3-60 Beach 79th Street

QUEENS COUNTY

FAR ROCKAWAY, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: BCP Site No. C241207

Prepared for:

79 Arverne Development LLC

220-46 73rd Avenue

Bayside, New York 11364

Prepared by:

Anchor QEA Engineering, PLLC

290 Elwood Davis Rd #340

Liverpool, NY 13088

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

AUGUST 2024

CERTIFICATION STATEMENT

I MARGARET CARRILLO-SHERIDAN 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).

_____ P.E.

_____DATE

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QUEENS COUNTY

FAR ROCKAWAY, NEW YORK

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LIST OF APPENDICES

LIST OF ACRONYMS

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
CVOC	Chlorinated Volatile Organic Compound
DCE	cis-1,2 Dichloroethylene
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
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
PCE	Tetrachloroethylene
P.E. or PE	Professional Engineer
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
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
Site	3-60 Beach 79th Street, Far Rockaway, New York
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
TCE	Trichloroethylene
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VC	Vinyl Chloride

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:

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Institutional Controls:	1. The property may be used for commercial use;
	2. All ECs must be inspected at a frequency and in a manner defined in the SMP.
	3. Use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the New York City Department of Health and Mental Hygiene 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.
	4. Groundwater and other environmental or public health monitoring must be performed as defined in this SMP.
	5. Data and information pertinent to Site management must be reported at the frequency and in a manner as defined by this SMP.
	6. All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP.

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	7. Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP.
	8. Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP.
	9. 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 restriction identified by the Deed Restriction.
	10. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6 NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.
Engineering Controls:	1. Vapor Barrier
	2. Cover system
	3. Sub slab depressurization system (SSD system) for the commercial-use building located on the west adjoining property at 350 Beach 79th Street, Far Rockaway, NY (Block 16100, Lot 14).

Inspections:	Frequency
1. Cover inspection	Annually
2. SSD system	Quarterly

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Monitoring:	
1. Post Construction Monitoring Well (PMW)-1, PM-2, PMW-3, PMW-4, PMW-5, PMW-6, PMW-7, PMW-8	Biannually
2. SSD system piping to confirm operation of appropriate valves	Quarterly
3. Pressure extension test of SSD system vapor monitoring points to document treatment goals are being achieved	Startup and Annually
4. Soil Vapor Intrusion Evaluation for New Buildings	As needed
Maintenance:	
1. CarBstrate Injection System	As needed
2. Blower maintenance (for off-Site SSD system)	As-needed
Reporting:	
1. Groundwater Data	Annually
2. Periodic Review Report (PRR)	Annually

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 3-60 Beach 79th Street Site located in Far Rockaway, 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. C241207, which is administered by New York State Department of Environmental Conservation (NYSDEC or Department).

79 Arverne Development LLC entered into a Brownfield Cleanup Agreement (BCA) on June 8, 2018 with the NYSDEC to remediate the Site. A figure showing the Site location and boundaries of this Site is provided in Figures 1 and 2. The site's boundaries 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 Queens 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 Site #C241207 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 Anchor QEA Engineering, PLLC, on behalf of 79 Arverne Development 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 required by the Site's Environmental Easement.

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.

Table 1-1 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.

Table 1-1: Notifications*

Name	**Contact Information**	**Required Notification****
NYSDEC Project Manager Mandy Yau	(631) 482-7778 mandy.yau@dec.ny,gov	All Notifications
Regional Remediation Engineer Jane O'Connell, P.G.,	(718) 482-4599 jane.oconnell@dec.ny.gov	All Notifications
Chief, Site Control Section	DERSiteControl@dec.ny.gov]	Notifications 1 and 8
NYSDOH Project Manager Julia Kenney	(518) 402-7873 julia.kenney@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 DescriptionThe Site is located in Far Rockaway, Queens County, New York and is identified as Tax Parcel Block 16100, Lot 18 on the Queens County Tax Map (see Figure 1-1). The Site is an approximately 1.28-acre area and is bounded by Barbadoes Basin to the north, Beach Channel Drive to the south, Beach 79th Street to the east, and a bin-block wall to the west (see Figure 1-1 – Site Layout Map). The boundaries of the Site are more fully described in Appendix A –Environmental Easement. The owner(s) and operators of the Site parcel(s) at the time of issuance of this SMP are:

Owner: 79 Arverne Development LLC

Operator: Abingdon Capital

2.2 Physical Setting

2.2.1 Land Use

The Site consists of the following: a parcel of vacant land currently being redeveloped as a mini-storage facility. The Site is zoned M1-1, manufacturing use, industrial, etc., and is currently under redevelopment for use as a min-storage facility. There are no current Site occupants. Following completion of the redevelopment activities, the Site will include a parking area and a multi-story mini-storage building.

