Coastal Environmental
DRILLER Pat Slavin
DRILL RIG Geoprobe 7822DT
TOTAL DEPTH 13.44 feet bgs
BGS Below Grade Surface
Bedrock Beginning at 3 feet 6 inches bgs

SURFACE ELEVATION
WELL TOC 1.99 feet above grade
DEPTH TO WATER 9.07 feet bgs
SCREENED DEPTH 2-13.44 feet bgs
LOGGED BY David Klein

Well ID: MW-1X



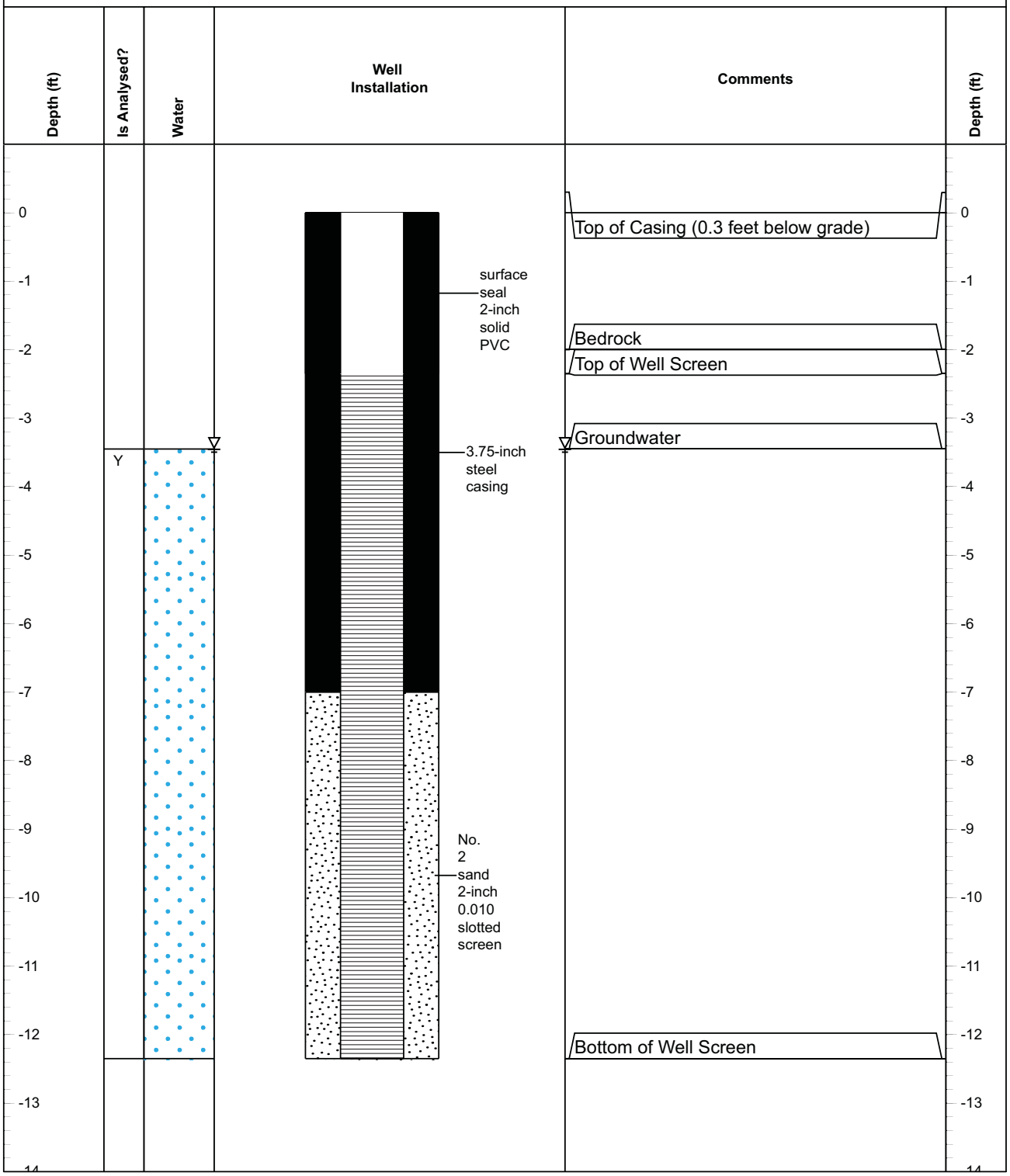
Disclaimer This bore log is intended for environmental not geotechnical purposes.

vEKtor consultants

MONITORING WELL SW-1

PROJECT NAME 261-315 Grand Concourse	**DRILLING COMPANY** Coastal Environmental	**SURFACE ELEVATION**
ADDRESS 261-315 Grand Concourse	**DRILLER** Paul	**WELL TOC** 0.3 feet below grade
Bronx, New York	**DRILL RIG** CRS XL 140 Duo Sonic	**DEPTH TO WATER** 3.45 feet bgs
BCP SITEC203151	**TOTAL DEPTH** 12.35 feet bgs	**SCREENED DEPTH** 2.35-12.35 feet bgs
DRILLING DATE 7/16/25	**BGS** Below Grade Surface	**LOGGED BY** David Klein
DIAMETER 3.75"	**Bedrock** Beginning at 2 feet bgs	**TOC** Top Of Casing

Well ID: MW-1X



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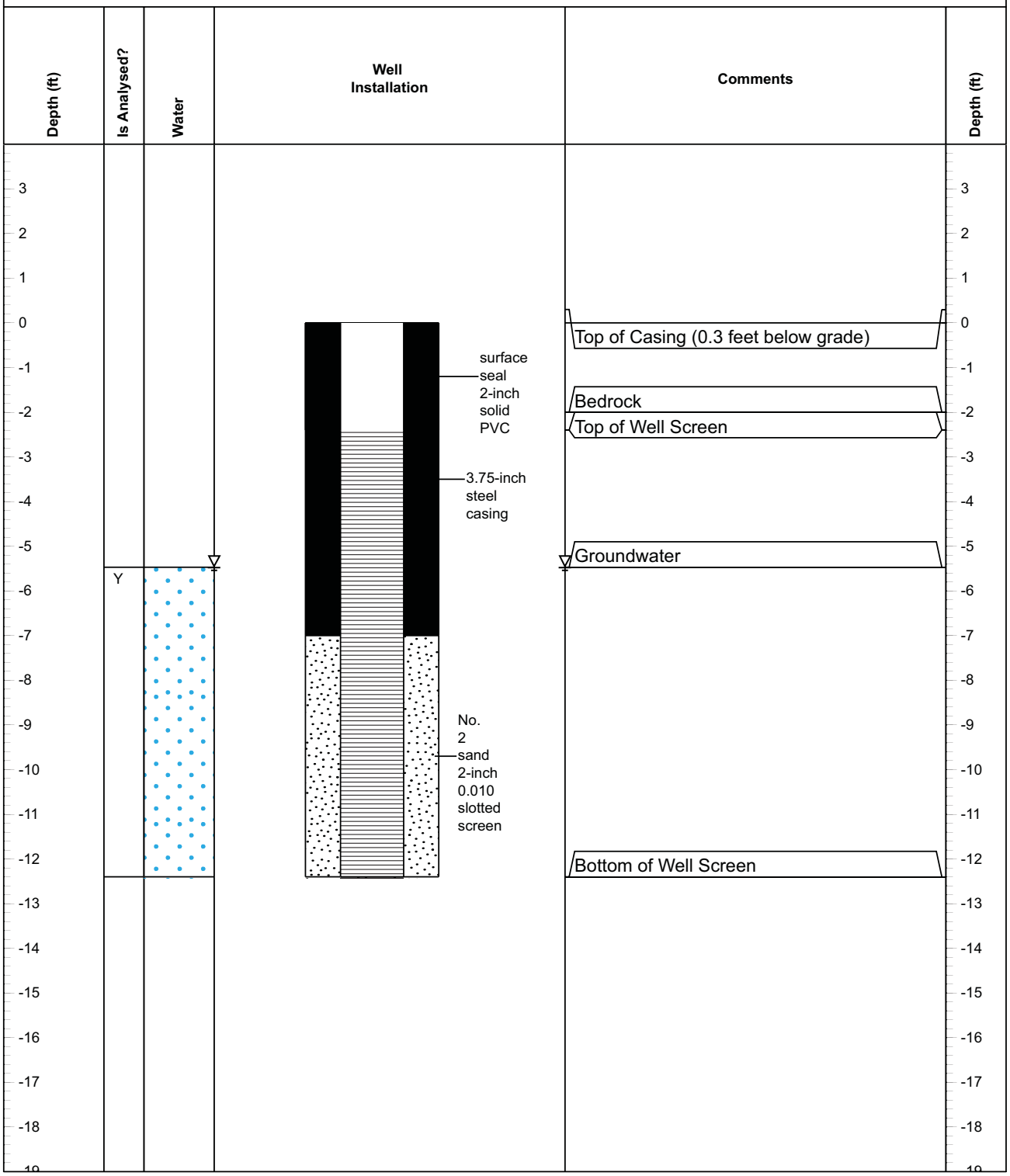
MONITORING WELL SW-2

PROJECT NAME 261- 315 Grand Concourse	**DRILLING COMPANY** Coastal Environmental	**SURFACE ELEVATION**
ADDRESS 261- 315 Grand Concourse	**DRILLER** Paul	**WELL TOC** 0.3 feet below grade
Bronx, New York	**DRILL RIG** CRS XL 140 Duo Sonic	**DEPTH TO WATER** 5.47 feet below grade
BCP SiteC203151	**TOTAL DEPTH** 12.40 feet bgs	**SCREENED DEPTH** 2.40-12.40 feet below grade
DRILLING DATE 7/16/25	**BGS** Below Grade Surface	**LOGGED BY** David Klein
DIAMETER 3.75"	**Bedrock** Beginning at 2 feet bgs	**TOC** Top of Casing

Well ID: MW-1X



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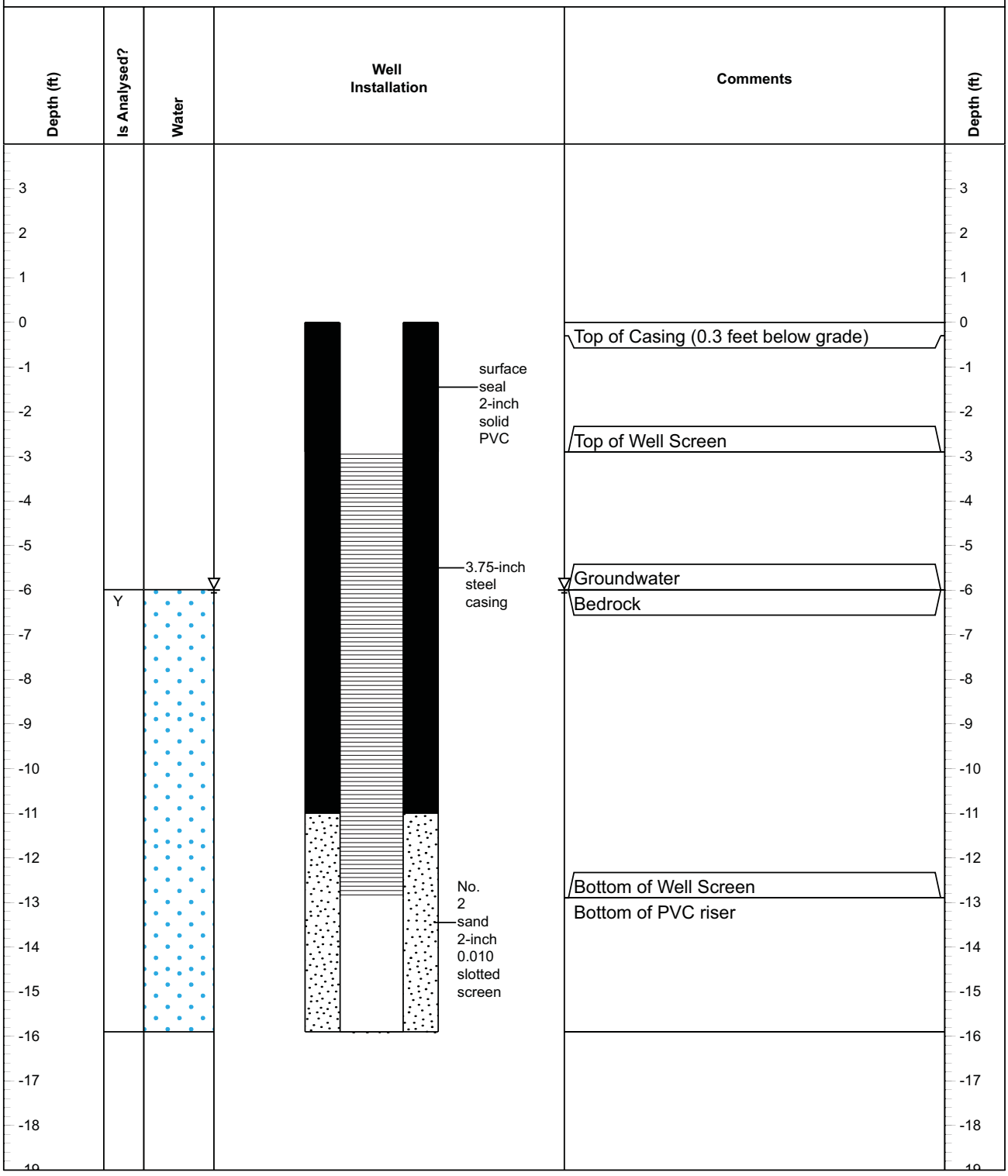
MONITORING WELL SW-3

PROJECT NAME 261- 315 Grand Concourse	**DRILLING COMPANY** Coastal Environmental	**SURFACE ELEVATION**
ADDRESS 261- 315 Grand Concourse	**DRILLER** Paul	**WELL TOC** 0.3 feet below grade
Bronx, New York	**DRILL RIG** CRS XL 140 Duo Sonic	**DEPTH TO WATER** 5.99 feet bgs
BCP SiteC203151	**TOTAL DEPTH** 15.9 feet bgs	**SCREENED DEPTH** 2.9-12.9 feet bgs
DRILLING DATE 7/16/25	**BGS** Below Grade Surface	**LOGGED BY** David Klein
DIAMETER 3.75"	**Bedrock** Beginning at 6 feet bgs	**TOC** Top of Casing

Well ID: MW-1X



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APPENDIX E – FIELD SAMPLING PLAN

Soil Vapor Intrusion Evaluation and Groundwater Monitoring

To evaluate the continued effectiveness of the installed sub-slab depressurization system (SSDS) and assess potential soil vapor intrusion (SVI) risks, a combination of sub-slab vapor and co-located indoor air samples will be conducted as part of long-term monitoring at the site. To evaluate the effectiveness of the remedy (i.e., source removal and in-situ injections), groundwater samples will be collected as part of the groundwater monitoring program.

Soil Vapor Intrusion Sampling

Prior to any petition to shut down the active SSDS, a comprehensive soil vapor intrusion sampling event will be performed in accordance with the New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006). The sampling event will include the collection of co-located sub-slab soil vapor and indoor air samples from six select existing vapor monitoring points (VMPs) located on the ground floor of the buildings.

Sub-slab vapor sampling will involve purging ambient air from each VMP using a vacuum pump and Teflon® tubing to remove at least three internal volumes of air. The flow rate during both purging and sampling will not exceed 0.2 liters per minute (L/min). A tracer gas (helium) will be used to ensure the integrity of the probe seals, following NYSDOH protocols. Vapor samples will be collected in laboratory-supplied 6-liter Summa canisters and submitted for laboratory analysis of volatile organic compounds (VOCs) via EPA Method TO-15 at an ELAP-certified laboratory.

All sampling procedures, including purge volumes, vacuum pressure readings, sample identification, collection times, depth, and chain of custody, will be documented on standardized field logs. Sampling activities will be conducted under the supervision of qualified environmental professionals and in accordance with a separate NYSDEC- and NYSDOH-approved work plan submitted prior to the event.

Groundwater Monitoring from Off-Site Wells

To assess the effectiveness of the remedy and monitor groundwater quality downgradient of the Site, three (3) off-site groundwater monitoring wells were installed and will be used for periodic groundwater sampling. These monitoring wells are strategically located as downgradient, cross-gradient and upgradient based on regional hydrogeologic conditions.

Groundwater sampling will be conducted in accordance with NYSDEC DER-10 and will include:

- Measurement of water levels to determine groundwater flow direction and gradient;
- Purging of wells using low-flow sampling techniques to stabilize field parameters;
- Collection of samples for laboratory analysis of VOCs and SVOCs vie EPA Methods 8260 and 8270, respectively at an ELAP-certified laboratory;
- Sampling results will be evaluated to confirm the effectiveness of the on-site remedial program.

Reporting

All SVI and groundwater sampling results will be summarized in the quarterly monitoring & sampling reports, as well as annual Periodic Review Report (PRR) and submitted to NYSDEC for evaluation.

APPENDIX F – QUALITY ASSURANCE PROJECT PLAN

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QUALITY ASSURANCE PROJECT PLAN

Prepared For: Walton Street GC Developments LLC

Project Name: Copyrite Plastic Sheets

Project Location: 261-315 Grand Concourse
Bronx, New York

Date: May 2025

37 West 37th Street, 6th Floor, New York, NY 10018

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1.0 INTRODUCTION

This Quality Assurance Project Plan (QAPP) is on behalf of Walton Street GC Developments LLC (the Applicant) for the implementation of a SMP by Vektor Consultants, LLC (Vektor), AMC Engineering, PLLC (AMC), and their subcontractors at the property located at 261-315 Grand Concourse in Bronx, New York (the Site). The Site is identified by the City of New York as Borough of Bronx, Block 2344, Lot 1 (261 Grand Concourse), and Lot 27 (315 Grand Concourse) (former Lots 1, 11, and 27 were merged into new Lots 1 and 27).

This QAPP describes the protocols and procedures to be followed during the implementation of the SMP. This QAPP was prepared in accordance with the NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation and the NYSDEC BCP Guide.

1.1 Scope of Work

The proposed scope of work includes the following:

- Soil vapor intrusion evaluation,
- Groundwater sampling.

The objective of the QAPP is to detail the policies, organization, objectives, functional activities and specific quality assurance/quality control activities designed to achieve the data quality goals or objectives of the Remedial Action Work Plan. This QAPP addresses how the acquisition and handling of samples and the review and reporting of data will be documented for quality control (QC) purposes. Specifically, this QAPP addresses the following:

- The procedures to be used to collect, preserve, package, and transport samples;
- Field data collection and record keeping;
- Data management;
- Chain-of-custody procedures; and,
- Determination of precision, accuracy, completeness, representativeness, decision rules, comparability and level of quality control effort.

2.0 PROJECT TEAM

Vektor's team of trained and experienced environmental scientists, geologists, and engineers along with Vektor's licensed subcontractors will perform the below-listed tasks in a manner consistent with DER-10 Technical Guidance for Site Investigation and Remediation (DER-10).

Principal Engineer, P.E.	Ariel Czemerinski	AMC Engineering PLLC
Project Director, QEP	Ezgi Karayel	Vektor Consultants
Project Manager	David Klein	Vektor Consultants
Field Leader	David Klein / Tierney Kulju	Vektor Consultants
Laboratory QA/QC Officer	Sarah Widomski	York Analytical Laboratories, Inc.
Third-party Data Validator	Don Anne	Alpha Geoscience

2.1 Principal Engineer

Ariel Czemerinski, Professional Engineer, will act as the Principal Engineer and will oversee the successful completion of this project. He will have the direct responsibility of preparation and certification of the Periodic Review Reports (PRRs).

2.2 Project Director

Ezgi Karayel, Qualified Environmental Professional, will act as the Project Director and will ensure the successful implementation of the SMP and periodic assessments.

2.3 Project Manager

David Klein of Vektor will act as the Project Manager. He will oversee the field activities and coordinate all elements of implementation of the SMP. He will be responsible for coordinating with the field leader and other field crew as necessary.

2.4 Field Leader

Tierney Kulju of Vektor will lead the field activities and ensure implementation of Health and Safety Plan (HASP) during all field work. She has the authority to stop all work if unsafe conditions are observed. She will be responsible for coordinating with all subcontractors. She will oversee the subcontractors in the field and collect samples outlined in the SMP and in this QAPP in coordination with the Project Manager.

2.5 Laboratory Quality Assurance/Quality Control Officer

Laboratory analysis will be completed by York Analytical Laboratories (York) of Stratford, CT. York is a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP) certified laboratory (NY Cert. Numbers 10854 and 12058). Kimberly Karcich is the Client Manager who will ensure that all glassware including laboratory prepared trip blanks and chain of custodies are properly packaged and shipped. QA/QC Officer is Sarah Widomski who will ensure that quality assurance procedures are followed. Quality Assurance requirements for analytical laboratory data include accuracy, precision, sensitivity, representativeness, and completeness. Data will be supplied in Analytical Services Protocol (ASP) Category B Data Packages.

2.6 Third-Party Data Validator

Don Anne of Alpha Geoscience will be the third-party validator. Data validation will be performed in accordance with the EPA validation guidelines for organic and inorganic data review. A Data Usability Summary Report (DUSR) will be prepared by Don Anne upon receipt of the analytical laboratory reports. The DUSR will present the results of the data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness of each analytical method.

3.0 SAMPLING METHODS PROCEDURES

This section describes the field protocol and procedures to be followed during the collection of endpoint samples during the implementation of the Site Management Plan.

3.1 Soil Vapor Intrusion Evaluation

Six sub-slab vapor samples will be collected from the six select monitoring points installed during the remedial action at the site. Concurrently with the sub-slab sampling, six co-located indoor air samples, and one ambient background air sample will be collected. Prior to testing, a tracer gas will be used in accordance with NYSDOH protocols to serve as a quality assurance/quality control (QA/QC) technique to verify the integrity of the soil vapor point seal.

- The integrity of vapor points will be tested by placing a plastic shroud over the vapor points to isolate them from ambient air. Then, a helium tracer gas will be applied into the shroud and will be screened utilizing a helium detector for presence of helium. If no helium is detected in any of the vapor points, then sampling will occur. If helium is detected, then the points will be resealed properly prior to sampling.
- After purging approximately three volumes of air from each vapor point at a flow rate less than 200 milliliters per minute, representative samples will be collected for

laboratory analysis utilizing 6-liter SUMMA canisters fitted with 2-hour flow controllers set not to exceed 0.2 liters per minute, as established by the NYSDOH Guidance document.