The properties adjoining the Site and, in the neighborhood surrounding the Site primarily include light manufacturing and storage-related properties. The properties immediately south of the Site include an elevated railroad and an at-grade roadway; immediately south of the railroad tracks is a vacant parcel of land with asphalt surface that appears to be used for construction-related equipment and vehicle storage. The properties immediately north of the Site include Barbadoes Basin, and immediately north of Barbadoes Basin a vacant parcel that appears to have historically been used for industrial purposes and for offloading of boats from Barbadoes Basin; the properties immediately east of the Site include a leased building uses for light manufacturing and equipment storage; and the properties to the west of the Site include vehicle and tractor-trailer storage properties.

2.2.2 Geology

Information regarding the Site geology were obtained from prior investigation reports as well as soil boring and soil excavation activities performed during the remedial action (RA) conducted at the Site from December 2023 through May 2024.

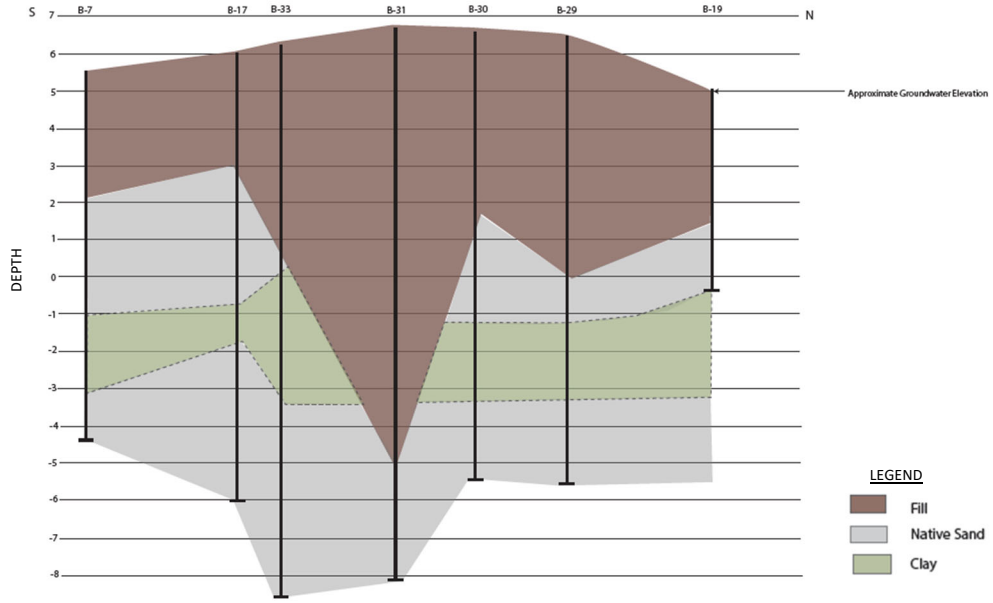
The Site geology consists of five units of varying thickness and distribution across the Site, four of which were encountered during the RI and RA phases of the work. Based on information presented in the RI Report and the *Report of Geotechnical Investigation* (Whitestone, 2022), the geologic units at the Site consist of:

- Historic fill material. Fill materials encountered in exploration and investigation soil borings included silty sand with varying amounts of gravel, poorly graded sand and debris. The debris encountered including brick, glass, concrete, wood, cinders, asphalt, slag and coal. The thickness of fill materials varied across the Site, ranging in thickness from approximately five to 15 feet. During the RA, much of the historic fill material was determined to be comprised of intact subgrade foundations and piles.
- Organic deposits – Peat layer: Unconsolidated coastal plain soils consisting of a less than 1-foot thick fibrous peat with some trace amounts of sand and fibrous peat with poorly graded sand ranging in thickness from 0.5 to 1-foot thick.
- Organic deposits – Clay layer: Unconsolidated coastal plain soils consisting of a generally contiguous thin clay layer (ranging from less than one-foot to approximately two-feet thick).
- Glacial Deposits -Sand: Glacially deposited soils consisting of poorly graded sand with varying amounts of silt and gravel or silt with sand. During the geotechnical investigation, these glacial deposits were encountered to a maximum depth of 102 feet below grade surface (at which point the boring was terminated). These sand deposits are identified on the *Surficial Geology Map of New York* as beach or barrier island deposits composed of sand and gravel of varying thickness from the Pleistocene Epoch (Cadwell 1986).