- Upon completion of the vapor sampling, all canisters will be labeled properly with the sample ID numbers, and vacuum pressure readings in the canisters before and after the sample collection.
- The samples will then be submitted to a NYSDOH ELAP-certified laboratory under proper chain of custody procedures.
- All samples will be picked up from the Site on a daily basis by the laboratory's courier. The courier will sign the chain of custody upon pick up and provide a copy to Vektor.

The sub-slab vapor, indoor air, and ambient outdoor air samples will be analyzed for:

- Volatile organic compounds (VOCs) via Environmental Protection Agency (EPA) Method TO-15

3.2 Groundwater Sampling

Groundwater sampling will be conducted at the site quarterly until two consecutive clean results are obtained, and the termination of the monitoring program is formally approved by the NYSDEC and NYSDOH. As part of the quarterly monitoring program, three groundwater samples will be collected from the off-site monitoring wells; SW-1 through SW-3.

- Prior to sampling, each monitoring well will be gauged and purged using low-flow procedures.
- Depth to water will be measured by using an oil-water interface probe to the nearest 0.01 foot from the well casing.
- Low-flow parameters including temperature, pH, specific conductance, dissolved oxygen, and oxidation redox potential will be measured using Horiba U-52 Flow Cell or approved equal flow meter. The flow cell will be calibrated prior to field work.
- Groundwater samples will be collected after the field parameters have stabilized to within 10 percent of the previous reading.
- Groundwater samples will be collected using a peristaltic pump and dedicated tubing in accordance with low-flow sampling procedures. Tubing will be lowered to a mid-screen depth for purging and sampling.
- Groundwater samples will be containerized in pre-cleaned laboratory-supplied glassware, labeled, properly, and stored in a chilled cooler and maintain a temperature of 4^{o}C. Sample labels include Site address, sample identification and depth, date and time of sampling, analysis to be performed, and sampler's initials.

- A chain of custody that includes Site name and address, sample identification and depth, analysis to be performed, glassware summary, sampler's name and signature, turn-around-time and any additional notes will be prepared.
- The pump will be decontaminated with Alconox® and water between each monitoring well.
- All field observations groundwater depth, thickness of product, if present, and low-flow sampling parameters will be recoded in a field book.
- Groundwater samples will not be collected from wells with floating product.
- All samples will be picked up from the Site on a daily basis by the laboratory's courier. The courier will sign the chain of custody upon pick up and provide a copy to Vektor.

The groundwater samples will be analyzed for:

- Target Compound List (TCL) VOCs via EPA Method 8260C/5035
- TCL semi-volatile organic compounds (SVOCs) via EPA Method 8270D

Figure 1 provides a copy of the proposed groundwater sample locations.

Attachment 1 provides a copy of the Laboratory Reporting Limits and Method Detection Limits.

Attachment 2 provides a copy of blank chain of custody samples.

3.3 Quality Assurance (QA)/ Quality Control (QC) Sampling

The accuracy, precision and completeness of the samples will be addressed by the certified laboratory for all data generated. One blind duplicate sample and one matrix spike/matrix spike duplicate (MS/MSD) sample will be collected for every 20 samples media and submitted to the laboratory for analysis of the same parameters. One field blank per sampling media will be collected and analyzed for the same parameters as the respective media. Trip blanks will be included in each cooler whenever samples are collected and transported to the laboratory for analysis of VOCs.

3.3.1 Trip Blanks

A trip blank consisting of two 40-ml vials filled with distilled, deionized water, will be provided by the laboratory. Trip blanks will be included in each cooler and will be analyzed for VOCs.

3.3.2 Field Blanks

Field blanks will be collected at a rate of one per 20 per groundwater samples. Field blanks will be analyzed for the same analysis as the groundwater samples collected on the day of the sampling.

3.3.3 Blind Duplicate

A blind duplicate sample will be collected at a rate of one per 20 groundwater samples. Blink duplicates will be analyzed for the same analysis as the groundwater samples collected on the day of the sampling.

3.3.5 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD samples will be collected at a rate of oner per 20 groundwater samples. MS/MSD samples will be analyzed for the same analysis as the groundwater samples collected on the day of the sampling.

Table 1 provides laboratory analytical methods, glassware, and holding times for each analysis.

3.4 Field Instrumentation

The field instruments to be used during the implementation of the SMP will be calibrated at the beginning of each day as per the manufacturers' specifications. Calibration records will be recorded in the field book.

4.0 DECONTAMINATION

All sampling equipment will be decontaminated between sampling locations unless they are dedicated disposable tools. Decontamination of non-dedicated sampling equipment will consist of the following procedure:

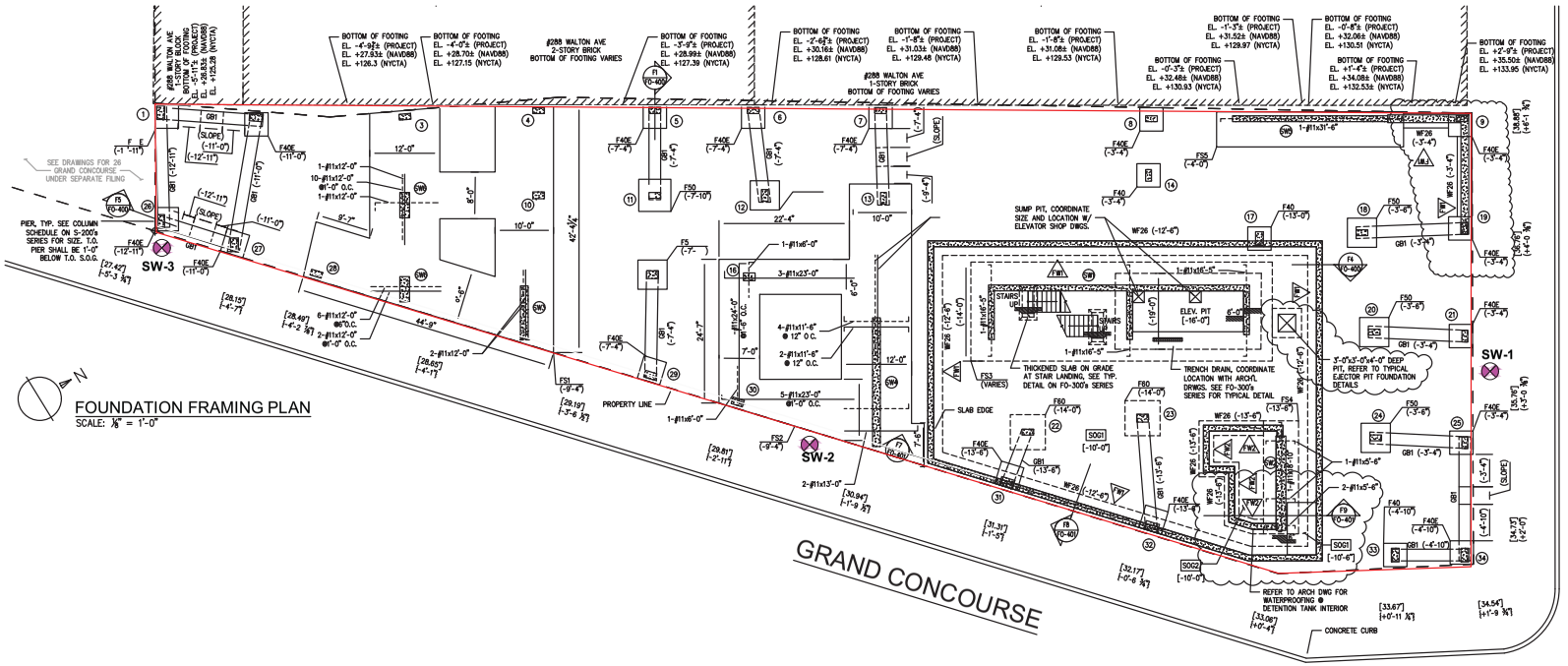
- Gently tap or scrape to remove adhered soil
- Rinse with tap water
- Wash with Alconox detergent solution and scrub
- Rinse with tap water
- Rinse with distilled or deionized water

TABLES

Table 1
Preservation and Holding Times

Sample Matrix	Analysis	Container	Preservation	Holding Time
Groundwater and Groundwater QA/QC Samples	VOCs	Glass, three 40-mil vials with teflon-lined septum cap	HCl pH<2, no headspace, Cool, 4°C	14 days
	SVOCs	Glass, 1 liter with teflon-lined cap	Cool, 4°C	7 days to extract, 40 days after extraction to analyze
Soil Vapor and Soil Vapor QA/QC Samples	VOCs	6L Summa Canister	None	30 days

FIGURES



FOUNDATION FRAMING PLAN
SCALE: 1/8" = 1'-0"

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Legend:

- Site Boundary
- SW-X — Off-Site Monitoring Well Locations

Notes:

1. All feature locations are approximate
2. Base Map is FO-100 Drawing

Scale:	AS SHOWN
Figure No.	1
Figure Name:	OFF-SITE MONITORING WELL LOCATIONS
Report:	QAPP
Date:	3/05/2025
Drawn By:	KB
Site Address:	315 GRAND CONCOURSE, 270 WALTON AVENUE, BRONX, NY

ATTACHMENTS

ATTACHMENT #1
LABORATORY REPORTING AND METHOD DETECTION LIMITS

Reporting Limits Compared to Guidance Values
VOCs in Groundwater

Analyte	MDL (ppb)	Reporting Limit (ppb)	NYSDEC TOGS Standards and Guidance Values (ppb)
1,1,1,2-Tetrachloroethane	0.2	0.5	5
1,1,1-Trichloroethane	0.2	0.5	5
1,1,2,2-Tetrachloroethane	0.2	0.5	5
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.2	0.5	5
1,1,2-Trichloroethane	0.2	0.5	1
1,1-Dichloroethane	0.2	0.5	5
1,1-Dichloroethylene	0.2	0.5	5
1,2,3-Trichlorobenzene	0.2	0.5	5
1,2,3-Trichloropropane	0.2	0.5	0.04
1,2,4-Trichlorobenzene	0.2	0.5	5
1,2,4-Trimethylbenzene	0.2	0.5	5
1,2-Dibromo-3-chloropropane	0.2	0.5	0.04
1,2-Dibromoethane	0.2	0.5	0.0006
1,2-Dichlorobenzene	0.2	0.5	3
1,2-Dichloroethane	0.2	0.5	0.6
1,2-Dichloropropane	0.2	0.5	1
1,3,5-Trimethylbenzene	0.2	0.5	5
1,3-Dichlorobenzene	0.2	0.5	3
1,4-Dichlorobenzene	0.2	0.5	5
1,4-Dioxane	40	40	3
2-Butanone	0.2	0.5	50
2-Hexanone	0.2	0.5	50
4-Methyl-2-pentanone	0.2	0.5	~
Acetone	1	2	50
Acrolein	0.2	0.5	~
Acrylonitrile	0.2	0.5	~
Benzene	0.2	0.5	1
Bromochloromethane	0.2	0.5	5
Bromodichloromethane	0.2	0.5	50
Bromoform	0.2	0.5	50
Bromomethane	0.2	0.5	5
Carbon disulfide	0.2	0.5	~
Carbon tetrachloride	0.2	0.5	5
Chlorobenzene	0.2	0.5	5
Chloroethane	0.2	0.5	5
Chloroform	0.2	0.5	7
Chloromethane	0.2	0.5	5
cis-1,2-Dichloroethylene	0.2	0.5	5
cis-1,3-Dichloropropylene	0.2	0.5	0.4
Cyclohexane	0.2	0.5	~
Dibromochloromethane	0.2	0.5	50
Dibromomethane	0.2	0.5	~
Dichlorodifluoromethane	0.2	0.5	5
Ethyl Benzene	0.2	0.5	5
Hexachlorobutadiene	0.2	0.5	0.5
Isopropylbenzene	0.2	0.5	5
Methyl tert-butyl ether (MTBE)	0.2	0.5	~
Methylcyclohexane	0.2	0.5	10
Methylene chloride	1	2	~
n-Butylbenzene	0.2	0.5	5
n-Propylbenzene	0.2	0.5	5
o-Xylene	0.2	0.5	5
p- & m- Xylenes	0.5	1	5
p-Isopropyltoluene	0.2	0.5	~
sec-Butylbenzene	0.2	0.5	5
Styrene	0.2	0.5	5
tert-Butyl alcohol (TBA)	0.5	1	5
tert-Butylbenzene	0.2	0.5	~
Tetrachloroethylene	0.2	0.5	5
Toluene	0.2	0.5	5
trans-1,2-Dichloroethylene	0.2	0.5	5
trans-1,3-Dichloropropylene	0.2	0.5	5
trans-1,4-dichloro-2-butene	0.2	0.5	0.4
Trichloroethylene	0.2	0.5	5
Trichlorofluoromethane	0.2	0.5	5
Vinyl Chloride	0.2	0.5	2
Xylenes, Total	0.6	1.5	5

MDL: Method Detection Limit

Reporting Limits Compared to Guidance Values
SVOCs in Groundwater

Analyte	MDL (ppb)	Reporting Limit (ppb)	NYSDEC TOGS Standards and Guidance Values (ppb)
1,1-Biphenyl	2.5	5	~
1,2,4,5-Tetrachlorobenzene	2.5	5	~
1,2,4-Trichlorobenzene	2.5	5	~
1,2-Dichlorobenzene	2.5	5	~
1,2-Diphenylhydrazine (as Azobenzene)	2.5	5	~
1,3-Dichlorobenzene	2.5	5	~
1,4-Dichlorobenzene	2.5	5	~
2,3,4,6-Tetrachlorophenol	1.25	1.25	~
2,4,5-Trichlorophenol	1.25	1.25	1
2,4,6-Trichlorophenol	1.25	1.25	1
2,4-Dichlorophenol	1.25	1.25	5
2,4-Dimethylphenol	1.25	1.25	50
2,4-Dinitrophenol	1.25	1.25	10
2,4-Dinitrotoluene	2.5	5	5
2,6-Dinitrotoluene	2.5	5	5
2-Chloronaphthalene	2.5	5	10
2-Chlorophenol	1.25	1.25	1
2-Methylnaphthalene	2.5	5	~
2-Methylphenol	1.25	1.25	1
2-Nitroaniline	2.5	5	5
2-Nitrophenol	1.25	1.25	1
3- & 4-Methylphenols	1.25	1.25	1
3,3-Dichlorobenzidine	2.5	5	5
3-Nitroaniline	2.5	5	5
4,6-Dinitro-2-methylphenol	1.25	1.25	~
4-Bromophenyl phenyl ether	2.5	5	~
4-Chloro-3-methylphenol	1.25	1.25	1
4-Chloroaniline	2.5	5	5
4-Chlorophenyl phenyl ether	2.5	5	~
4-Nitroaniline	2.5	5	5
4-Nitrophenol	1.25	1.25	1
Acenaphthene	0.05	0.05	20
Acenaphthylene	0.05	0.05	~
Acetophenone	2.5	5	~
Aniline	2.5	5	
Anthracene	0.05	0.05	50
Atrazine	0.5	0.5	~
Benzaldehyde	2.5	5	~
Benzidine	10	20	

Analyte	MDL (ppb)	Reporting Limit (ppb)	NYSDEC TOGS Standards and Guidance Values (ppb)
Benzo(a)anthracene	0.05	0.05	0.002
Benzo(a)pyrene	0.05	0.05	0.002
Benzo(b)fluoranthene	0.05	0.05	0.002
Benzo(g,h,i)perylene	0.05	0.05	~
Benzo(k)fluoranthene	0.05	0.05	0.002
Benzoic acid	25	50	~
Benzyl alcohol	2.5	5	~
Benzyl butyl phthalate	2.5	5	50
Bis(2-chloroethoxy)methane	2.5	5	5
Bis(2-chloroethyl)ether	1.25	1.25	1
Bis(2-chloroisopropyl)ether	2.5	5	5
Bis(2-ethylhexyl)phthalate	0.5	0.5	5
Caprolactam	2.5	5	~
Carbazole	2.5	5	~
Chrysene	0.05	0.05	0.002
Dibenzo(a,h)anthracene	0.05	0.05	~
Dibenzofuran	2.5	5	~
Diethyl phthalate	2.5	5	50
Dimethyl phthalate	2.5	5	50
Di-n-butyl phthalate	2.5	5	50
Di-n-octyl phthalate	2.5	5	50
Fluoranthene	0.05	0.05	50
Fluorene	0.05	0.05	50
Hexachlorobenzene	0.02	0.02	0.04
Hexachlorobutadiene	0.5	0.5	0.5
Hexachlorocyclopentadiene	2.5	5	5
Hexachloroethane	0.5	0.5	5
Indeno(1,2,3-cd)pyrene	0.05	0.05	0.002
Isophorone	2.5	5	50
Naphthalene	0.05	0.05	10
Nitrobenzene	0.25	0.25	0.4
N-Nitrosodimethylamine	0.5	0.5	~
N-nitroso-di-n-propylamine	2.5	5	~
N-Nitrosodiphenylamine	2.5	5	50
Pentachlorophenol	0.25	0.25	1
Phenanthrene	0.05	0.05	50
Phenol	1.25	1.25	1
Pyrene	0.05	0.05	50
Pyridine	2.5	5	50
Semi-Volatiles, 1,4-Dioxane 8270 SIM-Aqueous in Water (EPA 8270E SIM)			
1,4-dioxane	0.2	0.3	0.35

MDL: Method Detection Limit

Reporting Limits Compared to Guidance Values
VOCs in Soil Vapor

Analyte	MDL (ug/m^3)	RL (ug/m3)
1,1,1,2-Tetrachloroethane	0.70	0.70
1,1,1-Trichloroethane	0.55	0.55
1,1,2,2-Tetrachloroethane	0.70	0.70
1,1,2-Trichloro-1,2,2-trifluoroethane	0.78	0.78
1,1,2-Trichloroethane	0.55	0.55
1,1-Dichloroethane	0.41	0.41
1,1-Dichloroethylene	0.10	0.10
1,2,4-Trichlorobenzene	0.75	0.75
1,2,4-Trimethylbenzene	0.50	0.50
1,2-Dibromoethane	0.78	0.78
1,2-Dichlorobenzene	0.61	0.61
1,2-Dichloroethane	0.41	0.41
1,2-Dichloropropane	0.47	0.47
1,2-Dichlorotetrafluoroethane	0.71	0.71
1,3,5-Trimethylbenzene	0.50	0.50
1,3-Butadiene	0.68	0.68
1,3-Dichlorobenzene	0.61	0.61
1,3-Dichloropropane	0.47	0.47
1,4-Dichlorobenzene	0.61	0.61
1,4-Dioxane	0.73	0.73
2,2,4-Trimethylpentane	0.12	0.24
2-Butanone	0.30	0.30
2-Hexanone	0.83	0.83
3-Chloropropene	1.59	1.59
4-Methyl-2-pentanone	0.42	0.42
Acetone	0.48	1.93
Acrylonitrile	0.22	2.87
Benzene	0.32	0.32
Benzyl chloride	0.53	0.53
Bromodichloromethane	0.68	0.68
Bromoform	1.05	1.05
Bromomethane	0.39	0.39
Carbon disulfide	0.32	0.32
Carbon tetrachloride	0.16	0.16

Analyte	MDL (ug/m^3)	RL (ug/m3)
Chlorobenzene	0.47	0.47
Chloroethane	0.27	0.27
Chloroform	0.50	0.50
Chloromethane	0.21	0.21
cis-1,2-Dichloroethylene	0.10	0.10
cis-1,3-Dichloropropylene	0.46	0.46
Cyclohexane	0.35	0.35
Dibromochloromethane	0.87	0.87
Dichlorodifluoromethane	0.50	0.50
Ethyl acetate	0.73	0.73
Ethyl Benzene	0.44	0.44
Hexachlorobutadiene	1.08	1.08
Isopropanol	0.50	1.50
Methyl Methacrylate	0.42	0.42
Methyl tert-butyl ether (MTBE)	0.37	0.37
Methylene chloride	0.71	2.12
Naphthalene	1.07	1.07
n-Heptane	0.42	0.42
n-Hexane	0.36	0.36
o-Xylene	0.44	0.44
p- & m- Xylenes	0.88	0.88
p-Ethyltoluene	0.50	0.50
Propylene	0.18	0.18
Styrene	0.43	0.43
Tetrachloroethylene	0.69	0.69
Tetrahydrofuran	0.60	0.60
Toluene	0.38	0.38
trans-1,2-Dichloroethylene	0.40	0.40
trans-1,3-Dichloropropylene	0.46	0.46
Trichloroethylene	0.14	0.14
Trichlorofluoromethane (Freon 11)	0.57	0.57
Vinyl acetate	0.36	0.36
Vinyl bromide	0.44	0.44
Vinyl Chloride	0.13	0.13

MDL: Method Detection Limit
RL: Reporting Limit

ATTACHMENT #2
CHAIN OF CUSTODY EXAMPLES

York Analytical Laboratories, Inc.
120 Research Drive, Stratford, CT 06615
132-02 89th Ave Queens, NY 11418
clientservices@yorklab.com
www.yorklab.com

Field Chain-of-Custody Record - AIR

YORK Project No.

NOTE: YORK's Standard Terms & Conditions are listed on the back side of this document. This document serves as your written authorization for YORK to proceed with the analyses requested below. Your signature binds you to YORK's Standard Terms & Conditions.

YOUR Information	Report To:	Invoice To:
Company:	Company:	Company:
Address:	Address:	Address:
Phone.:	Phone.:	Phone.:
Contact:	Contact:	Contact:
E-mail:	E-mail:	E-mail:

YOUR Project Number

YOUR Project Name

YOUR PO#:

Turn-Around Time

- RUSH - Next Day
- RUSH - Two Day
- RUSH - Three Day
- RUSH - Four Day
- **Standard (5-7 Day)**

Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.

Samples Collected by: (print your name above and sign below)

Air Matrix Codes

- AI - Indoor Ambient Air
- AO - Outdoor Amb. Air
- AE - Vapor Extraction Well/ Process Gas/Effluent
- AS - Soil Vapor/Sub-Slab

Samples From

- New York
- New Jersey
- Connecticut
- Pennsylvania
- Other

Report / EDD Type (circle selections)

Summary Report	CT RCP	Standard Excel EDD
QA Report	CT RCP DQA/DUE	EQuIS (Standard)
NY ASP A Package	NJDEP Reduced Deliv.	NYSDEC EQuIS
NY ASP B Package	NJDKQP	NJDEP SRP HazSite
Other:		

YORK Reg. Comp.