Bedrock was not encountered during prior Site investigation activities; the estimated depth to bedrock is estimated to be approximately 1,200 feet below sea level (USGS 2023).

A geologic cross section is shown below in Figure 2-1. Additional geologic cross-sections and Site-specific boring logs are provided in Appendix C.

Figure 2-1
Geologic Cross-Section



Source: *Remedial Investigation Report* (Gallagher Basset Technical Services, 2018)

Cross-Section Depicts from South (near Beach Channel Drive) to North (adjacent to Barbadoes Basin)

2.2.3 Hydrogeology

A shallow water table aquifer was encountered between 5 and 8 feet below grade across the Site consistent with prior investigation data. This shallow water table fluctuates with the rise and fall of the tides and groundwater is inferred to flow generally north towards Barbadoes Basin to the northwest. The shallow water table appears to be a locally confined aquifer with the clay-layer serving as an aquitard. The perimeter of the Site is located within the 100- year FEMA

Zone and the center of the Site is located within the 500-year FEMA Flood Zone. Groundwater in this area of Queens is not used as a source of potable water.

A groundwater contour map is shown in attached Figure 2-2. Groundwater elevation data is provided in attached Table 2-1. Groundwater monitoring well construction logs are provided in Appendix D.

2.3 Investigation and Remedial History

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.

This information presented in this section is based on the following documents:

- *Phase I Environmental Assessment*, prepared by EnviroTrac LTD dated April 6, 2016 (EnviroTrac 2016)
- *Limited Phase II Environmental Site Assessment,* prepared by EnviroTrac LTD, dated July 2016 (EnviroTrac 2016)
- *Site Investigation Report,* prepared by WCD Group (SIR; January 2018)
- *Report of Geotechnical Investigation*, prepared by Whitestone Associates, Inc. dated May 2, 2018 (Whitestone 2018)
- *Remedial Investigation Report* (RI Report)*,* prepared by Gallagher Bassett Technical Services, dated September 18, 2020 (GBTS 2020).
- *Remedial Action Work Plan* (RAWP), prepared by Bellucci Engineering, PLLC and GBTS, dated July 2021 (Bellucci 2021)
- *Predesign Investigation Report* (PDIR), prepared by GEI Consultants, Inc., P.C., dated August 2023 (GEI 2023)
- *Remedial Design Document* (RDD), prepared by GEI, dated October 2023 (GEI 2023)

- *Remedial Design Modification,* prepared by Anchor QEA, dated January 2024 (Anchor QEA 2024a)
- *Supplemental Remedial Action Work Plan,* prepared by Anchor QEA, dated May 2024 (Anchor QEA 2024b)
- *Supplemental Remedial Design Document*, prepared by Anchor QEA, dated August 2024 (Anchor QEA 2024c)

2.3.1 Site History

Based on the Phase I ESA, Table 2-2, below, summarizes the historical Site uses.

Table 2-2: Site History

Year	Use
1894	East Arverne Hygeia Ice Company – Ice Manufacturing
1901	East Arverne Hygeia Ice Company – Ice Manufacturing Rockaway Motor Company (western Site area)
1912	John Murray's Ice Factory (eastern Site area) John H. Ferril Company, coal yard (western Site area)
1933	John Murray's Ice Factory (eastern Site area) John H. Ferril Company, coal yard (western Site area)
1950	John H. Ferril Company, coal yard (western Site area) Chain Bike Corporation (eastern Site area)
1980	Ross Bicycles
1981	Property undeveloped – used for processing of construction and demolition debris

2.3.2 Summary of Investigation Activities

Site investigations began in 2016, starting with the Phase I and Phase II ESAs. The following subsections present a summary of the invasive investigation activities as previously presented in the RA Work Plan (Belluci Engineering 2021).

2.3.2.1 Limited Phase II Environmental Site Assessment (EnviroTrac, LTD July 2016)

EnviroTrac advanced seven on-Site soil borings, and two borings at Lot 14, to a maximum depth of approximately 10 feet (ft) below ground surface (bgs). Photoionization detector (PID) readings were noted at several borings in the 5 to 10 ft interval in saturated soils; no other significant field evidence of contamination, however, was observed. Soil samples were not submitted for laboratory analysis. A geophysical survey identified no evidence of buried tanks or other anomalies at the Site.