Compared to the following Regulation(s): (please fill in)

Certified Canisters: Batch ___ Individual ___

Please enter the following REQUIRED Field Data

Reporting Units: ug/m^3 ___ ppbv ___ ppmv ___

Sample Identification	Date/Time Sampled	Air Matrix	Canister Vacuum Before Sampling (in Hg)	Canister Vacuum After Sampling (in Hg)	Canister ID	Flow Cont. ID	Analysis Requested

Comments:

Detection Limits Required

≤ 1 ug/m^3 _____ NYSDEC V1 Limits _____

Routine Survey _____ Other _____

Sampling Media

- 6 Liter Canister
- Tedlar Bag

Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time	Samples Relinquished by / Company	Date/Time
Samples Received by / Company	**Date/Time**	**Samples Relinquished by / Company**	**Date/Time**	**Samples Received by / Company**	**Date/Time**
Samples Relinquished by / Company	**Date/Time**	**Samples Received by / Company**	**Date/Time**	**Samples Received in LAB by**	**Date/Time**

York Analytical Laboratories, Inc.
120 Research Drive Stratford, CT 06615
132-02 89th Ave Queens, NY 11418
clientservices@yorklab.com
www.yorklab.com

Field Chain-of-Custody Record

NOTE: YORK's Standard Terms & Conditions are listed on the back side of this document.
This document serves as your written authorization for YORK to proceed with the analyses requested below.
Your signature binds you to YORK's Standard Terms & Conditions.

YORK Project No.

Page _____ of _____

YOUR Information	Report To:	Invoice To:
Company:	Company:	Company:
Address:	Address:	Address:
Phone.:	Phone.:	Phone.:
Contact:	Contact:	Contact:
E-mail:	E-mail:	E-mail:

YOUR Project Number

YOUR Project Name

YOUR PO#:

Turn-Around Time

RUSH - Next Day	
RUSH - Two Day	
RUSH - Three Day	
RUSH - Four Day	
Standard (5-7 Day)	

Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.

Samples Collected by: (print your name above and sign below)

Matrix Codes

S - soil / solid
GW - groundwater
DW - drinking water
WW - wastewater
O - Oil ¦ Other

Samples From

New York
New Jersey
Connecticut
Pennsylvania
Other

Report / EDD Type (circle selections)

Summary Report	CT RCP	Standard Excel EDD
QA Report	CT RCP DQA/DUE	EQuIS (Standard)
NY ASP A Package	NJDEP Reduced Deliverables	NYSDEC EQuIS
NY ASP B Package	NJDKQP	NJDEP SRP HazSite
		Other:

YORK Reg. Comp.

Compared to the following Regulation(s): (please fill in)

Sample Identification	Sample Matrix	Date/Time Sampled	Analysis Requested	Container Description

Comments:

Preservation: (check all that apply)

HCl ___ MeOH ___ HNO_3 ___ H_2SO_4 ___ NaOH ___ ZnAc ___
Ascorbic Acid ___ Other: _____

Special Instruction

Field Filtered ____
Lab to Filter _____

Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time	Samples Relinquished by / Company	Date/Time
Samples Received by / Company	**Date/Time**	**Samples Relinquished by / Company**	**Date/Time**	**Samples Received by / Company**	**Date/Time**
Samples Relinquished by / Company	**Date/Time**	**Samples Received by / Company**	**Date/Time**	**Samples Received in LAB by**	**Date/Time**

Temp. Received at Lab

Degrees C

ATTACHMENT #3

RESUMES

AMC Engineering PLLC
18-36 42nd Street
Astoria, NY 11105
Phone: (516) 417-8588

ARIEL CZEMERINSKI, P.E.
Email: Ariel@AMC-Engineering.com

SUMMARY:

New York State Professional Engineer. Chemical and Environmental Engineer, with 29 years of experience in the chemical and environmental areas. Areas of expertise include inspections and sign off on Large Scale Vapor Barrier Installations at Various NYC schools, Design and inspections of Sub Slab Depressurization Systems, wastewater treatment systems, Large scale dewatering system design for construction, process control and automation, process optimization, productivity improvement, quality systems, environmental compliance, Phase I Environmental Site Assessments, Phase II Environmental Investigations, Phase III: Remedial Activities, process and plant safety, and management of a production facility. Special Inspector with New York City Department of Buildings. Registered PE in NY.

Professional Experience:

AMC: 18 Years
Prior: 6 years

Education

Master of Science in Chemical Engineering, Columbia University, New York, NY, Feb. 1990.
Bachelor of Science in Chemical Engineering, University Of Buenos Aires, Buenos Aires, Argentina, May 1987

Areas of Expertise

- Vapor Intrusion - Barrier and Sub Slab Venting System Design
- Environmental Assessment Statements under CEQR, ULURP
- Remedial Program Design and Management
- Environmental Compliance, Clean Water Act, Clean Air Act, Hazardous Materials
- Dewatering & Treatment System Design
- SWPPP design and implementation. Preparation and Submittal of NOIs.
- NYCDEP Sewer Discharge Permitting
- Transfer Station Permitting and Compliance
- Wastewater Treatment Systems and Permitting, SPDES, LI Well permit, Water Withdrawal Permit.
- Air Permits and Registration
- Zoning Regulations and Permitting
- Safety and Environmental Training
- Waste Management Plans
- Professional Certifications
- OSHA 40-hr HAZWOPER
- OSHA 10-hr Construction Safety and Health

AMC Engineering PLLC
18-36 42nd Street
Astoria, NY 11105
Phone: (516) 417-8588

Project Experience

Project: Bergen Basin Sewer - CS-JA-BBS -Queens, NY
Project Description: NYC infrastructure (sewer, water) upgrade, drainage channel installation. Dewatering Design. Permits with NYCDEP and NYSDEC. Soil contaminated with petroleum requiring excavation, soil management and disposal under a Materials Handling Plan, Construction Health and Safety Plan. SWPPP design and implementation.
Client: JR Cruz - NYCDDC
Regulatory Authority: NYSDEC, NYCDEP
Role: Mr. Czemerinski served as the Environmental Consultant for the project.

Project: SER002326- Storm and Sanitary Sewers in Wardwell Avenue, Staten Island, New York
Project Description: NYC infrastructure (sewer, water) upgrade.
Dewatering Design. Permits with NYCDEP and NYSDEC. SWPPP design and implementation.
Client: E.E. Cruz - NYCDDC
Regulatory Authority: NYSDEC, NYCDEP
Role: Mr. Czemerinski served as the Environmental Consultant for the project.

Project: HED568-Installation of New 20" Subaqueous water main extension, and new 12" sub-aqueous high pressure gas main from the Bronx to Randall's Island, New York
Project Description: NYC infrastructure (gas, water) upgrade.
Soil contaminated with petroleum requiring excavation, soil management and disposal under a Materials Handling Plan, Construction Health and Safety Plan. Dewatering Design. Permits with NYCDEP and NYSDEC.
Client: E.E. Cruz - NYCDDC
Regulatory Authority: NYSDEC, NYCDEP
Role: Mr. Czemerinski served as the Environmental Consultant for the project.

Project: Domsey Fiber Corp. - 431 Kent Avenue, Brooklyn NY
Project Description: NYS Brownfield cleanup project / NYC E-Designation. Soil contaminated with chlorinated solvents, petroleum and heavy metals requiring excavation, soil management and disposal under a Remedial Action Work Plan, Soil / Materials Management Plan, Construction Health and Safety Plan and Community Air Monitoring Plan
Client: Express Builders
Regulatory Authority: NYSDEC, NYCOER
Role: Mr. Czemerinski served as the Remedial Engineer for the project.

Project: SE-807 –Construction of Storm and Sanitary Sewers and Water Main in 20th Ave between 126th St and US Bulkhead Line Area, College Point, Queens, NY
Project Description: NYC Residential infrastructure (sewer, water) upgrade, outfall reconstruction, Soil characterization, soil management and disposal under a Materials Handling Plan, Construction Health and Safety Plan and Community Air Monitoring Plan. SWPPP design and implementation, Public Participation Plan, Marine HASP, Dewatering Design and permit application.

AMC Engineering PLLC
18-36 42nd Street
Astoria, NY 11105
Phone: (516) 417-8588

Client: EIC Associates
Regulatory Authority: NYCDDC
Role: Mr. Czemerinski served as the Environmental Consultant for the project.

Project: Springfield Gardens Residential Area BMP - Springfield Gardens, Queens, NY
Project Description: NYC Residential infrastructure (sewer, gas, water) upgrade, drainage channel installation and pond restoration. Soil contaminated with, petroleum and heavy metals requiring excavation, soil management and disposal under a Materials Handling Plan, Construction Health and Safety Plan and Community Air Monitoring Plan
Client: EIC Associates - NYCEDC
Regulatory Authority: NYSDEC, NYCParks
Role: Mr. Czemerinski served as the Environmental Consultant for the project.

Project: Former Domino Sugar Site - Kent Avenue, Brooklyn NY
Project Description: NYC E-Designation. Soil contaminated with semi-volatile organic compounds and heavy metals requiring excavation, soil management and disposal under a Remedial Action Work Plan, Soil / Materials Management Plan, Construction Health and Safety Plan and Community Air Monitoring Plan
Client: Two Trees Management
Regulatory Authority: NYCOER
Role: Mr. Czemerinski served as the Remedial Engineer for the project.

Project: Former Uniforms For Industry Site - Jamaica Avenue, Queens NY
Project Description: NYS Brownfield cleanup project / NYC E-Designation. Soil contaminated with chlorinated solvents, petroleum, mop oil and heavy metals requiring excavation, soil management and disposal under a Remedial Action Work Plan, Soil / Materials Management Plan, Construction Health and Safety Plan and Community Air Monitoring Plan
Client: The Arker Companies
Regulatory Authority: NYSDEC, NYCOER
Role: Mr. Czemerinski served as the Remedial Engineer for the project

Project: Former Sunbelt Equipment Site – 25 Kent Avenue, Brooklyn, NY
Project Description: NYS Brownfield cleanup project. Soil contaminated with petroleum, and heavy metals and coal tar, requiring deep excavation, soil management and disposal under a Remedial Action Work Plan, Soil / Materials Management Plan, Construction Health and Safety Plan and Community Air Monitoring Plan, Dewatering Design and implementation, SWPPP design and implementation
Client: 19 Kent Acquisition LLC
Regulatory Authority: NYSDEC
Role: Mr. Czemerinski served as the Remedial Engineer for the project.

AMC Engineering PLLC
18-36 42nd Street
Astoria, NY 11105
Phone: (516) 417-8588

Project Experience

Project: Former Charles Pfizer & Co. Site - 407 Marcy Avenue, Brooklyn, NY
Project Description: NYS Brownfield cleanup project / NYC E-Designation. Soil contaminated with chlorinated solvents, petroleum, and heavy metals requiring excavation, soil management and disposal under a Remedial Action Work Plan, Soil / Materials Management Plan, Construction Health and Safety Plan and Community Air Monitoring Plan
Client: The Rabsky Group
Regulatory Authority: NYSDEC, NYCOER
Role: Mr. Czemerinski served as the Remedial Engineer for the project.

Project: Former East Coast Industrial Uniforms Site - 39 Skillman Street, Brooklyn, NY
Project Description: NYS Brownfield cleanup project / NYC E-Designation. Soil contaminated with chlorinated solvents, petroleum, and heavy metals requiring excavation, soil management and disposal under a Remedial Action Work Plan, Soil / Materials Management Plan, Construction Health and Safety Plan and Community Air Monitoring Plan
Client: Riverside Builders
Regulatory Authority: NYSDEC, NYCOER
Role: Mr. Czemerinski served as the Remedial Engineer for the project.

Project: Former BP Amoco Service Station Site - 1800 Southern Boulevard, Bronx, NY
Project Description: NYS Brownfield cleanup project / NYC E-Designation. Soil contaminated with petroleum, and heavy metals requiring excavation, soil management and disposal under a Remedial Action Work Plan, Soil / Materials Management Plan, Construction Health and Safety Plan and Community Air Monitoring Plan
Client: SoBro, Joy Construction
Regulatory Authority: NYSDEC, NYCOER
Role: Mr. Czemerinski served as the Remedial Engineer for the project.

Project: Former Dico G Auto & Truck Repair Site - 3035 White Plains Road, Bronx, NY
Project Description: NYS Brownfield cleanup project. Soil contaminated with petroleum, and heavy metals requiring excavation, soil management and disposal under a Remedial Action Work Plan, Soil / Materials Management Plan, Construction Health and Safety Plan and Community Air Monitoring Plan
Client: The Arker Companies
Regulatory Authority: NYSDEC
Role: Mr. Czemerinski served as the Remedial Engineer for the project.

Ezgi Karayel

Principal

Contact

347.871.0750
ezgi@vektorconsultants.com

Ezgi Karayel is an environmental engineer with extensive experience in brownfield redevelopment. She is the founder and Principal of Vektor Consultants and serves as Operations Officer of the firm. Ms. Karayel guides firm's clients through their due diligence processes. She manages all aspects of the firm strongly focusing on brownfield redevelopment and E-Designation projects across New York Metropolitan area. She has worked with major real estate developers and shareholders by developing strategic approaches to the environmental challenges of complex real estate transactions and brownfield redevelopment. Her experience also includes a broad range of environmental services including regulatory compliance, due diligence assessments, acquisition support, design and implementation of engineering controls and remediation systems, excavation support and soil disposal plans, and facility decommissioning.

She is the chair of the Partnership's Scholarship Program and works closely with committee members to support the education and training of students who are pursuing environmental careers.

Education

B.S. Environmental Engineering
University at Buffalo

Professional Registration

OSHA 10-hour Construction and 40-hour General Industry
OSHA 40-hour HAZWOPER and 8-hour HAZWOPER Refresher
Certified Environmental Manager and Certified Environmental Inspector

Affiliations

New York City Brownfield Partnership, President

Brownfield Coalition of the Northeast, Advisory Board Member

Select Projects

Linden Boulevard, Queens, New York – Site Investigation and Remediation of a 7-acre former landfill with a Restrictive Declaration. The scope of work for the project included preparation of a Remedial Investigation Work Plan for review and approval by the NYCOER, NYSDEC and NYCDOH, implementation of Remedial Investigation, preparation of Remedial Investigation Report, Remedial Action Work Plan, preparation and implementation of a waste characterization plan for soils for proper disposal, supervision of site remediation activities, coordination with remediation engineer to design a methane mitigation system as well as vapor barrier system and managing field staff during remediation.

Ezgi Karayel, Principal

Former Tunnel Diner, Jersey City, New Jersey – Remedial Investigation (RI) of a 1⁄2-acre property in accordance with the New Jersey Technical Requirements for Site Remediation. Ms. Karayel worked closely with the Licensed Site Remediation Professional (LSRP) of the project. Followed by the approval of the RAWP prepared by her, Ms. Karayel directed remediation activities at the site and managed field staff on a daily basis. Upon completion of remediation, she has prepared Remedial Action Outcome for review and certification of the LSRP.

249 North 7th Street, Brooklyn, New York – As a Project Director for a Remedial Investigation of a former auto repair shop with an active spill, Ms. Karayel was responsible for remediation of the property under the direct supervision of NYCOER and NYSDEC. Her responsibilities consisted of preparing the required reports and supervision of remediation including excavation, and installation of engineering controls. By successful coordination with NYCOER, she has managed to enroll the project in City's Clean Soil Bank program and saving the client over $160,000 for soil disposal.

9029 Flatlands Avenue, Brooklyn, New York – E-Designation for HazMat. She conducted a Phase I ESA prior to development, followed by remedial investigation and preparation of Remedial Investigation Report and Remedial Action Work Plan for the remediation. Remediation for the project included design and implementation of an active sub-slab depressurization system. For the engineering controls design and implementation, Ms. Karayel worked closely with the Professional Engineer for the project and performed all required pilot tests, initial start-up and inspections.

37-23 33rd Street, Queens, New York – Removal of "P" Designation. Ms. Karayel managed to prevent the property from becoming a Class II site by performing a thorough due-diligence and disproving the prior consultant's findings and recommendations. Furthermore, her due-diligence study and evaluation saved the client over $1,000,000 clean-up costs, regulatory and legal fees.

261 Grand Concourse, Bronx, New York – Brownfield Redevelopment
1-9 Wythe Avenue, Brooklyn, New York – Brownfield Redevelopment
42 Reeve Place, Brooklyn, New York – Spill Closure
21-01 21st Street, Queens, New York – Former Gasoline Station Decommissioning and Storage Tank Removal
260-262 Van Brunt Street, Brooklyn, New York – Brownfield Cleanup
299 East 161st Street, Bronx, New York – Voluntary Cleanup Program
122 East 32nd Street, New York, New York – Community Center, Remediation under Voluntary Cleanup Program
346 Metropolitan Avenue, Brooklyn, New York – Voluntary Cleanup Program
574 Broome Street, New York, New York – Voluntary Cleanup Program
173-175 McGuinness Boulevard, Brooklyn, New York – Voluntary Cleanup Program
4790 Broadway, New York, New York – Voluntary Cleanup Program

David B. Klein

Project Manager

Contact

347.871.0750
dklein@vektorconsultants.com

David B. Klein is a project manager with Vektor Consultants. David authored Remedial Action Work Plans, Remedial Investigation Reports, Remedial Action Reports, Final Engineering Reports, Noise Sampling Reports, Soil Vapor/Air Sampling Work Plans, Construction Health and Safety Plans, Interim Remedial Measures Summary Reports, Brownfield Cleanup Program Applications, Volunteer Cleanup Program Applications, Disposal Facility Applications, Underground Storage Tank Closure Reports, Phase I and Phase II Environmental Site Assessment Reports. David manages construction activities, drilling teams, excavations, tank removals, and waste disposals at multiple sites concurrently.

Education

B.S. Environmental Science &
Minor in Geology
University at Albany

Professional Registration

OSHA 10-hour Construction
OSHA 40-hour HAZWOPER and 8-hour HAZWOPER Refresher
10-Hour Site Safety Training
SWPPP Certification

Affiliations

New York City Brownfield Partnership

Select Projects

Far Rockaway Project Phases I, II, III, IV, and V, Queens, New York
Responsible for oversight and preparation of the Remedial Action Work Plan, Remedial Action Report, Final Engineering Report, Interim Remedial Measures Summary Report, NYSDEC Letter reports, and daily reports. Managed construction, drilling, excavation, waste disposal oversight of multiple phases concurrently.

Cropsey Avenue LLC, Brooklyn, New York
Authored Indoor Air Sampling Work Plan, Construction Health and Safety Plan, Interim Remedial Measures Summary Report and managed pilot tests for sub-slab depressurization system design and provided oversight during the installation of the engineering controls.

1815 West Farms Road, Bronx, New York – Voluntary Cleanup Program
315 Grand Concourse, Bronx, New York – Brownfield Redevelopment
261 Grand Concourse, Bronx, New York – Brownfield Redevelopment
960 Franklin Avenue, Brooklyn, New York – Brownfield Redevelopment

DONALD C. ANNÉ
SENIOR CHEMIST

EDUCATION: M.S., Chemical Oceanography, Florida Institute of Technology, 1981
B.A., Earth Sciences, Millersville University of Pennsylvania, 1975

SPECIAL TRAINING:
Certified 40-Hour OSHA Health and Safety
Certified 8-Hour OSHA Supervisory Course
Ground Water Geochemistry (NWWA)
Ground Water Pollution and Hydrology (Princeton Associates)
Quality Assurance Programs for Environmental Monitoring Data (Stat-A-Matrix)

PROFESSIONAL AFFILIATIONS: American Chemical Society (AFS), 1979-Present

EXPERIENCE SUMMARY:

Mr. Anné has more than 39 years of environmental chemistry experience specializing in data validation, environmental sampling, analytical methodologies, petroleum fingerprinting, laboratory audits, field sampling audits, and preparing Quality Assurance Project Plans and Quality Assurance Manuals. Mr. Anné's experience includes analytical laboratory work with gas chromatography, atomic absorption, infrared spectrometry and wet chemistry methods.

PROJECT EXPERIENCE:

Quality Assurance/Quality Control of Chemical Data- Data Validation

Mr. Anné has more than 23 years experience as a data validator and quality assurance officer. Mr. Anné has validated data for most EPA Regions and under several independent state programs, including the NYSDEC. He has performed laboratory and field audits as well as written Quality Assurance Project Plans. Mr. Anné has written, reviewed, and initiated laboratory Quality Assurance Manuals for laboratories to maintain their regulatory compliance. Typical project experience includes:

- Senior Chemist responsible for data validation. Reviewed chemical data for numerous projects under the New Jersey ISRA regulations. Data validation typically is performed as a third-party validator under subcontract to consultants for private industry and utility companies.

- Supervising Environmental Scientist responsible for data validation. Reviewed chemical laboratory data for adherence to QA/QC protocols for several key projects, including National Priorities List sites and RCRA Corrective Actions located in EPA Regions I, II, III, IV, V, and IX. Validated analytical data, outlined problems and actions to be taken, and qualified all affected data. Consulted with project managers on data usability, and recommended corrective actions to support project goals. Responded to comments made by regulators regarding data quality.

- Supervising Environmental Scientist recognized by the New York State Department of Environmental Conservation (NYSDEC) to perform third party data validation. Attended NYSDEC workshop on data

validation as part of the requirements set forth by NYSDEC. Performed data validation in support of NYSDEC ASP programs as well as data in support of the NYSDEC Part 360 Regulations for landfills. Validated data for an Albany area municipal landfill.

- Supervising Environmental Scientist responsible for developing and preparing Quality Assurance Project Plans (QAPPs) for several state and federal Superfund sites and federal RCRA corrective action sites. Negotiated with regulators for the acceptance of the QAPPs. The sites were located throughout the eastern United States.

- Environmental Chemist responsible for developing a laboratory QA/QC program which fulfilled requirements of the EPA and agencies from the States of Texas and Louisiana. Implemented and managed the program throughout DOE's SPR Environmental laboratories. Received verbal commendations from EPA and the Texas Water commission on the QA/QC Program.

Related Chemistry Experience:

Mr. Anné is experienced in sampling soil, water, air, and wastes in accordance with federal and state guidelines. He has performed field sampling audits and prepared sampling plans for numerous projects in accordance with applicable programmatic requirements. Mr. Anné is familiar with the geochemical aspects of fate and transport of contaminants.

Mr. Anné also has experience working in both fixed-base and mobile laboratories. His experience includes the use of gas chromatography, atomic absorption spectrometers, infrared spectrometers, and numerous wet chemistry and preparation equipment methods. He has served in the laboratory as an analyst, laboratory advisor, and QA officer. He has interfaced with regulators in the area of analytical chemistry and has experience in petroleum fingerprinting techniques and methods.

EMPLOYMENT: 2005- present, Alpha Geoscience
1998-2005, Alpha Environmental Consultants, Inc.
1990-1998, McLaren/Hart
1986-1990, Fred C. Hart Associates
1985-1986, Boeing Petroleum Services
1982-1985, Petroleum Operations and Support Services
1981-1982, Dravo Utility Constructors
1979-1981, Florida Institute of Technology
1975-1979, Berkley Products Company

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APPENDIX G – HEALTH AND SAFETY PLAN

vEKtor consultants

t: +1.347.871.0750 info@vektorconsultants.com
f: +1.347.402.7735 www.vektorconsultants.com

HEALTH AND SAFETY PLAN

Prepared For: Walton Street GC Developments LLC

Project Name: Copyrite Plastic Sheets

Project Location: 261-315 Grand Concourse and 270 Walton Avenue, Bronx, New York

Date: May 2025

37 West 37th Street, 6th Floor, New York, NY 10018

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Attachment 3: Directions to Hospital

Emergency Contacts			
Role	**Name**	**Organization**	**Phone**
Project Director	Ezgi Karayel	Vektor Consultants	(347) 871-0750
Project Manager	David Klein	Vektor Consultants	(347) 871-0750
Field Representative	Tierney Kulju	Vektor Consultants	(347) 871-0750
Site Health and Safety Supervisor	Peter Rathsack	Vektor Consultants	(347) 871-0750
Client Contact	Mordy Beitel	Walton Street GC Developments LLC	(718) 977-5666
Emergency Response		FDNY	911
Spill Hotline		NYSDEC	(800) 457-7362

Emergency Medical Facility	
Primary	***Alternate***
NYC Health + Hospitals 234 E 149th St, The Bronx, NY 10451 Tel: (718) 579-5000 Monday- Thursday: 8am to 7pm Friday: 8am to 5pm Saturday: 9am to 1pm	Comprehensive Health Care Center 305 E 161 St, The Bronx, NY 10451 Tel: (718) 579- 2500 Monday-Thursday: 8 am to 8 pm Friday: 8am to 6pm Saturday: 8:30 am to 5 pm
Route to emergency medical facility map attached to back of this health & safety plan	

Sign-in Sheet

Name	Signature	Company	Date

1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been prepared on behalf of Walton Street GC Developments, LLC for the implementation of a Site Management Plan (SMP) by AMC Engineering, PLLC (AMC), Vektor Consultants, LLC (Vektor), and their subcontractors at the property located at 261-315 Grand Concourse, Bronx, New York (the Site). The Site is identified by the City of New York as Borough of the Bronx, Block 2344 and Lot 1 (261 Grand Concourse and 270 Grand Concourse), and Lot 27 (315 Grand Concourse).

This HASP describes lines of authority, responsibility, and communication as they pertain to health and safety functions at this site in compliance with *29 CFR 1910.120(b)(2) and 29 CFR 1926.65(b)(2)*. This plan also details key personnel who are responsible for the development and implementation of the HASP. Vektor field personnel will implement this HASP during the SMP.

1.1 Site Location and Description

The Site is located at 261-315 Grand Concourse and 270 Walton Avenue in the Mott Haven section of Bronx County, New York, and is identified as NYCDOF Tax Block 2344, Lot 1 (261 Grand Concourse and 270 Walton Avenue), and Lot 27 (315 Grand Concourse). The approximately 42,642-square-foot Site and consists of two new residential towers.

The Site is located within a primarily mixed residential, commercial, and industrial area of Bronx County. The Site is zoned as C6-2A, denoting it as a Contextual General Central Commercial Zoning District. C6-2A districts allow for a variety of commercial use buildings, community facilities, and residential buildings and generally consist of large buildings with retail, office, or residential use. Contextual Zoning Districts are required to comply with the Quality Housing Program guidelines when used for residential use.

2.0 ORGANIZATIONAL STRUCTURE

Vektor will provide a copy of this HASP to each contractor and subcontractor in accordance with 29 CFR 1910.120(b)(1)(iv) and 29 CFR 1926.65(b)(1)(iv) to inform them of site hazards and emergency procedures. All contractors and subcontractors are solely responsible for the safe and healthful performance of all work by each of its employees and/or support personnel who may enter the Site. Each contractor and subcontractor shall provide its own HASP as required by 29 CFR 1910.120 and 29 CFR 1926.65. However, they need to submit a copy of their HASP to Vektor, or they can adopt this HASP during the RI activities.

2.1 Site Supervisor

As required by *29 CFR 1910.120(b)(2)(i)(A) and 29 CFR 1926.65(b)(2)(i)(A)*, a Site Supervisor will be assigned to the project prior to the implementation of the SMP. The Site Supervisor is responsible for directing all hazardous waste operations. All other site personnel report directly to the Site Supervisor unless otherwise noted. The Site Supervisor is directly responsible for:

- Ensuring the pre-entry briefing and/or tailgate-safety meetings are held prior to initiating any site activity, and at such other times as necessary to ensure that employees are apprised of site hazards
- Ensuring that all work activities conducted are consistent with this HASP and making any modifications as necessary
- Verifying all Job Hazard Analyses and ensuring that ongoing Hazard Analysis is conducted at this Site
- Overseeing the training program and ensuring that employees are trained for all tasks or operations they are asked to perform
- Providing a copy of this HASP to each contractor and subcontractor
- Updating the Site Control Program as needed
- Granting site workers site and zone access approval
- Registering all site visitors
- Establishing and maintaining security measures for this Site
- Directing how each work zone is adjusted
- Notified if emergency assistance is needed
- Supervising PPE use on this Site
- Approving any changes in PPE used on this Site
- Notified when any hazardous-substance spill occurs
- Evaluating the quality and safety of response activities after every emergency incident or evacuation of this Site

- Providing site workers with notifications and training on changes to the emergency response plan
- Evaluating confined spaces and responsible for the confined space permit program
- Performing initial monitoring to identify and evaluate any hazardous atmospheres during confined space operations
- Implementing the thermal stress program
- Authorizing the hot-work plan and cutting and welding operations
- Inspecting the hot-work permit area before work is authorized
- Monitoring site activities as they pertain to health and safety at this site
- Stopping any unsafe acts that pose an immediate or imminent health and safety hazard to anyone at this site
- Ensuring that all elements of this HASP are followed and correctly implemented
- Updating the Site Health and Safety Supervisor and other applicable personnel as to changes or work progress reports that may pertain to health and safety functions at this site
- Setting up decontamination lines and the solutions appropriate for the type of chemical contamination on Site
- Controlling the decontamination of all equipment, personnel and samples from the contaminated areas
- Ensuring that all required decontamination equipment is available and in working order
- Providing for collection, storage and disposal of decontamination waste (e.g., rinse water, contaminated sediment, etc.)

2.2 Site Health and Safety Supervisor

As required by *29 CFR 1910.120(b)(2)(i)(B) and 29 CFR 1926.65(b)(2)(i)(B)*, Peter Rathsack (or designated alternate) is the Site Health and Safety Supervisor who has the responsibility and authority for all functions that may pertain to health and safety at this site. This is the individual located on a hazardous waste site that is responsible to the Site Supervisor and has the authority and knowledge necessary to implement the HASP and verify compliance with applicable safety and health requirements. The Site Health and Safety Supervisor is directly responsible for:

- Providing a copy of this HASP to each contractor and subcontractor
- Updating the Site Control Program as needed
- Notified if emergency assistance is needed
- Supervising PPE use on this Site
- Approving any changes in PPE used on this Site
- Notified when any hazardous-substance spill occurs
- Providing site workers with notifications and training on changes to the emergency response plan

- Performing initial monitoring to identify and evaluate any hazardous atmospheres during confined space operations
- Developing and implementing the HASP
- Monitoring site activities as they pertain to health and safety at this Site
- Stopping any unsafe acts that pose an immediate or imminent health and safety hazard to anyone at this Site
- Ensuring that all elements of this HASP are followed and correctly implemented
- Verifying compliance of subcontractors with respect to this HASP and reporting deviations to the Site Supervisor
- Evaluating site incidents including spills, releases of hazardous substances
- Determining the appropriate response including site evacuations
- Implementing the Emergency Response Plan
- Coordinating emergency response activities on this Site

2.3 Contractors and Subcontractors

Each contractor and subcontractor shall designate a Contractor Site Representative. The Contractor Site Representative will interface directly with the Site Supervisor, and Vektor Consultants, the Site Health and Safety Supervisor, with regards to all areas that relate to this HASP and safe and healthful performance of work conducted by the contractor and/or subcontractor workforce. Contractor/Subcontractor Site Representatives for this site are listed in the Contact Summary Table at the end of this section.

2.4 Local/State/Federal Agency Representative

Local, state, and/or federal agencies are responsible for ensuring the Site is in compliance with appropriate regulatory requirements, permits, and/or legal ruling(s). Local/State/Federal Agency Representatives for this Site are listed in the Contact Summary Table at the end of this section.

The organizational structure shall be reviewed and updated as necessary to reflect the current status of site operations.

Contact Summary Table

Role	Name	Organization	Phone/Email
Remedial Engineer	Ariel Czemerinski	Vektor Consultants	(718) 545-0474
Project Director	Ezgi Karayel	Vektor Consultants	(347) 871-0750
Project Manager	David Klein	Vektor Consultants	(347) 871-0750
Field Representative	Tierney Tulju	Vektor Consultants	(347) 871-0750
Site Health and Safety Supervisor	Peter Rathsack	Vektor Consultants	(347) 871-0750
Applicant Contact	Mordy Beitel	Walton Street GC Developments LLC	(718) 977-5666
Project Manager	Anthony Perretta	NYSDOH	(518) 402-7867
Project Manager	Sydney Sobol	NYSDEC	(518) 402-4799
Emergency Response		FDNY	911
Spill Hotline		NYSDEC	(800) 457-7362

3.0 HAZARD ANALYSIS

This section describes the safety and health hazards associated with site work and the control measures selected to protect workers in compliance with *29 CFR 1910.120(b)(4)(ii)(A) and 29 CFR 1926.65(b)(4)(ii)(A)*. This is accomplished by creating a specific Job Hazard Analysis for each task and operation to be conducted at the Site.

The purpose of the Job Hazard Analysis is to identify and, to the extent practicable, quantify the health and safety hazards associated with each site task and operation, and to evaluate the risks of each hazard to workers. With this information, appropriate control methods are selected to eliminate the identified risks if possible, or to effectively control them. The control methods are documented in each task-specific Job Hazard Analysis.

Job Hazard Analyses contained in this HASP have been developed by Vektor Consultants, the Site Health and Safety Supervisor. The Site Supervisor is the individual responsible for reviewing and "verifying" that all Job Hazard Analyses are complete and to ensure that ongoing hazard analyses are conducted at this site.

3.1 Hazard Notification Process

The information in the Job Hazard Analysis Worksheets, Hazardous Substance Profiles, and Safety Data Sheets (SDS) is made available to all employees who could be affected in the scope of their work at the Site. This shall be done prior to beginning work activities.

New, or modifications to existing, Job Hazard Analysis Worksheets, Hazardous Substance Profiles, or SDS are communicated during routine briefings.

Consistent with *29 CFR 1910.120(i) and 29 CFR 1926.65(i)*, this information will also be made available to contractors and subcontractors.

The Site Supervisor is the person responsible for providing Site information, this HASP, and any modifications to this HASP to contractors and/or subcontractors working on this Site.

3.2 Phases, Site Tasks and Hazard Analysis

This HASP applies to the implementation of the SMP at the Site. This HASP will apply to the following Tasks and/or Operations that will be accomplished during the Work Plan implementation:

- Soil vapor intrusion sampling

3.3 Chemical Hazards

Exposure to chemical hazards should always be avoided. When working around chemical hazards it is important to be protected by administrative and/or engineered controls or, if administrative and/or engineered controls are not practicable or fully protective, by use of

proper personal protective equipment (PPE). A direct reading instrument must be used, as necessary, to establish potential worker exposure.

No chemical hazards were identified at the time this HASP was prepared.

OSHA PEL. OSHA sets permissible exposure limits (PELs) to protect workers against the health effects of exposure to hazardous substances. PELs are regulatory limits on the amount or concentration of a substance in the air. They may also contain a skin designation. PELs are enforceable. OSHA PELs are based on an 8-hour time weighted average (TWA) exposure.

IDLH. Immediately dangerous to life or health (IDLH) is a regulatory value defined as the maximum exposure concentration in the workplace from which one could escape within 30 minutes without any escape-impairing symptoms or any irreversible health effects. This value should be referred to in respirator selection.

More specific chemical information is available in the Hazardous Substance Profiles included in Attachment 1 of this HASP. The Hazardous Substance Profiles are designed to assist with "chemical guidelines" in which further information may be needed, including but not limited to an SDS. This information is not intended to replace an SDS, rather to augment one.

3.4 Physical Hazards

Below is a list of physical hazards that may be encountered during SMP activities at this Site. Personal awareness, strict adherence to all safety requirements, and the use of proper PPE when applicable will help keep this work site safe.

- Hand Tool Use
- Heavy Manual Lifting/Moving
- Material Handling
- Noise (Sound Pressure Level), dBA
- Sharp Objects
- Slips/Trips/Falls
- Traffic - On or Near Site
- Utilities (electrical, gas, water, etc.) – Overhead
- Utilities (electrical, gas, water, etc.) – Underground

3.5 Biological Hazards

Below is a list of biological hazards that may be encountered during Work Plan activities at this Site. Personal awareness, strict adherence to all safety requirements, and the use of proper PPE when applicable will help keep this work site safe.

3.6 Radiological Hazards

Job hazard analysis indicates that workers are not expected to encounter radiological hazards at this Site for the Work Plan related tasks and/or operations and work locations covered by this HASP.

3.7 Job Hazard Analysis Worksheets

The site-specific Job Hazard Analysis Worksheet is included in Attachment 2. A single Job Hazard Analysis Worksheet may be used for multiple locations provided that the task or operation, and hazards and control measures, are the same in each location.

The Job Hazard Analysis Worksheet lists the following information:

- Phase description
- Specific task or operation
- Specific location for task or operation
- Hazard analysis date(s) of task or operation
- Task or operation date(s)
- Person responsible for developing Job Hazard Analysis
- Person responsible for reviewing the Job Hazard Analysis
- Chemical, physical, biological and radiological hazards for each task or operation
- Specific control measures for each task or operation
- Required permit(s), if any

The Job Hazard Analysis Worksheet should be kept updated as information changes and previous copies should be retained.

4.0 TRAINING PROGRAM

The Site Safety and Health Training Program is designed to provide workers with the training necessary to work safely on this Site in compliance with *29 CFR 1910.120(b)(4)(ii)(B) and 29 CFR 1926.65(b)(4)(ii)(B)*. Training requirements for this site are based on the Job Hazard Analysis, contained in Attachment 2 of this HASP, and relevant OSHA requirements. Employees who have not been trained to a level required by their job function and responsibility are not permitted to participate in or supervise field activities.

4.1 Initial HazWoper Training

Initial training requirements for field personnel are based on the personnel's potential for exposure and compliance with the requirements of *29 CFR 1910.120(e)(3) and 29 CFR 1926.65(e)(3)*.

General Site Workers (such as equipment operators, general laborers and supervisory personnel) engaged in hazardous substance removal or other activities that expose, or potentially expose, them to hazardous substances and health hazards shall receive a minimum of 40 hours of instruction off site, and a minimum of three days of actual field experience under direct supervision of a trained, experienced supervisor as per *29 CFR 1910.120(e)(3)(i) and 29 CFR 1926.65(e)(3)(i)*.

Specific Limited Task Workers on site only occasionally for a specific limited task (such as, but not limited to, field sampling, land surveying, geophysical surveying, or drilling) and who are unlikely to be exposed over permissible exposure limits and published exposure limits shall receive a minimum of 24 hours of instruction off site, and a minimum of one day of actual field experience under direct supervision of a trained, experienced supervisor as per *29 CFR 1910.120(e)(3)(ii) and 29 CFR 1926.65(e)(3)(ii)*.

4.2 Site-Specific Training

In addition to the initial HAZWOPER training requirements outlined above, site personnel shall be trained on the following site-specific elements:

- Names of personnel and alternates responsible for site safety and health
- Health, safety, and other hazards present
- Use of specific personal protective equipment (PPE) detailed in this HASP
- Standard work practices by which the personnel can minimize risks from the hazards detailed in this HASP
- Safe use of administrative and/or engineering controls and equipment detailed in this HASP
- Medical surveillance requirements detailed in this HASP
- Decontamination procedures detailed in this HASP
- The emergency response plan detailed in this HASP

- Heat and cold stress prevention
- Working safely around heavy equipment

4.3 Site Briefings

A site-specific briefing shall be provided to visitors who enter this Site beyond the designated entry point. For visitors, the site-specific briefing shall include information about site hazards, the site layout including work zones and places of refuge, the emergency alarm system and emergency evacuation procedures, and other pertinent safety and health requirements, as appropriate.

5.0 MEDICAL SURVEILLANCE PROGRAM

The Medical Surveillance Program is designed to medically monitor worker health to ensure that personnel are not adversely affected by site hazards in compliance with *29 CFR 1910.120(b)(4)(ii)(D) and 29 CFR 1926.65(b)(4)(ii)(D)*.

Medical surveillance is not required at this site due to:

- There is NO potential for worker exposure to hazardous substances at levels above OSHA permissible exposure limits or other published limits for 30 days or more per year, without regard to use of respiratory protection.
- Personnel DO NOT wear a respirator for 30 days or more a year or as required by *29 CFR 1910.134 and 29 CFR 1926.103*.

Any worker who is injured, becomes ill, or develops signs or symptoms of possible over-exposure to hazardous substances or health hazards on this Site shall receive a medical examination as soon as possible after the occurrence, with follow-up examinations provided as required by the attending physician. Physical Exams shall be consistent with *29 CFR 1910.120(f) and 29 CFR 1926.65(f)*.

6.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) will be used at this Site to protect employees from biological, chemical and physical hazards in compliance with *29 CFR 1910.120(b)(4)(ii)(C) and 29 CFR 1926.65(b)(4)(ii)(C)*. This includes hazards associated with, but not limited to, SMP activities.

With employee safety being the number one priority, site health hazards will be eliminated or reduced to the greatest extent possible through administrative and/or engineering controls and safe work practices. Where hazards are still present, a combination of administrative and/or engineering controls, work practices, and PPE will be used to protect employees.

The Site Supervisor and/or Health and Safety Supervisor are responsible for PPE use on this Site.

6.1 PPE Selection Criteria

PPE shall be selected and used to protect site workers from the hazards and potential hazards they are likely to encounter, as identified during the site characterization and Job Hazard Analysis (see Attachment 2). A PPE ensemble shall be assigned to each work task or operation.

PPE selection shall be based upon many factors. Materials providing the greatest duration of protection shall be used. Tear and seam strength of the PPE shall also be considered to ensure ensemble durability while work is performed.

When necessary, multiple layers of protection shall be used to accommodate the range of hazards that may be encountered. All PPE shall be properly fitted.

PPE selection criteria shall also include:

- Level of PPE required (Level A, B, C, or D)
- PPE components
- Chemical suit and glove compatibility

All PPE ensembles shall be consistent with Appendix B of *29 CFR 1910.120 and 29 CFR 1926.65* and used in accordance with manufacturers' recommendations.

The following criteria were used to select PPE levels at this Site:

<u>Level D Protection was selected due to the following:</u>

- The atmosphere contains no known or suspected hazardous substances at concentrations that meet or exceed the published exposure limits

- Contact with hazardous levels of any chemicals through splashes, immersion, or by other means will not occur
- There is no potential for unexpected inhalation or contact with hazardous levels of any chemical

Training In Use of PPE

Employees receive general training regarding proper selection, use and inspection of PPE during initial HAZWOPER training and subsequent refresher training. Site-specific PPE requirements, including task-specific PPE, ensemble components, cartridge and canister service times, and inspection and maintenance procedures, as applicable, shall be communicated as identified in the Training Program.

Because chemical exposure levels present do not create a substantial possibility of immediate death, immediate serious illness or injury, or impair the ability to escape, positive pressure self-contained breathing apparatus or positive-pressure air-line respirators equipped with an escape air supply are not required.

7.0 ENVIRONMENTAL MONITORING

This section of the HASP describes how site worker exposures to hazardous substances will be monitored in compliance with *29 CFR 1910.120(b)(4)(ii)(E) and 29 CFR 1926.65(b)(4)(ii)(E)*.

7.1 Air Monitoring Procedures

Exposures to airborne hazardous substances shall be fully characterized throughout site operations to ensure that exposure controls are effectively selected and modified as needed. Air monitoring shall be used to identify and quantify airborne levels of hazardous substances and safety and health hazards to determine the appropriate level of site worker protection needed on site. Air monitoring procedures shall be consistent with OSHA requirements in *29 CFR 1910.120(c)(6) and 29 CFR 1926.65(c)(6)*.

Air monitoring shall be conducted using direct-reading instruments. Air monitoring includes:

- Continual monitoring of airborne volatile organic compounds (VOCs)
- Continual monitoring of downwind respirable dust levels

7.2 Initial Monitoring Procedures

Upon initial entry, representative air monitoring shall be conducted to identify any IDLH condition, exposure over permissible exposure limits or published exposure levels, exposure over a radioactive material's dose limits, or other dangerous condition such as the presence of flammable atmospheres or oxygen-deficient environments.

7.3 Periodic Monitoring

Periodic monitoring shall be conducted when the possibility of an IDLH condition or flammable atmosphere has developed, or when there is indication that exposure may have risen over permissible exposure limits or published exposure levels since previous monitoring was conducted. Situations where it shall be considered that the possibility exposures have risen are as follows:

- When work begins on a portion of the Site that has not been previously monitored
- When contaminants other than those previously identified are being handled
- When a change in environmental conditions exist
- When site workers handle leaking drums or containers, or work in areas with obvious liquid contamination
- When site workers report or exhibit signs of exposure

7.4 Direct-Reading Instrument Monitoring Procedures

Direct-reading instrument monitoring will be used on this site as follows:

- VOCs by photoionization detector (PID)
- Downwind and upwind respirable dust by aerosol monitor (DustTrack)

Monitoring equipment calibration and maintenance procedures on this site are:

- Every morning

8.0 DECONTAMINATION

This HASP element describes procedures for decontaminating site workers and equipment when exiting the Exclusion Zone in compliance with *29 CFR 1910.120(b)(4)(ii)(G) and 29 CFR 1926.65(b)(4)(ii)(G)*. This section also describes disposal of waste from decontamination processes. Site decontamination procedures are designed to achieve a safe, logical removal or neutralization of contaminants that may accumulate on site workers and/or equipment. The Site Supervisor is responsible for decontamination procedures at this site.

These procedures are intended to minimize site worker contact with contaminants and protect against the transfer of contamination to clean areas of the site and away from the site. They may also extend the useful life of personal protective equipment (PPE) by reducing the amount of time that contaminants contact and permeate or otherwise affect the surfaces of PPE.

Decontamination procedures shall be communicated to site workers and implemented before any site workers or equipment are permitted to enter areas on site where potential for exposure to hazardous substances exists.

Emergency decontamination procedures are detailed in Section 8, the Emergency Response Plan of this HASP.

The decontamination procedures described below are designed to meet the requirements of *29 CFR 1910.120(k) and 29 CFR 1926.65(k)* and include site-specific information about:

- General and Specific Decontamination Procedures for Personnel and PPE
- General and Specific Decontamination Procedures for Equipment
- Location and Type of Site Decontamination Procedures
- Disposal of Residual Waste from Decontamination
- Monitoring the Effectiveness of Decontamination Procedures

8.1 General and Specific Decontamination Procedures for Site Workers and PPE

All site workers and PPE leaving a contaminated area shall be appropriately decontaminated. General decontamination guidelines for site workers and PPE include:

- Decontamination is required for all site workers exiting a contaminated area. Site workers may only re-enter uncontaminated areas after undergoing the decontamination procedures described in the next section.
- Protective clothing is decontaminated, cleaned, laundered, maintained and/or replaced as needed to ensure its effectiveness.
- PPE used at this site is decontaminated or prepared for proper disposal.

- The site requires and trains site workers that if their permeable clothing is splashed or becomes wetted with a hazardous substance, they will immediately exit the work zone, perform applicable decontamination procedures, shower, and change into uncontaminated clothing.

8.2 General and Specific Decontamination Procedures for Equipment

All contaminated clothing and equipment leaving a contaminated area shall be appropriately disposed of or decontaminated. General decontamination guidelines for equipment include:

- Decontamination is required for all equipment exiting a contaminated area. Equipment may only re-enter uncontaminated areas after undergoing specific decontamination as described in the Job Hazard Analysis Worksheets.
- Particular attention is given to decontaminating tires, scoops, and other parts of heavy equipment that are directly exposed to contaminants and contaminated soil.

8.3 Location and Type of Site Decontamination Procedures

Decontamination shall be performed in areas that will minimize the exposure of uncontaminated site workers or equipment to contaminated site workers or equipment. Decontamination on this site shall be conducted in the Contamination Reduction Zone. The Contamination Reduction Zone acts as a buffer between the Exclusion Zone and Support Zone. The location and design of decontamination stations minimize the spread of contamination beyond these stations.

8.4 Disposal of Waste from Decontamination

Procedures for disposal of decontamination waste shall meet applicable local, State, and Federal regulations.

8.5 Monitoring the Effectiveness of Decontamination Procedures

Decontamination procedures shall be monitored by a representative of Vektor Consultants, the Site Health and Safety Supervisor, to determine effectiveness. If procedures are found to be deficient, appropriate steps shall be taken to correct any deficiencies.

9.0 EMERGENCY RESPONSE PLAN

This section describes the site-specific Emergency Response Plan in compliance with *29 CFR 1910.120(b)(4)(ii)(H) and 29 CFR 1926.65(b)(4)(ii)(H)*. Specifically, the Emergency Response Plan addresses potential emergencies at this site, procedures for responding to these emergencies, roles and responsibilities during emergency response, and training. This element also describes the provisions this site has made to coordinate its emergency response planning with other contractors on site and with off-site emergency response organizations.

This Emergency Response Plan shall be available for inspection and copying by site workers, their representatives, OSHA personnel, and other governmental agencies with relevant responsibilities as required by *29 CFR 1910.120(l)(1)(i) and 29 CFR 1926.65(l)(1)(i)*.

In accordance with *29 CFR 1910.120(l)(3)(ii) and 29 CFR 1926.65(l)(3)(ii)*, this Emergency Response Plan is a separate section of the HASP.

9.1 Pre-Emergency Planning

This Emergency Response Plan is compatible and integrated with the disaster, fire and/or emergency response plans of local, state, and federal agencies.

This Site has been evaluated for potential emergency occurrences based on site hazards, the tasks within the work plan, the site topography, and prevailing weather conditions.

9.2 Personnel Roles, Lines of Authority, and Communication

Anyone may activate the Emergency Response Plan; however, Kevin Garbaccio (or designated alternate), Site Health and Safety Supervisor, is responsible for implementing the Emergency Response Plan and coordinating emergency response activities on this Site. Kevin Garbaccio (or designated alternate) also provides specific direction for emergency action based upon information available regarding the incident and response capabilities, initiates emergency procedures including protection of the public, and ensures appropriate authorities are notified.

In accordance with *29 CFR 1910.38(a) and 29 CFR 1926.35*, in the event of an emergency, site workers are evacuated and do not participate in emergency response activities.

This Site relies upon the off-site emergency response organizations listed in the Emergency Response Contact Information list to respond to site emergencies. These organizations are appropriately trained, staffed, and equipped to provide emergency response to this site.

These organizations are contacted at least annually to verify the accuracy of phone numbers and contact names.

Communication on this site will be conducted by the following methods:

- Face to face
- Cell phone
- Hand signals

9.3 Site Security and Control

In case of an on-site emergency, site security and control for this site shall be provided by:

- Warning Signs
- Barrier Tape
- Locked Doors and Gates

9.4 Emergency Medical Treatment and First Aid

Any site worker who requires medical care and/or is transferred to a medical facility shall be accompanied by Hazardous Substance Profiles included in Attachment 1 of this HASP and other applicable information to apprise caregivers of the chemicals and hazards to which the victim has potentially been exposed. The emergency medical care facility for this site is:

NYC Health + Hospitals
234 E 149th St, The Bronx, NY 10451
Tel: (718) 579-5000
Monday- Thursday: 8am to 7pm
Friday: 8am to 5pm
Saturday: 9am to 1pm

The route to the facility is shown in on the map included in Attachment 3 of this HASP.

Attachment 1

Hazardous Substance Profiles and/or SDS

SAFETY DATA SHEET

Creation Date 10-Dec-2009 **Revision Date** 28-Dec-2021 **Revision Number** 6

1. Identification

Product Name **Tetrachloroethylene**

Cat No. : **AC445690000; ACR445690010; AC445690025; AC445691000**

CAS No 127-18-4
Synonyms Perchloroethylene

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
CHEMTREC Tel. No.**US:**001-800-424-9300 / **Europe:**001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1
Carcinogenicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Central nervous system (CNS).	
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Kidney, Liver, Blood.	

Label Elements

Signal Word
Danger

Hazard Statements
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
May cause drowsiness or dizziness
May cause cancer
May cause damage to organs through prolonged or repeated exposure

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Response
IF exposed or concerned: Get medical attention/advice
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Toxic to aquatic life with long lasting effects
WARNING. Cancer - https://www.p65warnings.ca.gov/.

3. Composition/Information on Ingredients

Component	CAS No	Weight %
Tetrachloroethylene	127-18-4	>95

4. First-aid measures

General Advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Most important symptoms and effects	None reasonably foreseeable. May cause allergic skin reaction. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.
Unsuitable Extinguishing Media	No information available
Flash Point	No information available
Method -	No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors. Containers may explode when heated.

Hazardous Combustion Products
Chlorine. Phosgene. Hydrogen chloride gas.
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
2	0	0	N/A

6. Accidental release measures

Personal Precautions	Use personal protective equipment as required. Ensure adequate ventilation.
Environmental Precautions	Do not flush into surface water or sanitary sewer system.
Methods for Containment and Clean Up	Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling	Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Avoid ingestion and inhalation.
Storage.	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from sunlight. Incompatible Materials. Strong acids. Strong oxidizing agents. Strong bases. Metals. Zinc.

Amines. Aluminium.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Tetrachloroethylene	TWA: 25 ppm STEL: 100 ppm	(Vacated) TWA: 25 ppm (Vacated) TWA: 170 mg/m^3 Ceiling: 200 ppm TWA: 100 ppm	IDLH: 150 ppm	TWA: 25 ppm STEL: 100 ppm

Legend

ACGIH *- American Conference of Governmental Industrial Hygienists*
OSHA *- Occupational Safety and Health Administration*
NIOSH IDLH: *NIOSH - National Institute for Occupational Safety and Health*

Engineering Measures Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	Characteristic, sweet
Odor Threshold	No information available
pH	No information available
Melting Point/Range	-22 °C / -7.6 °F
Boiling Point/Range	120 - 122 °C / 248 - 251.6 °F @ 760 mmHg
Flash Point	No information available
Evaporation Rate	6.0 (Ether = 1.0)
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	18 mbar @ 20 °C
Vapor Density	No information available
Density	1.619
Specific Gravity	1.625
Solubility	0.15 g/L water (20°C)
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	> 150°C
Viscosity	0.89 mPa s at 20 °C
Molecular Formula	C2 Cl4

Molecular Weight 165.83

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products. Excess heat. Exposure to moist air or water.

Incompatible Materials Strong acids, Strong oxidizing agents, Strong bases, Metals, Zinc, Amines, Aluminium

Hazardous Decomposition Products Chlorine, Phosgene, Hydrogen chloride gas

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tetrachloroethylene	LD50 = 2629 mg/kg (Rat)	LD50 > 10000 mg/kg (Rat)	LC50 = 27.8 mg/L (Rat) 4 h

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes and skin

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Tetrachloroethylene	127-18-4	Group 2A	Reasonably Anticipated	A3	X	A3

IARC (International Agency for Research on Cancer)

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

NTP: (National Toxicity Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

Mexico - Occupational Exposure Limits - Carcinogens
A1 - Confirmed Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Confirmed Animal Carcinogen
A4 - Not Classifiable as a Human Carcinogen
A5 - Not Suspected as a Human Carcinogen

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Central nervous system (CNS)
STOT - repeated exposure Kidney Liver Blood

Aspiration hazard No information available

Symptoms / effects,both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Endocrine Disruptor Information

Component	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Tetrachloroethylene	Group II Chemical	Not applicable	Not applicable

Other Adverse Effects Tumorigenic effects have been reported in experimental animals.

12. Ecological information

Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Tetrachloroethylene	EC50: > 500 mg/L, 96h (Pseudokirchneriella subcapitata)	LC50: 12.4 - 14.4 mg/L, 96h flow-through (Pimephales promelas) LC50: 8.6 - 13.5 mg/L, 96h static (Pimephales promelas) LC50: 11.0 - 15.0 mg/L, 96h static (Lepomis macrochirus) LC50: 4.73 - 5.27 mg/L, 96h flow-through (Oncorhynchus mykiss)	EC50 = 100 mg/L 24 h EC50 = 112 mg/L 24 h EC50 = 120.0 mg/L 30 min	EC50: 6.1 - 9.0 mg/L, 48h Static (Daphnia magna)

Persistence and Degradability Insoluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility . Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its volatility.

Component	log Pow
Tetrachloroethylene	2.88

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Tetrachloroethylene - 127-18-4	U210	-

14. Transport information

DOT

UN-No UN1897
Proper Shipping Name TETRACHLOROETHYLENE

Hazard Class 6.1
Packing Group III

TDG
UN-No UN1897
Proper Shipping Name TETRACHLOROETHYLENE
Hazard Class 6.1
Packing Group III

IATA
UN-No UN1897
Proper Shipping Name TETRACHLOROETHYLENE
Hazard Class 6.1
Packing Group III

IMDG/IMO
UN-No UN1897
Proper Shipping Name TETRACHLOROETHYLENE
Hazard Class 6.1
Packing Group III

15. Regulatory information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Tetrachloroethylene	127-18-4	X	ACTIVE	-

Legend:
TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Tetrachloroethylene	127-18-4	X	-	204-825-9	X	X	X	X	X	KE-33294

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

U.S. Federal Regulations

SARA 313

Component	CAS No	Weight %	SARA 313 - Threshold Values %
Tetrachloroethylene	127-18-4	>95	0.1

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Tetrachloroethylene	-	-	X	X

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Tetrachloroethylene	X		-

OSHA - Occupational Safety and Health Administration: Not applicable

CERCLA: This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Tetrachloroethylene	100 lb 1 lb	-

California Proposition 65: This product contains the following Proposition 65 chemicals.

Component	CAS No	California Prop. 65	Prop 65 NSRL	Category
Tetrachloroethylene	127-18-4	Carcinogen	14 µg/day	Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Tetrachloroethylene	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ): Y
DOT Marine Pollutant Y
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security: This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade: No information available

Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Tetrachloroethylene	-	Use restricted. See item 75. (see link for restriction details)	-

https://echa.europa.eu/substances-restricted-under-reach

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Tetrachloroethylene	127-18-4	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Tetrachloroethylene	127-18-4	Not applicable	Not applicable	Not applicable	Annex I - Y45

16. Other information

Prepared By: Regulatory Affairs
Thermo Fisher Scientific

Email: EMSDS.RA@thermofisher.com

Creation Date	10-Dec-2009
Revision Date	28-Dec-2021
Print Date	28-Dec-2021
Revision Summary	This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

SAFETY DATA SHEET

Creation Date 03-Feb-2010 **Revision Date** 24-Dec-2021 **Revision Number** 3

1. Identification

Product Name **Trichloroethylene**

Cat No. : **T340-4; T341-4; T341-20; T341-500; T403-4**

CAS No 79-01-6
Synonyms Trichloroethene (Stabilized/Technical/Electronic/Certified ACS)

Recommended Use Laboratory chemicals.
Uses advised against .

Details of the supplier of the safety data sheet

Company
Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Central nervous system (CNS).	
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Kidney, Liver, Heart, spleen, Blood.	

Label Elements

Signal Word

Danger

Hazard Statements
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
May cause drowsiness or dizziness
Suspected of causing genetic defects
May cause cancer
May cause damage to organs through prolonged or repeated exposure

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Response
IF exposed or concerned: Get medical attention/advice
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Harmful to aquatic life with long lasting effects
WARNING. Cancer and Reproductive Harm - https://www.p65warnings.ca.gov/.

3. Composition/Information on Ingredients

Component	CAS No	Weight %
Trichloroethylene	79-01-6	>95

4. First-aid measures

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
Ingestion	Do NOT induce vomiting. Call a physician or poison control center immediately.
Most important symptoms and effects	May cause allergic skin reaction. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.
Unsuitable Extinguishing Media	No information available
Flash Point	No information available
Method -	No information available
Autoignition Temperature	410 °C / 770 °F
Explosion Limits	
Upper	44.8 vol %
Lower	8 vol %
Oxidizing Properties	Not oxidising
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors. Containers may explode when heated. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products
Chlorine. Phosgene. Carbon monoxide (CO). Carbon dioxide (CO_2). Hydrogen chloride gas.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
2	1	0	N/A

6. Accidental release measures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.
Environmental Precautions	Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

Storage. Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from light. Do not store in aluminum containers. Incompatible Materials. Strong oxidizing agents. Strong bases. Amines. Alkali metals. Metals. .

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Trichloroethylene	TWA: 10 ppm STEL: 25 ppm	(Vacated) TWA: 50 ppm (Vacated) TWA: 270 mg/m³ Ceiling: 200 ppm (Vacated) STEL: 200 ppm (Vacated) STEL: 1080 mg/m³ TWA: 100 ppm	IDLH: 1000 ppm	TWA: 10 ppm STEL: 25 ppm

Legend

ACGIH *- American Conference of Governmental Industrial Hygienists*
OSHA *- Occupational Safety and Health Administration*
NIOSH IDLH: *NIOSH - National Institute for Occupational Safety and Health*

Engineering Measures Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	Characteristic
Odor Threshold	No information available
pH	No information available
Melting Point/Range	-85 °C / -121 °F
Boiling Point/Range	87 °C / 188.6 °F
Flash Point	No information available
Evaporation Rate	0.69 (Carbon Tetrachloride = 1.0)

Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	44.8 vol %
Lower	8 vol %
Vapor Pressure	77.3 mbar @ 20 °C
Vapor Density	4.5 (Air = 1.0)
Specific Gravity	1.460
Solubility	Insoluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	410 °C / 770 °F
Decomposition Temperature	> 120°C
Viscosity	0.55 mPa.s (25°C)
Molecular Formula	C2 H Cl3
Molecular Weight	131.39

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Light sensitive.

Conditions to Avoid Incompatible products. Excess heat. Exposure to light. Exposure to moist air or water.

Incompatible Materials Strong oxidizing agents, Strong bases, Amines, Alkali metals, Metals,

Hazardous Decomposition Products Chlorine, Phosgene, Carbon monoxide (CO), Carbon dioxide (CO_2), Hydrogen chloride gas

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Trichloroethylene	LD50 = 4920 mg/kg (Rat)	LD50 = 29000 mg/kg (Rabbit)	LC50 = 26 mg/L (Rat) 4 h

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes and skin

Sensitization May cause sensitization by skin contact

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Trichloroethylene	79-01-6	Group 1	Known	A2	X	A2

IARC (International Agency for Research on Cancer)

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

NTP: (National Toxicity Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen
ACGIH: (American Conference of Governmental Industrial Hygienists)

Mutagenic Effects Mutagenic effects have occurred in humans.

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Central nervous system (CNS)
STOT - repeated exposure Kidney Liver Heart spleen Blood

Aspiration hazard No information available

Symptoms / effects,both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not empty into drains. The product contains following substances which are hazardous for the environment. Contains a substance which is:. Harmful to aquatic organisms. Toxic to aquatic organisms.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Trichloroethylene	EC50: = 175 mg/L, 96h (Pseudokirchneriella subcapitata) EC50: = 450 mg/L, 96h (Desmodesmus subspicatus)	LC50: 31.4 - 71.8 mg/L, 96h flow-through (Pimephales promelas) LC50: 39 - 54 mg/L, 96h static (Lepomis macrochirus)	EC50 = 0.81 mg/L 24 h EC50 = 115 mg/L 10 min EC50 = 190 mg/L 15 min EC50 = 235 mg/L 24 h EC50 = 410 mg/L 24 h EC50 = 975 mg/L 5 min	EC50: = 2.2 mg/L, 48h (Daphnia magna)

Persistence and Degradability Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its volatility.

Component	log Pow
Trichloroethylene	2.4

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Trichloroethylene - 79-01-6	U228	-

14. Transport information

DOT

UN-No UN1710
Proper Shipping Name TRICHLOROETHYLENE
Hazard Class 6.1

Packing Group III

TDG

UN-No UN1710
Proper Shipping Name TRICHLOROETHYLENE
Hazard Class 6.1
Packing Group III

IATA

UN-No UN1710
Proper Shipping Name TRICHLOROETHYLENE
Hazard Class 6.1
Packing Group III

IMDG/IMO

UN-No UN1710
Proper Shipping Name TRICHLOROETHYLENE
Hazard Class 6.1
Packing Group III

15. Regulatory information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Trichloroethylene	79-01-6	X	ACTIVE	R;S

Legend:
TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

TSCA 12(b) - Notices of Export

Component	CAS No	**TSCA 12(b)** - Notices of Export
Trichloroethylene	79-01-6	Section 5 Section 6

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Trichloroethylene	79-01-6	X	-	201-167-4	X	X	X	X	X	X

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

U.S. Federal Regulations

SARA 313

Component	CAS No	Weight %	SARA 313 - Threshold Values %
Trichloroethylene	79-01-6	>95	0.1

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Trichloroethylene	X	100 lb	X	X

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors

Trichloroethylene	X		-

OSHA - Occupational Safety and Health Administration: Not applicable

CERCLA: This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Trichloroethylene	100 lb 1 lb	-

California Proposition 65: This product contains the following Proposition 65 chemicals.

Component	CAS No	California Prop. 65	Prop 65 NSRL	Category
Trichloroethylene	79-01-6	Carcinogen Developmental Male Reproductive	14 µg/day 50 µg/day	Developmental Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Trichloroethylene	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ):	Y
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

U.S. Department of Homeland Security: This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade: No information available

Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Trichloroethylene	Carcinogenic Category 1B Article 57 Application date: October 21, 2014 Sunset date: April 21, 2016 Exemption - None	Use restricted. See item 28. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	SVHC Candidate list - 201-167-4 - Carcinogenic, Article 57a

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

https://echa.europa.eu/authorisation-list
https://echa.europa.eu/substances-restricted-under-reach
https://echa.europa.eu/candidate-list-table

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Trichloroethylene	79-01-6	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive	Seveso III Directive	Rotterdam	Basel Convention

		(2012/18/EC) - Qualifying Quantities for Major Accident Notification	(2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Convention (PIC)	(Hazardous Waste)
Trichloroethylene	79-01-6	Not applicable	Not applicable	Not applicable	Annex I - Y45

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date 03-Feb-2010
Revision Date 24-Dec-2021
Print Date 24-Dec-2021
Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

Material Safety Data Sheet
PAH Contaminated Soil

ACC# 17974

Section 1 - Chemical Product and Company Identification

MSDS Name: PAH Contaminated Soil
Catalog Numbers: SRS103100
Synonyms: API separator sludge
Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
Not available	Soil	78-99	unlisted
120-12-7	Anthracene	0-2	204-371-1
129-00-0	Pyrene	0-2	204-927-3
132-64-9	Dibenzofuran	0-2	205-071-3
205-99-2	Benzo(b)fluoranthene	0-2	205-911-9
206-44-0	Fluoranthene	0-2	205-912-4
208-96-8	Acenaphthylene	0-2	205-917-1
218-01-9	1,2-benzphenanthrene	0-2	205-923-4
50-32-8	Benzo(a)pyrene	0-2	200-028-5
56-55-3	1,2-Benzanthracene	0-2	200-280-6
83-32-9	Acenaphthene	0-2	201-469-6
85-01-8	Phenanthrene	0-2	201-581-5
86-73-7	Fluorene	0-2	201-695-5
87-86-5	Pentachlorophenol	0-2	201-778-6
91-20-3	Naphthalene	0-2	202-049-5
91-57-6	2-methylnaphthalene	0-2	202-078-3

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: not available solid.
Warning! May cause allergic skin reaction. Causes eye and skin irritation. May cause cancer based on animal studies.

Attachment 2

Job Hazard Analysis Worksheets

JOB HAZARD ANALYSIS WORKSHEET			
Phase Description:	SMP		
Task or Operation:	SMP Implementation and SVI Evaluation		
Specific Location:	261-315 Grand Concourse		
Task or Operation Start Date(s):	August 2025-2030	**Task or Operation Duration:**	Until further notice
Date of Hazard Analysis:	May 10, 2025		
Job Hazard Analysis Developed by:	EK		
Job Hazard Analysis Reviewed by:	EK		

POTENTIAL HAZARDS DURING THIS TASK and/or OPERATION			
Chemical*	**Physical**	**Biological**	**Radiological**
» VOCs	» Electrical » Drilling Operations » Flammable Liquids - Storage and Use » Hand Tool Use » Heavy Manual Lifting/Moving » Material Handling » Noise (Sound Pressure Level), dBA » Sharp Objects » Slips/Trips/Falls » Traffic - On or Near Site » Utilities (electrical, gas, water, etc.) • Overhead » Utilities (electrical, gas, water, etc.) • Underground		

HAZARD CONTROL MEASURES USED DURING THIS TASK and/or OPERATION	
Administrative Controls:	Log In/Out Sheets
Engineering Controls:	N/A

PPE Description:

Component	Description
Level A Ensemble	
Boots, chemical-resistant, steel toe and shank	
Gloves, inner, chemical-resistant	
Gloves, outer, chemical-resistant	
Supplied Air Respirator - air-line	
Totally-encapsulating vapor tight chemical protective suit	
Level B Ensemble	
Boots, chemical-resistant, steel toe and shank	
Disposable one-piece hooded chemical resistant splash clothing suit	
Gloves, inner, chemical-resistant	
Gloves, outer, chemical-resistant	

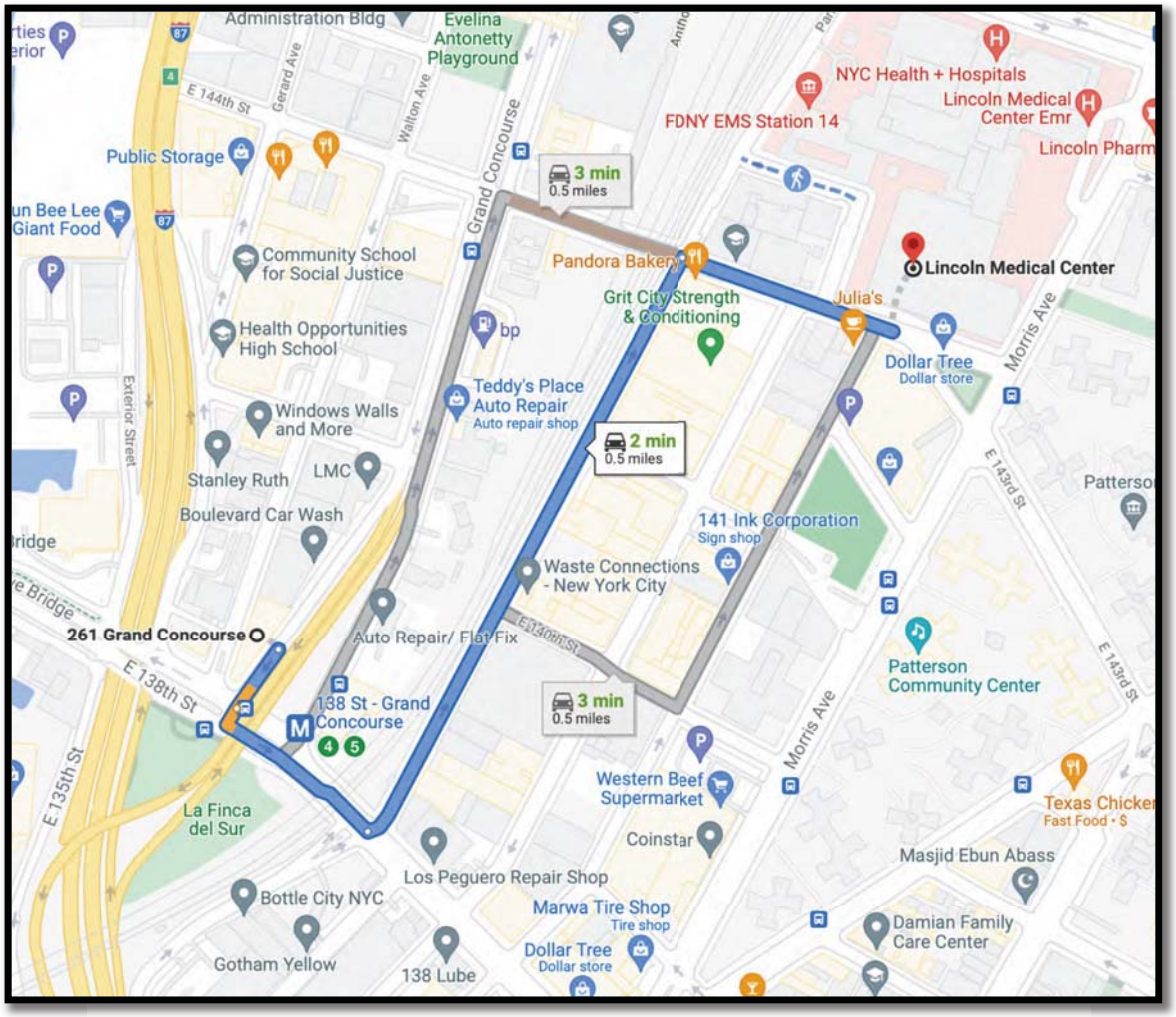
	Supplied Air Respirator - air-line
	Level C Ensemble
	Air purifying respirator - full face
	Boots, chemical-resistant, steel toe and shank
	Coveralls
	Disposable one-piece hooded chemical resistant splash clothing suit
	Escape Mask
	Gloves, inner, chemical-resistant
	Gloves, outer, chemical-resistant
	Level D Ensemble
	Dust Mask
	Escape Mask
Air-Purifying Respirator Cartridge/Canister Change Schedule:	
Decon Procedures for People & Equipment:	Alconox Tap Water Distilled Water
Required Permit(s):	
Other Information:	*Detailed Chemical Information is listed on attached Hazardous Substance Profiles and/or SDS

*Detailed Chemical Information is listed on attached Hazardous Substance Profiles and/or SDS

Attachment 3

Directions to Hospital

Directions to Hospital



261 Grand Concourse

Bronx, NY 10451

Head southwest on Grand Concourse toward E 138th St

164 ft

Turn left at the 1st cross street onto E 138th St

446 ft

Turn left onto Park Ave

0.3 mi

Turn right onto E 144th St

Destination will be on the left

0.1 mi

Lincoln Medical Center

234 E 149th St, Bronx, NY 10451

APPENDIX H
SITE MANAGEMENT FORMS

SSDS Site Inspection Form

This form shall be completed as part of the routine inspection program for the active Sub-Slab Depressurization System (SSDS) in accordance with the Site Management Plan (SMP).

Site Information

Site Name: Copyrite Plastic Sheets Site

BCP Site No.: C203151

Inspection Date: _____

Inspector Name/Company: _____

Weather Conditions: _____

1. System Operation

SSDS fan #1 operational: ☐ Yes ☐ No

SSDS fan #2 operational: ☐ Yes ☐ No

SSDS fan #3 operational: ☐ Yes ☐ No

SSDS fan #4 operational: ☐ Yes ☐ No

SSDS fan #5 operational: ☐ Yes ☐ No

SSDS fan #6 operational: ☐ Yes ☐ No

SSDS fan #7 operational: ☐ Yes ☐ No

Audible noise or vibration detected from fans/blowers: ☐ Yes ☐ No

Notes:

System operating under negative pressure at accessible monitoring points: ☐ Yes ☐ No

Notes:

2. Visual Inspection

Riser pipes intact and free of damage/corrosion: ☐ Yes ☐ No

Notes:

Manifolded and non-manifolded loop connections secure: ☐ Yes ☐ No

Notes:

Slab penetrations sealed and undamaged: ☐ Yes ☐ No

Notes:

Rooftop vent terminations free of obstructions and in good condition: ☐ Yes ☐ No

Notes:

Labels legible and affixed to all system components: ☐ Yes ☐ No

Notes:

3. Pressure Monitoring

Record pressure readings at each monitoring point:

Monitoring Point #1 Pressure: _____ in WC

Monitoring Point #2 Pressure: _____ in WC

Monitoring Point #3 Pressure: _____ in WC

Monitoring Point #4 Pressure: _____ in WC

Monitoring Point #5 Pressure: _____ in WC

Monitoring Point #6 Pressure: _____ in WC

Monitoring Point #7 Pressure: _____ in WC

Monitoring Point #8 Pressure: _____ in WC

Monitoring Point #9 Pressure: _____ in WC

Monitoring Point #10 Pressure: _____ in WC

Monitoring Point #11 Pressure: _____ in WC

Monitoring Point #12 Pressure: _____ in WC

Monitoring Point #13 Pressure: _____ in WC

Monitoring Point #14 Pressure: _____ in WC

Monitoring Point #15 Pressure: _____ in WC

Monitoring Point #16 Pressure: _____ in WC

Monitoring Point #17 Pressure: _____ in WC

4. Electrical and Alarms

Electrical circuit functional and properly connected: ☐ Yes ☐ No

Notes:

Alarm/switch operational: ☐ Yes ☐ No

Notes:

5. General Observations

_____

_____

_____

6. Corrective Actions Required

Any component requiring maintenance or replacement? ☐ Yes ☐ No

If yes, describe corrective actions taken or recommended:

_____

_____

Inspector Signature

Signature: _____

Date: _____

Summary of Green Remediation Metrics for Site Management

Site Name: _____ Site Code: _____
Address: _____ City: _____
State: _____ Zip Code: _____ County: _____

Initial Report Period (Start Date of period covered by the Initial Report submittal)
Start Date: _____

Current Reporting Period
Reporting Period From: _____ To: _____

Contact Information
Preparer's Name: _____ Phone No.: _____
Preparer's Affiliation: _____

I. Energy Usage: Quantify the amount of energy used directly on-site and the portion of that derived from renewable energy sources.

	Current Reporting Period	**Total to Date**
Fuel Type 1 (e.g. natural gas (cf))		
Fuel Type 2 (e.g. fuel oil, propane (gals))		
Electricity (kWh)		
Of that Electric usage, provide quantity:		
Derived from renewable sources (e.g. solar, wind)		
Other energy sources (e.g. geothermal, solar thermal (Btu))		

Provide a description of all energy usage reduction programs for the site in the space provided on Page 3.

II. Solid Waste Generation: Quantify the management of solid waste generated on-site.

	Current Reporting Period (tons)	**Total to Date (tons)**
Total waste generated on-site		
OM&M generated waste		
Of that total amount, provide quantity:		
Transported off-site to landfills		
Transported off-site to other disposal facilities		
Transported off-site for recycling/reuse		
Reused on-site		

Provide a description of any implemented waste reduction programs for the site in the space provided on Page 3.

III. Transportation/Shipping: Quantify the distances travelled for delivery of supplies and lab-supplied bottles, shipping of laboratory samples, and the removal of waste.

	Current Reporting Period (miles)	**Total to Date (miles)**
Standby Engineer/Contractor		
Laboratory Courier/Delivery Service (bottle and sample delivery)		
Waste Removal/Hauling		

Provide a description of all mileage reduction programs for the site in the space provided on Page 3. Include specifically any local vendor/services utilized that are within 50 miles of the site.

IV. Water Usage: Quantify the volume of water used on-site from various sources.

	Current Reporting Period (gallons)	**Total to Date (gallons)**
Total quantity of water used on-site (not including treated water)		
Of that total amount, provide quantity:		
Public potable water supply usage		
Surface water usage		
On-site groundwater usage		
Collected or diverted storm water usage		

Provide a description of any implemented water consumption reduction programs for the site in the space provided on Page 3.

V. Land Use and Ecosystems: Quantify the amount of land and/or ecosystems disturbed and the area of land and/or ecosystems restored to a pre-development condition (i.e. Green Infrastructure).

	Current Reporting Period (acres)	**Total to Date (acres)**
Land disturbed		
Land restored		

Provide a description of any implemented land restoration/green infrastructure programs for the site in the space provided on Page 3.

Description of green remediation programs reported above (Attach additional sheets if needed)
Energy Usage:
Waste Generation:
Transportation/Shipping:
Water usage:
Land Use and Ecosystems:
Recommendations/Other:

CONTRACTOR CERTIFICATION
I, _____ (**Name**) do hereby certify that I am _____ (**Title**) of _____ (**Contractor Name**), which is responsible for the work documented on this form. According to my knowledge and belief, all of the information provided in this form is accurate and the site management program complies with the DER-10, DER-31, and CP-49 policies. _____ **Date** **Contractor**

APPENDIX I

O&M MANUAL FOR ACTIVE SUB-SLAB DEPRESSURIZATION SYSTEM

1. Introduction

This Operations and Maintenance (O&M) Plan outlines the procedures and responsibilities for the continued operation, inspection, monitoring, and maintenance of the active sub-slab depressurization system (SSDS) installed beneath both buildings at the Site. The SSDS was implemented as an engineering control to mitigate potential vapor intrusion and must remain in continuous operation as part of the long-term Site Management requirements in accordance with the requirements of the New York State Department of Environmental Conservation (NYSDEC).

2. System Description

The SSDS consists of nine (9) horizontal loops installed within a 6-inch-thick gas-permeable layer of ¾-inch gravel located beneath the full extent of the concrete slab foundations of both buildings. The loops are constructed of 4-inch Schedule 40 perforated, corrugated PVC piping. Each loop is connected to a 6-inch diameter cast iron riser pipe that penetrates the slab and extends vertically through the building to the rooftop, where system fans or blowers discharge vapors to the atmosphere. A vapor barrier membrane was installed over the gravel layer and below the concrete slab to enhance vapor mitigation. Each SSDS loop includes a stub extending above the first-floor slab. Loops 1 and 2, Loops 5 and 6, and Loops 7 and 8 are manifolded at the first-floor level, while Loops 3, 4, and 9 remain independent. A total of seventeen (17) pressure/monitoring points have been installed throughout the ground floor slab of both buildings. These points provide access for periodic pressure measurements and future vapor sampling to verify the continued effectiveness of the SSDS.

3. Operational Requirements

The SSDS is designed to operate continuously and must be maintained in an active state at all times. Rooftop fans must be powered and operational to maintain negative pressure beneath the slab relative to indoor air. The system is connected to a dedicated power supply. Any interruption in power should be immediately addressed. In the event of fan failure or loss of power, temporary repairs or system shutoffs must not exceed 24 hours without notification to NYSDEC.

4. Inspection and Monitoring Requirements

4.1 Inspection Frequency

Inspections shall be performed on a quarterly basis for the first year by a QEP/PE and annually thereafter. Routine inspections will be conducted by trained building personnel on a monthly basis. Quarterly inspections shall include both visual and performance-based checks. Additional inspections may be conducted following significant weather events, power outages, or complaints of odors or air quality concerns.

4.2 Inspection Components

Quarterly inspections must include the following elements:

- Visual Inspection of System Components:
- Inspect riser pipes and manifolds for damage, corrosion, or displacement.
- Check exposed for secure connections and evidence of leaks or cracks.
- Inspect rooftop blower/fan units for noise, vibration, or signs of wear.
- Confirm integrity of rooftop vent terminations (e.g., screens in place, no blockages).

Performance Verification:

- Verify operation of fans/blowers by listening for airflow and checking for negative pressure at accessible monitoring points.
- Use a pressure gauge or digital manometer to measure and record vacuum readings at representative pressure/monitoring points.
- Confirm that pressure readings meet or exceed design specifications for sub-slab vacuum.

Electrical and Power Supply:

- Confirm that the dedicated electrical circuit to the SSDS is functioning and protected from interruption.
- Inspect any installed control panels, alarms, or switches for operability and secure connections.

General Site Conditions:

- Assess areas surrounding SSDS risers and penetrations for signs of construction damage, water intrusion, or tampering.
- Confirm that SSDS labels, if present, remain legible and affixed to risers and fan enclosures.

5. Maintenance Procedures

- Replace rooftop fans/blowers according to manufacturer-recommended intervals or if performance degrades.
- Repair or replace damaged piping, seals, or riser components as necessary.
- Any significant alterations to the system layout or configuration must be performed under the supervision of the Remedial Engineer and documented accordingly.

- Maintain access to pressure/monitoring points and ensure they are capped and labeled between uses.

6. Recordkeeping and Reporting

All inspection records must be documented in a log and retained in the Site files. Records must include the date of inspection, name of inspector, summary of observations, pressure measurements, corrective actions taken (if any), and photographs of key system components, as applicable. These records will support the preparation of the required annual Periodic Review Report (PRR) to be submitted to the NYSDEC.

7. Notification Requirements

The Site Owner or Remedial Party must notify the New York State Department of Environmental Conservation (NYSDEC) of any SSDS failure or interruption exceeding 24 hours, or of any system alterations that may impact its design or performance.

INSTALLATION & OPERATING INSTRUCTIONS
Instruction P/N IN015 Rev E
FOR *CHECKPOINT IIa*™ P/N 28001-2 & 28001-3
RADON SYSTEM ALARM

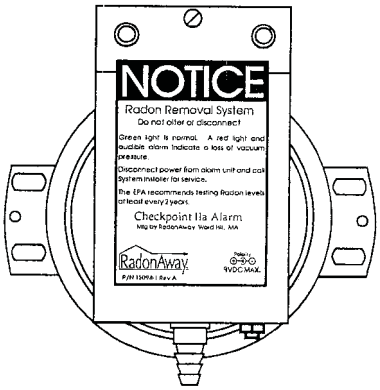
INSTALLATION INSTRUCTIONS
(WALL MOUNTING)

Select a suitable wall location near a vertical section of the suction pipe. The unit should be mounted about four or five feet above the floor and as close to the suction pipe as possible. Keep in mind that with the plug-in transformer provided, the unit must also be within six feet of a 120V receptacle. **NOTE: The Checkpoint IIa is calibrated for vertical mounting, horizontal mounting will affect switchpoint calibration.**

Drill two ¼" holes 4" apart horizontally where the unit is to be mounted.

Install the two ¼" wall anchors provided.

Hang the CHECKPOINT IIa from the two mouting holes located on the mounting bracket. Tighten the mounting screws so the unit fits snugly and securely against the wall.



Drill a 5/16" hole into the side of the vent pipe about 6" higher than the top of the unit.

Insert the vinyl tubing provided about 1" inside the suction pipe.

Cut a suitable length of vinyl tubing and attach it to the pressure switch connector on the CHECKPOINT IIa.

CALIBRATION AND OPERATION.

The CHECKPOINT IIa units are calibrated and sealed at the factory to alarm when the vacuum pressure falls below the factory setting and should not normally require field calibration. Factory Settings are:
28001-2 -.25" WC Vacuum
28001-3 -.10" WC Vacuum

To Verify Operation:

With the exhaust fan off or the pressure tubing disconnected and the CHECKPOINT IIa plugged in, both the red indicator light and the audible alarm should be on.

Turn the fan system on or connect the pressure tubing to the fan piping. The red light and the audible alarm should go off. The green light should come on.

Now turn the fan off. The red light and audible alarm should come on in about two or three seconds and the green light should go out.

WARRANTY INFORMATION

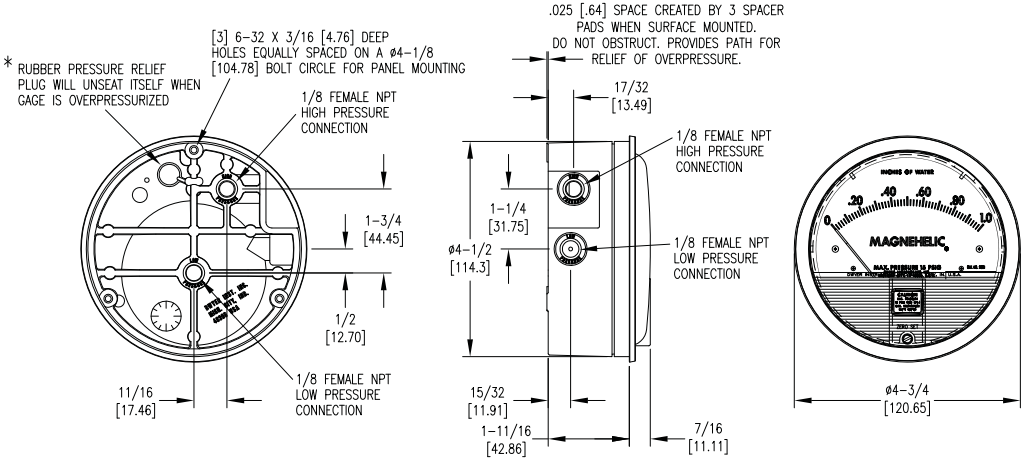
Subject to applicable consumer protection legislation, RadonAway warrants that the CHECKPOINT IIa will be free from defective material and workmanship for a period of (1) year from the date of purchase. Warranty is contingent on installation in accordance with the instructions provided. This warranty does not apply where repairs or alterations have been made or attempted by others; or the unit has been abused or misused. Warranty does not include damage in shipment unless the damage is due to the negligence of RadonAway. All other warranties, expressed or written, are not valid. To make a claim under these limited warranties, you must return the defective item to RadonAway with a copy of the purchase receipt. RadonAway is not responsible for installation or removal cost associated with this warranty. In no case is RadonAway liable beyond the repair or replacement of the defective product FOB RadonAway.

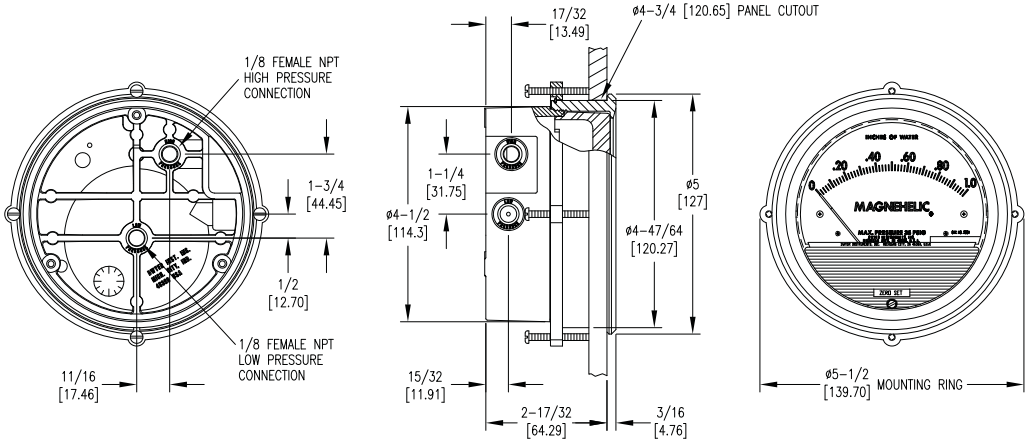
THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THERE IS NO WARRANTY OF MERCHANTIBILITY. ALL OTHER WARRANTIES, EXPRESSED OR WRITTEN, ARE NOT VALID.

For service under these warranties, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. **No returns can be accepted without an RMA.** If factory return is required, the customer assumes all shipping costs to and from factory.

Manufactured by:
RadonAway
Ward Hill, MA
(978)-521-3703

12-700060-05





CD = CRITICAL DIMENSION

STANDARD TOLERANCES UNLESS NOTED:
ALL DECIMAL DIMENSIONS ± .005
ALL ANGLES ± 1°

SCALE 1:2

NO.	CHANGES	BY/DATE

DATE
DWN BY
CHKD
APPD

NAME: 2000 MAGNEHELIC ARTWORK (FOR REFERENCE ONLY)

ACAD2002

MATERIAL

FINISH

DWYER INSTRUMENTS, INC.
MICHIGAN CITY, INDIANA 46360 U.S.A.

FR. NO. 12-700060-05

RadonAway

RP PRO SERIES

Installs white, stays white

Radon Mitigation Fan

All RadonAway® fans are specifically designed for radon mitigation. RP Series Fans provide superb performance, run ultra-quiet and are attractive. They are ideal for most sub-slab radon mitigation systems.

Features

- Eternalast™ polycarbonate plastic housing
- Energy efficient
- Ultra-quiet operation
- Meets all electrical code requirements
- Water-hardened motorized impeller
- Seams sealed to inhibit radon leakage (RP140 & RP145 double snap sealed)
- ETL Listed - for indoor or outdoor use
- Thermally protected motor
- Rated for commercial and residential use
- HVI certified fan performance

MODEL	P/N	FAN DUCT DIAMETER	WATTS	RECOM. MAX. OP. PRESSURE "WC	TYPICAL CFM vs. STATIC PRESSURE WC					
					0"	.2"	.5"	1.0"	1.5"	2.0"
RP140†	28460	4"	17-21	0.7	138	110*	66*	-	-	-
RP145	28461	4"	34-66	1.7	169	150*	124*	81*	42	4
RP260	28462	6"	47-65	1.3	251	210*	157	70	-	-
RP265	28463	6"	96-136	2.3	375	340*	282*	204*	140	70
RP380	28464	8"	96-138	2.0	531	490*	415*	268*	139	41

*HVI Certified Values. †Energy Star® Rated.

Model	A	B	C
RP140	4.5"	9.7"	8.5"
RP145	4.5"	9.7"	8.5"
RP260	6"	11.75"	8.6"
RP265	6"	11.75"	8.6"
RP380	8"	13.41"	10.53"

MADE IN USA

ETL Listed

All RadonAway® inline radon fans are covered by our 5-year, hassle-free warranty.

RP140 Only

Rev J 0322
P/N 02047

APPENDIX J
REMEDIAL SYSTEM OPTIMIZATION TABLE OF CONTENTS

REMEDIAL SYSTEM OPTIMIZATION FOR COPYRITE PLASTIC SHEETS SITE

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APPENDIX K

REQUEST TO IMPORT/REUSE FILL MATERIAL FORM

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Request to Import/Reuse Fill or Soil

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

SECTION 1 – SITE BACKGROUND

The allowable site use is: Choose an item

Have Ecological Resources been identified? Choose an item

Is this soil originating from the site? Choose an item

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

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

SECTION 2 – MATERIAL OTHER THAN SOIL

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

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

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

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

SECTION 3 - SAMPLING

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

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

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

SECTION 3 CONT'D - SAMPLING

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

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

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

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

Location where fill was obtained:

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

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

Provide a list of supporting documentation included with this request:

The information provided on this form is accurate and complete.

_____ _____

Signature Date

_____

Print Name

_____

Firm

Revised April 2023

APPENDIX L
GSR SUMMARY

Environmental Footprint Summary

Core Element	Metric		Unit of Measure	Footprint			
				Post-Construction Sampling & Site Inspections	Post-Construction Monitoring Well Installation	Post-Construction Soil Vapor Intrusion	Total
Materials & Waste	M&W-1	Refined materials used on-site	Tons	0.0	0.0	0.0	0.0
	M&W-2	% of refined materials from recycled or reused material	%				
	M&W-3	Unrefined materials used on-site	Tons	0.000	0.000	0.001	0.0
	M&W-4	% of unrefined materials from recycled or reused material	%			0.0%	0.0%
	M&W-5	On-site hazardous waste disposed of off-site	Tons	0.0	0.0	0.0	0.0
	M&W-6	On-site non-hazardous waste disposed of off-site	Tons	0.0	0.0	0.0	0.0
	M&W-7	Recycled or reused waste	Tons	0.0	1.0	0.0	1.0
	M&W-8	% of total potential waste recycled or reused	%		100.0%		100.0%
Water (used on-site)	W-1	Public water use	MG	0.0	0.0	0.0	0.0
	W-2	Groundwater use	MG	0.0	0.0	0.0	0.0
	W-3	Surface water use	MG	0.0	0.0	0.0	0.0
	W-4	Reclaimed water use	MG	0.0	0.0	0.0	0.0
	W-5	Storm water use	MG	0.0	0.0	0.0	0.0
	W-6	User-defined water resource #1	MG	0.0	0.0	0.0	0.0
	W-7	User-defined water resource #2	MG	0.0	0.0	0.0	0.0
	W-8	Wastewater generated	MG	0.1	0.0	0.0	0.1
Energy	E-1	Total energy used (on-site and off-site)	MMBtu	25.5	70.5	2.9	98.9
	E-2	Energy voluntarily derived from renewable resources					
	E-2A	On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	0.0	0.0	0.0	0.0
	E-2B	Voluntary purchase of renewable electricity	MWh	0.0	0.0	0.0	0.0
	E-3	Voluntary purchase of RECs	MWh	0.0	0.0	0.0	0.0
	E-4	On-site grid electricity use	MWh	0.000	0.000	0.000	0.0
Air	A-1	On-site NOx, SOx, and PM emissions	Pounds	0.0	0.0	0.0	0.0
	A-2	On-site HAP emissions	Pounds	0.0	0.0	0.0	0.0
	A-3	Total NOx, SOx, and PM emissions	Pounds	28.8	48.5	3.6	80.9
	A-3A	Total NOx emissions	Pounds	21.4	41.9	1.6	64.8
	A-3B	Total SOx emissions	Pounds	6.3	4.1	1.7	12.1
	A-3C	Total PM emissions	Pounds	1.2	2.5	0.3	4.0
	A-4	Total HAP emissions	Pounds	0.9	2.2	0.3	3.3
	A-5	Total greenhouse gas emissions	Tons CO2e*	2.1	5.4	0.2	7.6
Land & Ecosystems	Qualitative Description						

** Total greenhouse gases emissions (in CO2e) include consideration of CO2, CH4, and N2O (Nitrous oxide) emissions.*

"MMBtu" = millions of Btus

"MG" = millions of gallons

"CO2e" = carbon dioxide equivalents of global warming potential

"MWh" = megawatt hours (i.e., thousands of kilowatt-hours or millions of Watt-hours)

"Tons" = short tons (2,000 pounds)

The above metrics are consistent with EPA's Methodology for Understanding and Reducing a Project's Environmental Footprint (EPA 542-R-12-002), February 2012

Notes: Quarterly groundwater monitoring and sampling for 4 quarters, installation of 3 monitoring wells in the sidewalk adjacent 315 Grand Concourse, soil vapor intrusion evaluation, and annual visits for 5 years

Post-Construction Sampling & Site Inspections - Energy & Air Compiled Results

Category	Total Energy	GHG	NOx	SOx	PM	NOx + SOx + PM	HAPs
	MMbtus	lbs CO2e	lbs	lbs	lbs	lbs	lbs
On-site (Scope 1)	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Grid Electricity Generation (Scope 2)	**0.002**	**0**	**0**	**0**	**0**	**0**	**0**
Transportation (Scope 3a)	**19**	**3,124**	**17**	**1**	**0**	**18**	**0**
Other Off-Site (Scope 3b)	**6**	**1,010**	**4**	**6**	**1**	**10**	**1**
Remedy Totals	**25**	**4,135**	**21**	**6**	**1**	**29**	**1**

Values that are forwarded to the "Summary" tab are indicated in orange.

Voluntary Renewable Energy Use	Unit	Quantity	
On-site renewable energy generation or use	MMBtu	**0**	
On-site biodiesel use	MMBtu	**0**	
Biodiesel and other renewable resource use for transportation	MMBtu	**0**	
On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	**0**	*(This value is the sum of the three rows above)*
Voluntary purchase of renewable electricity	MWh	**0**	
Voluntary purchase of RECs	MWh	**0**	

This worksheet is not intended for user input. Values on this worksheet are obtained from the following file: SEFA_calculations_revisedWytheSMP.xlsx

Post-Construction Soil Vapor Intrusion Evaluation - Energy & Air Compiled Results

Category	Total Energy	GHG	NOx	SOx	PM	NOx + SOx + PM	HAPs
	MMbtus	lbs CO2e	lbs	lbs	lbs	lbs	lbs
On-site (Scope 1)	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Grid Electricity Generation (Scope 2)	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Transportation (Scope 3a)	**2**	**305**	**1**	**0**	**0**	**1**	**0**
Other Off-Site (Scope 3b)	**1**	**108**	**1**	**2**	**0**	**3**	**0**
Remedy Totals	**3**	**413**	**2**	**2**	**0**	**4**	**0**

Values that are forwarded to the "Summary" tab are indicated in orange.

Voluntary Renewable Energy Use	Unit	Quantity	
On-site renewable energy generation or use	MMBtu	**0**	
On-site biodiesel use	MMBtu	**0**	
Biodiesel and other renewable resource use for transportation	MMBtu	**0**	
On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	**0**	*(This value is the sum of the three rows above)*
Voluntary purchase of renewable electricity	MWh	**0**	
Voluntary purchase of RECs	MWh	**0**	

This worksheet is not intended for user input. Values on this worksheet are obtained from the following file: SEFA_calculations_revisedWytheSMP.xlsx

Post-Construction Monitoring Well Installation - Energy & Air Compiled Results

Category	Total Energy	GHG	NOx	SOx	PM	NOx + SOx + PM	HAPs
	MMbtus	lbs CO2e	lbs	lbs	lbs	lbs	lbs
On-site (Scope 1)	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Grid Electricity Generation (Scope 2)	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Transportation (Scope 3a)	**57**	**9,129**	**39**	**1**	**1**	**41**	**2**
Other Off-Site (Scope 3b)	**14**	**1,600**	**3**	**3**	**1**	**7**	**0**
Remedy Totals	**70**	**10,729**	**42**	**4**	**2**	**48**	**2**

Values that are forwarded to the "Summary" tab are indicated in orange.

Voluntary Renewable Energy Use	Unit	Quantity	
On-site renewable energy generation or use	MMBtu	**0**	
On-site biodiesel use	MMBtu	**0**	
Biodiesel and other renewable resource use for transportation	MMBtu	**0**	
On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	**0**	*(This value is the sum of the three rows above)*
Voluntary purchase of renewable electricity	MWh	**0**	
Voluntary purchase of RECs	MWh	**0**	

This worksheet is not intended for user input. Values on this worksheet are obtained from the following file: SEFA_calculations_revisedWytheSMP.xlsx

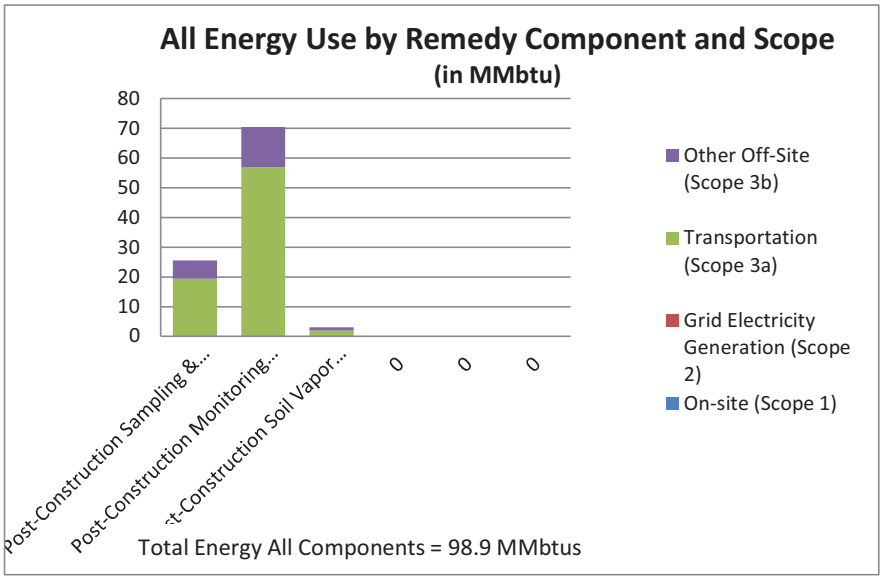
All - Energy & Air Compiled Results

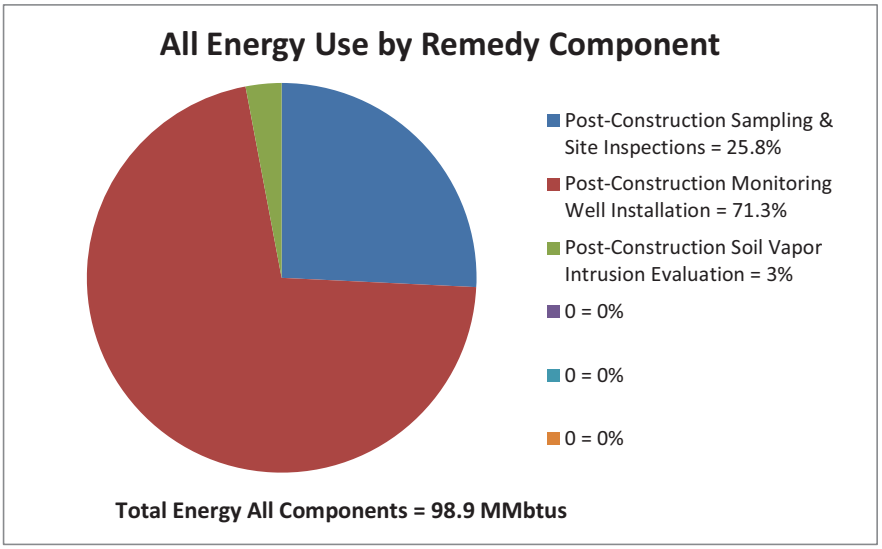
Category	Total Energy	GHG	NOx	SOx	PM	NOx + SOx + PM	HAPs
	MMbtus	lbs CO2e	lbs	lbs	lbs	lbs	lbs
On-site (Scope 1)	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Grid Electricity Generation (Scope 2)	**0.003**	**0**	**0**	**0**	**0**	**0**	**0**
Transportation (Scope 3a)	**78**	**12,558**	**57**	**2**	**2**	**61**	**2**
Other Off-Site (Scope 3b)	**21**	**2,718**	**8**	**10**	**2**	**20**	**1**
Remedy Totals	**99**	**15,277**	**65**	**12**	**4**	**81**	**3**

Values that are forwarded to the "Summary" tab are indicated in orange.

Voluntary Renewable Energy Use	Unit	Quantity	
On-site renewable energy generation or use	MMBtu	**0**	
On-site biodiesel use	MMBtu	**0**	
Biodiesel and other renewable resource use for transportation	MMBtu	**0**	
On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	**0**	*(This value is the sum of the three rows above)*
Voluntary purchase of renewable electricity	MWh	**0**	
Voluntary purchase of RECs	MWh	**0**	

This worksheet is not intended for user input. Values on this worksheet are obtained from the following file: SEFA_calculations_revisedWytheSMP.xlsx


All Energy Use by Remedy Component and Scope
(in MMbtu)
80
70
60
50
40
30
20
10
0
Post-Construction Sampling &...
Post-Construction Monitoring...
Post-Construction Soil Vapor...
0
0
0
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
Total Energy All Components = 98.9 MMbtus


All Energy Use by Remedy Component
Post-Construction Sampling & Site Inspections = 25.8%
Post-Construction Monitoring Well Installation = 71.3%
Post-Construction Soil Vapor Intrusion Evaluation = 3%
0 = 0%
0 = 0%
0 = 0%
Total Energy All Components = 98.9 MMbtus

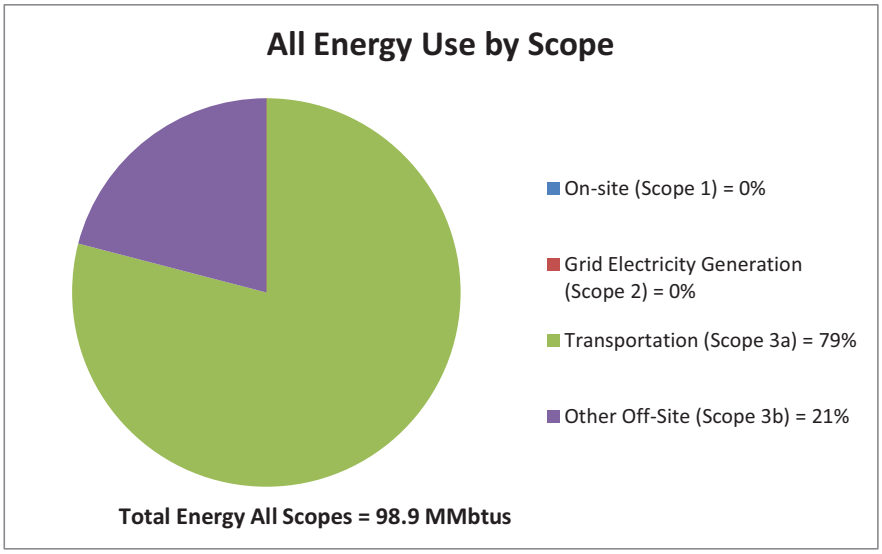
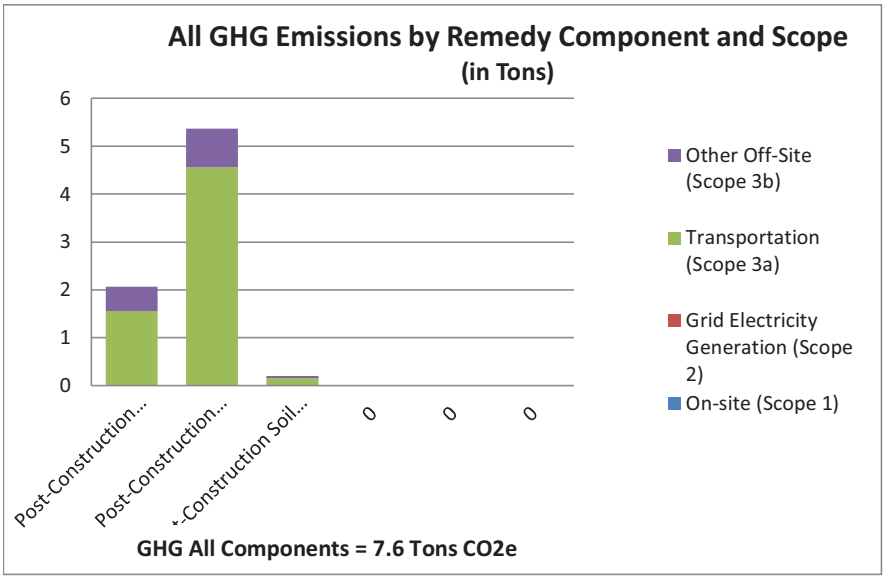
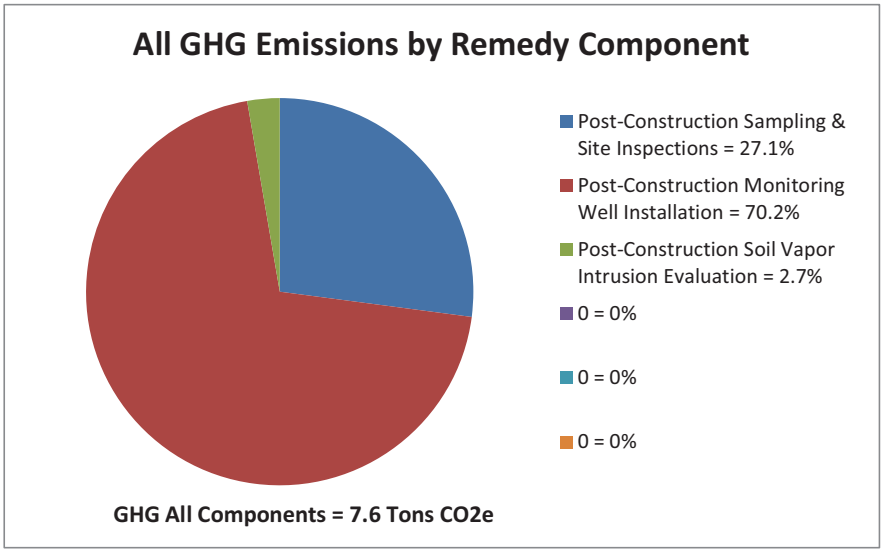

All Energy Use by Scope
On-site (Scope 1) = 0%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 79%
Other Off-Site (Scope 3b) = 21%
Total Energy All Scopes = 98.9 MMbtus

Figure 1


All GHG Emissions by Remedy Component and Scope
(in Tons)
6
5
4
3
2
1
0
Post-Construction...
Post-Construction...
Construction Soil...
0
0
0
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
GHG All Components = 7.6 Tons CO2e


All GHG Emissions by Remedy Component
Post-Construction Sampling & Site Inspections = 27.1%
Post-Construction Monitoring Well Installation = 70.2%
Post-Construction Soil Vapor Intrusion Evaluation = 2.7%
0 = 0%
0 = 0%
0 = 0%
GHG All Components = 7.6 Tons CO2e

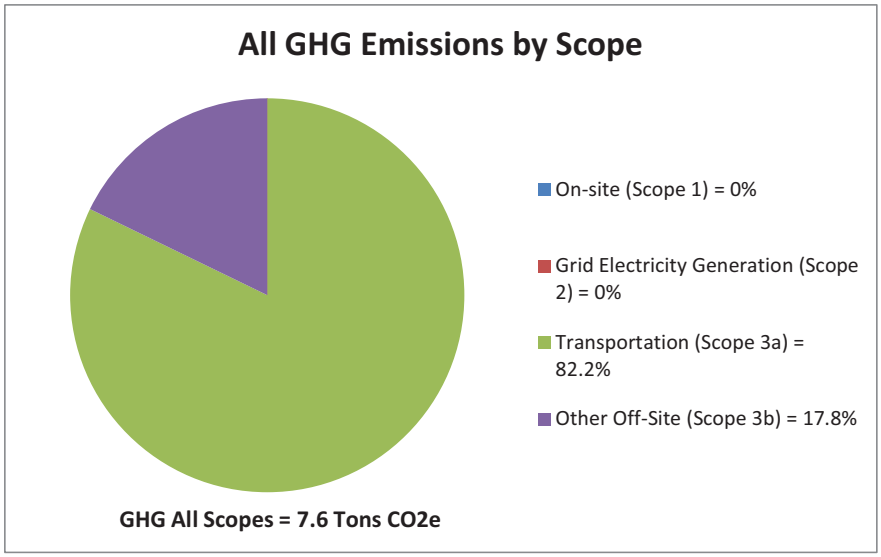
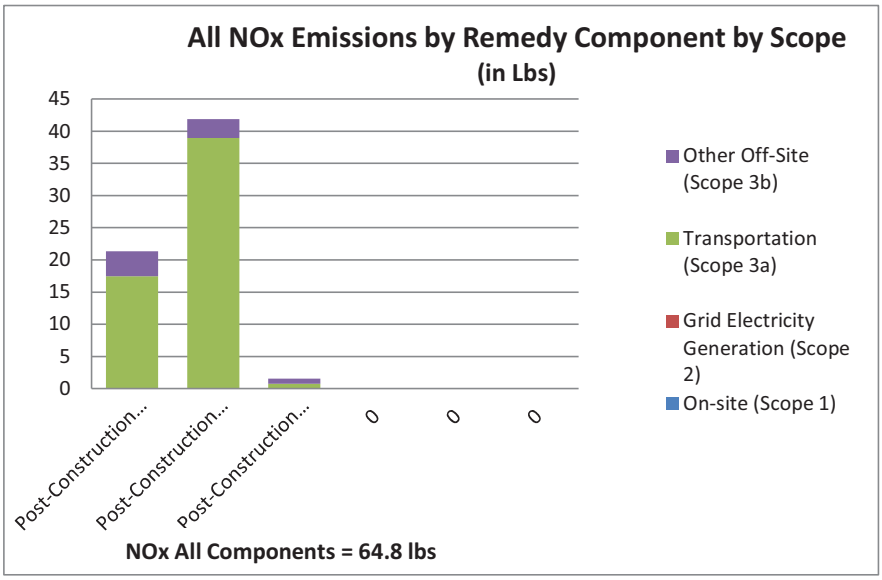
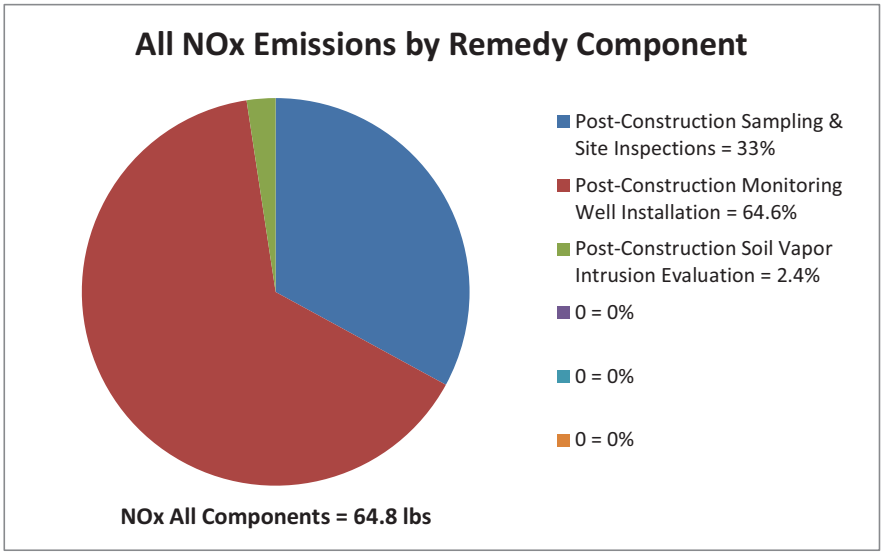

All GHG Emissions by Scope
On-site (Scope 1) = 0%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 82.2%
Other Off-Site (Scope 3b) = 17.8%
GHG All Scopes = 7.6 Tons CO2e

Figure 2


All NOx Emissions by Remedy Component by Scope
(in Lbs)
45
40
35
30
25
20
15
10
5
0
Post-Construction...
Post-Construction...
Post-Construction...
0
0
0
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
NOx All Components = 64.8 lbs


All NOx Emissions by Remedy Component
Post-Construction Sampling & Site Inspections = 33%
Post-Construction Monitoring Well Installation = 64.6%
Post-Construction Soil Vapor Intrusion Evaluation = 2.4%
0 = 0%
0 = 0%
0 = 0%
NOx All Components = 64.8 lbs

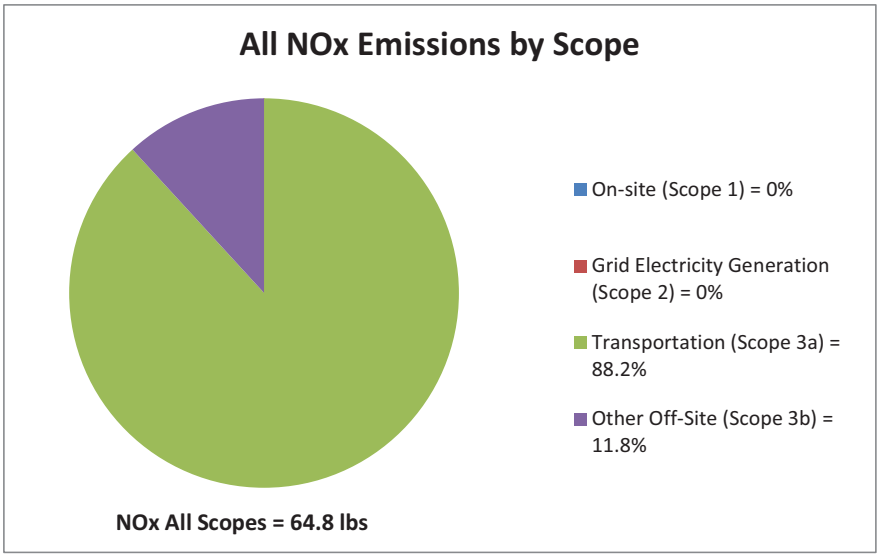
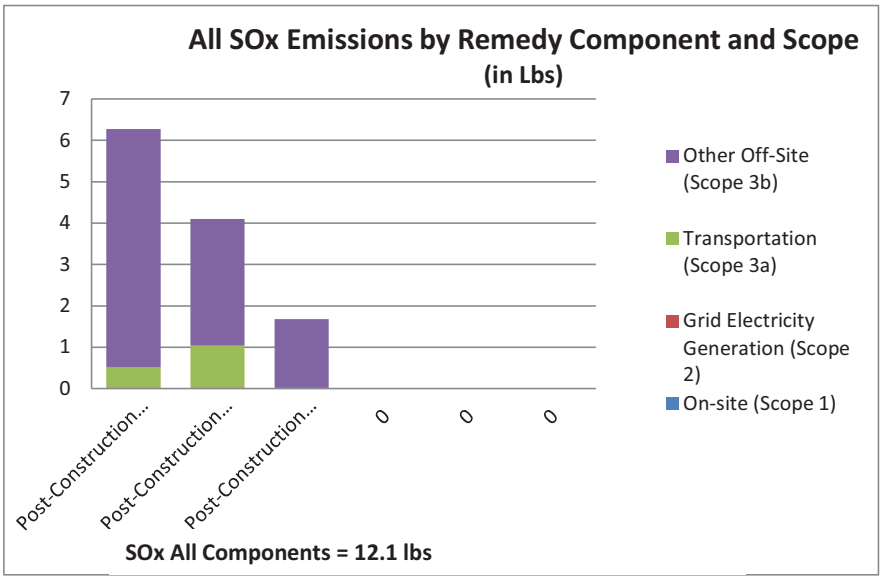
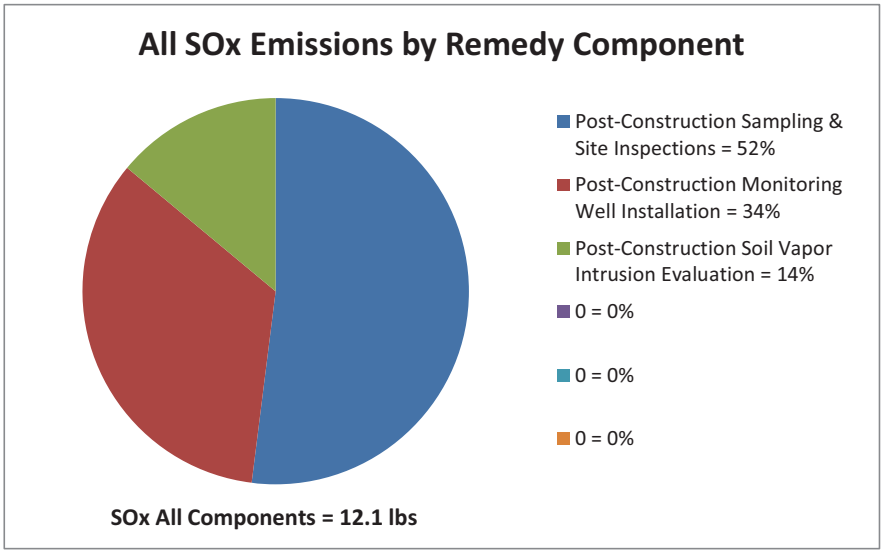

All NOx Emissions by Scope
On-site (Scope 1) = 0%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 88.2%
Other Off-Site (Scope 3b) = 11.8%
NOx All Scopes = 64.8 lbs

Figure 3


All SOx Emissions by Remedy Component and Scope
(in Lbs)
7
6
5
4
3
2
1
0
Post-Construction...
Post-Construction...
Post-Construction...
0
0
0
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
SOx All Components = 12.1 lbs


All SOx Emissions by Remedy Component
Post-Construction Sampling & Site Inspections = 52%
Post-Construction Monitoring Well Installation = 34%
Post-Construction Soil Vapor Intrusion Evaluation = 14%
0 = 0%
0 = 0%
0 = 0%
SOx All Components = 12.1 lbs

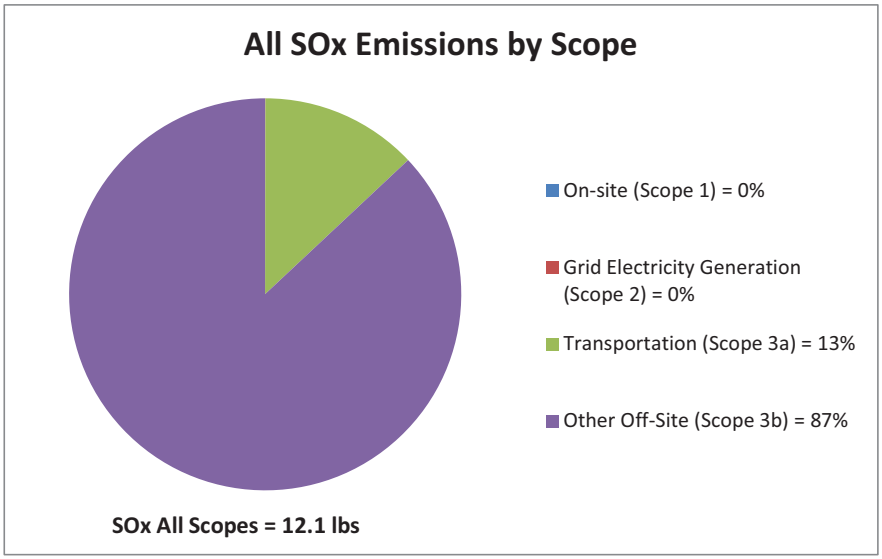
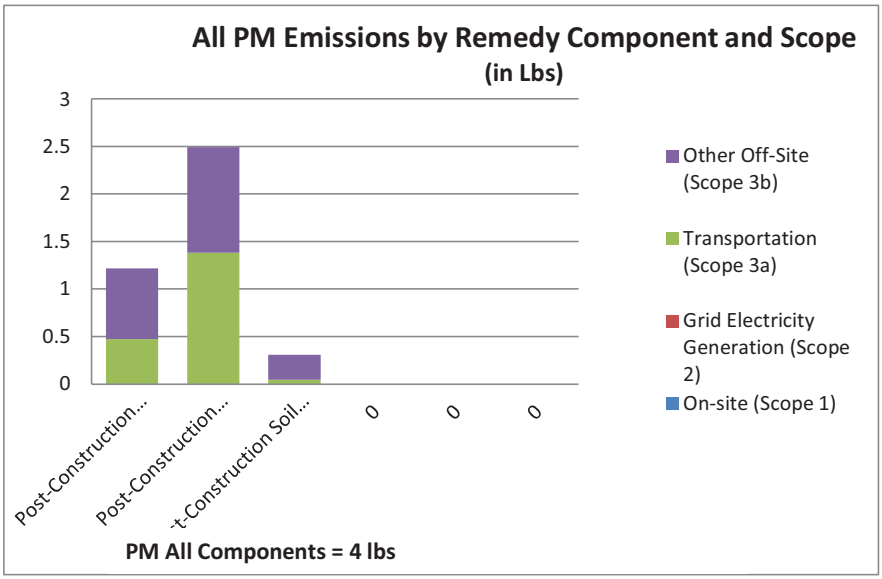
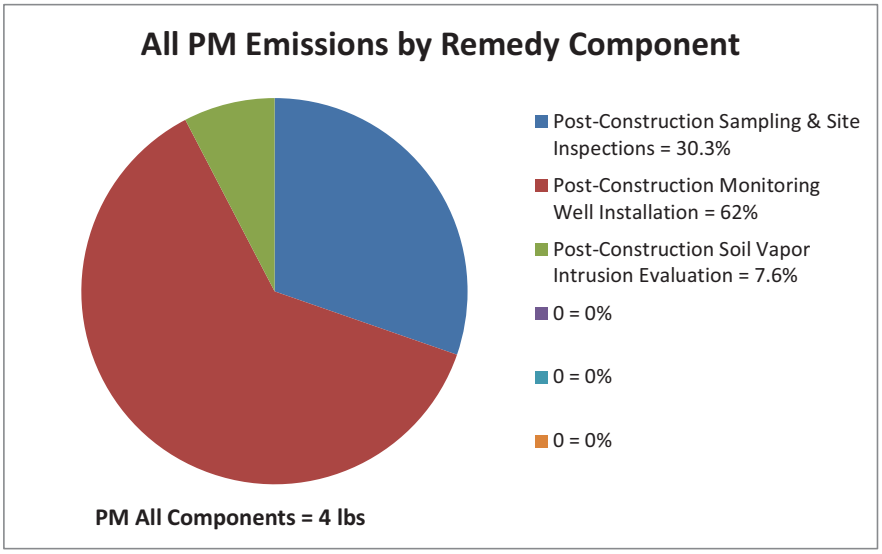

All SOx Emissions by Scope
On-site (Scope 1) = 0%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 13%
Other Off-Site (Scope 3b) = 87%
SOx All Scopes = 12.1 lbs

Figure 4


All PM Emissions by Remedy Component and Scope
(in Lbs)
3
2.5
2
1.5
1
0.5
0
Post-Construction...
Post-Construction...
-t-Construction Soil...
0
0
0
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
PM All Components = 4 lbs


All PM Emissions by Remedy Component
Post-Construction Sampling & Site Inspections = 30.3%
Post-Construction Monitoring Well Installation = 62%
Post-Construction Soil Vapor Intrusion Evaluation = 7.6%
0 = 0%
0 = 0%
0 = 0%
PM All Components = 4 lbs

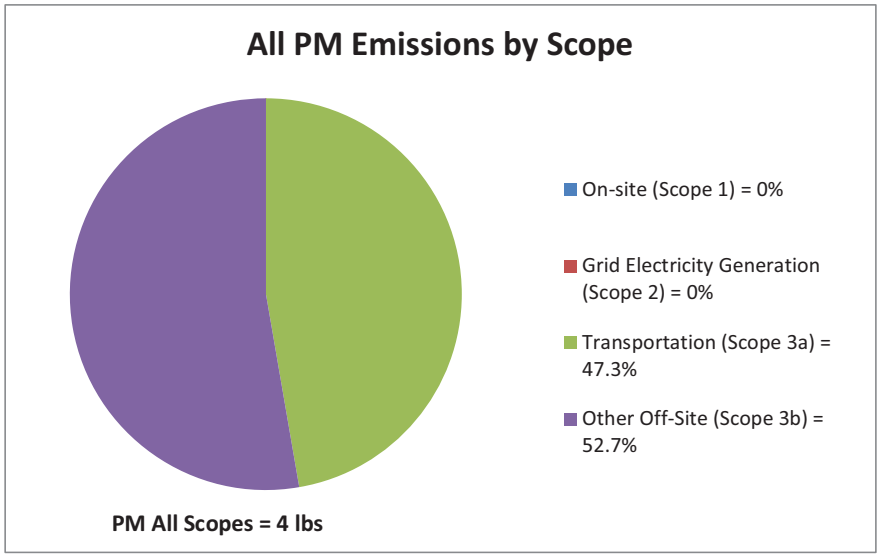
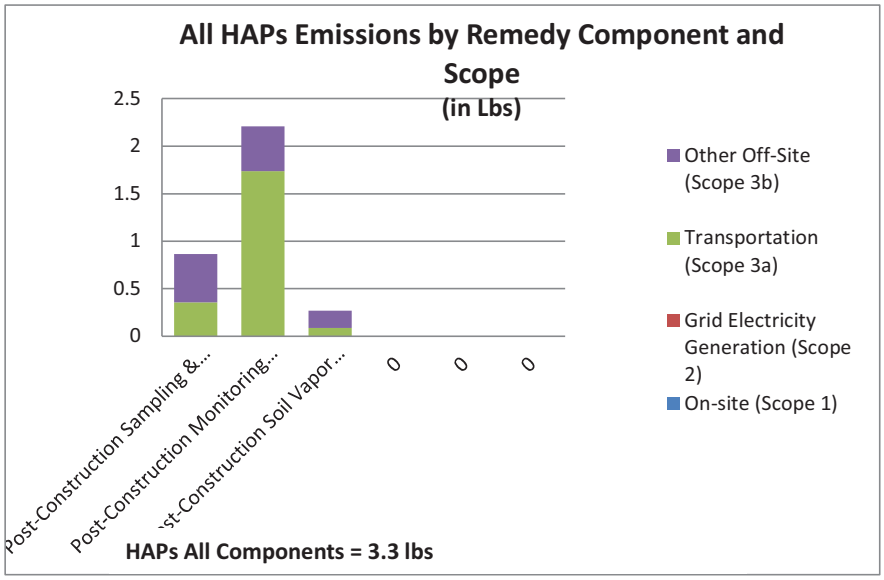
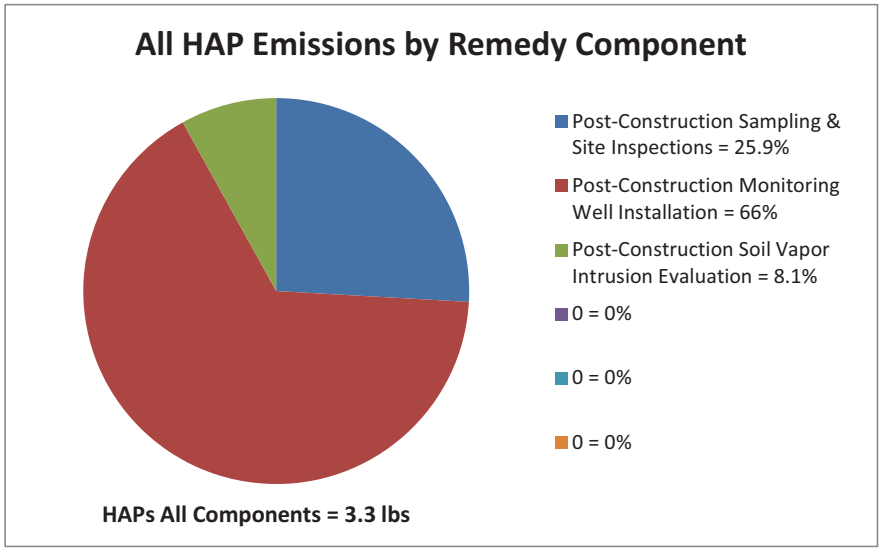

All PM Emissions by Scope
On-site (Scope 1) = 0%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 47.3%
Other Off-Site (Scope 3b) = 52.7%
PM All Scopes = 4 lbs

Figure 5


All HAPs Emissions by Remedy Component and Scope
(in Lbs)
2.5
2
1.5
1
0.5
0
Post-Construction Sampling &...
Post-Construction Monitoring...
-st-Construction Soil Vapor...
0
0
0
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
HAPs All Components = 3.3 lbs


All HAP Emissions by Remedy Component
Post-Construction Sampling & Site Inspections = 25.9%
Post-Construction Monitoring Well Installation = 66%
Post-Construction Soil Vapor Intrusion Evaluation = 8.1%
0 = 0%
0 = 0%
0 = 0%
HAPs All Components = 3.3 lbs

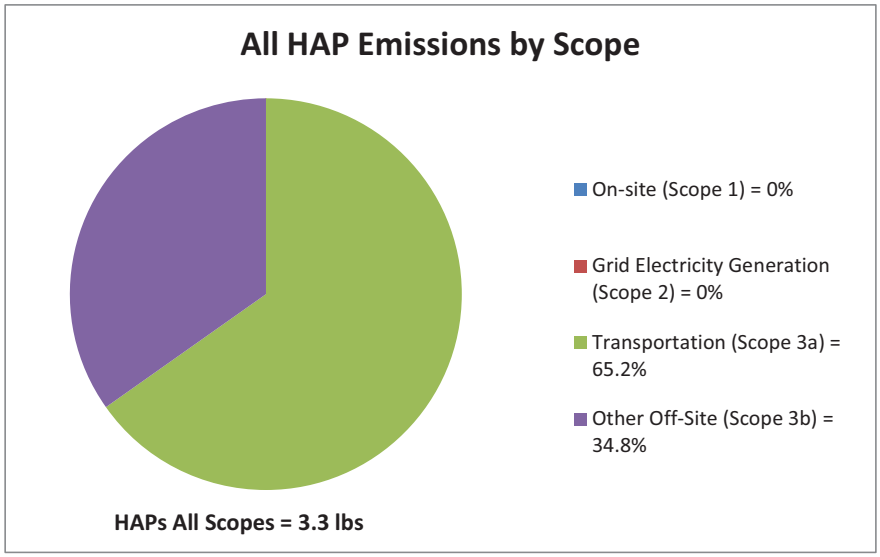

All HAP Emissions by Scope
On-site (Scope 1) = 0%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 65.2%
Other Off-Site (Scope 3b) = 34.8%
HAPs All Scopes = 3.3 lbs

Figure 6