2.3.2.2 Site Investigation (WCD Group)

WCD Group performed the following investigation activities:

- 27 soil samples were collected from 28 soil borings (B1 to B28; maximum depth approximately 15 ft bgs) to document subsurface conditions on the Site and adjacent lot 14 (three of these borings were located on Lot 14).
- Sediment samples were collected from two manual sediment borings (SED1 and SED2) advanced at the northern shoreline adjacent to Barbadoes Basin.
- 12 temporary groundwater monitoring wells installed at soil boring locations were sampled to establish direction of groundwater flow and document groundwater quality.

Laboratory analysis of collected soil samples documented multiple substances in concentrations above Part 375 Unrestricted Use (UU) Soil Cleanup Objectives (SCOs), including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), and pesticides

2.3.2.3 Remedial Investigation (RI; GBTS 2018)

The RI activities consisted of the following:

- Conducted an inspection to identify areas of concern and physical obstructions.
- Advanced 18 borings to investigate soil conditions. Borings were advanced to 20 ft deep at the northwest corner for delineation of VOC contamination and at the central area at previously inaccessible areas, and to 12 ft deep at the southeast portion for delineation of PCB and pesticide contamination.
- Installed 5 soil vapor monitoring points to a maximum depth of 4 ft bgs;
- Installed 8 permanent monitoring wells - five shallow wells to approximately 12 to 13 ft bgs and three deep wells to approximately 37 ft bgs; and,
- Collected 36 soil, 8 groundwater and five 5soil vapor samples for laboratory analysis. Soil samples included four samples collected from surface material.

Based on the initial results, the following supplemental RI activities were conducted in 2020:

- Advanced seven additional soil borings in the central area of the Site to further delineate areas of concern
- Collected groundwater samples from 4 permanent on-Site monitoring wells (MW-1D, MW-4, MW-5S and MW-5D).
- Performed continuous monitoring of depth to groundwater over a four-day period at five wells to assess tidal influence on shallow and deep monitoring wells.
- Conducted a sub-slab soil vapor investigation in the northeast corner of the western adjoining building to evaluate potential soil vapor intrusion, including collection of one additional on- Site soil vapor sample, three sub-slab vapor samples and one indoor air sample.

RI media samples were submitted for laboratory analysis of Target Compound List (TCL) VOCs and SVOCs, Target Analyte List (TAL) metals, per- and polyfluoroalkyl substances (PFAS; NYSDEC target list), TO-15 list VOCs (vapor, only), PCBs, pesticides, and/or herbicides. Site sampling (excluding duplicates) included the collection of 36 soil samples from 25 soil boring locations, 12 water samples from 8 monitoring wells and 6 soil vapor samples. Three sub- slab vapor samples were collected at the building at the adjoining western property, near the northwest corner of the Site.

2.3.3 Nature and Extent of Soil Contamination

Soil containing CVOCs above PG SCOs (the applicable criteria based on known groundwater impacts) were identified in fill at the northwest corner and central area (vicinity of B19 and B30, respectively), with the highest levels generally documented near (or just within) the top of the clay layer. Saturated native sands below the clay layer at B30 delineation locations to the east, south and west contain cis- DCE and VC above PG SCOs but at relatively low levels (PCE and TCE were not reported in soil below the clay layer). A current or former on-Site source of the CVOC contamination has not been identified (impacts may be related to historical waste disposal).

Fill materials at several locations across the Site contain SVOCs, metals, PCBs and/or pesticides above CU SCOs (localized areas of elevated PCBs and pesticides at the southern area have been generally delineated). None of these compounds has been identified at significant concentrations in native materials below the clay layer.

Low-levels of multiple PFAS were reported in all samples collected during the supplemental RI at concentrations below the NYSDEC's commercial reuse guidance values of 440 parts per billion (ppb) for PFOS and 500 ppb for PFOA. Samples collected during the RI reported total PFOS concentrations ranging from 0.14 to 4.6 ppb, and PFOA ranging from 0.02 to 1 ppb).

2.3.4 Nature and Extent of Groundwater Contamination

Groundwater at the Site has been primarily impacted by PCE and TCE, along with their degradation products cis-DCE, trans-DCE and VC. The monitoring well locations with the highest levels of CVOCs reported during RI phase (MW- 1 and MW-2 at the northwest corner and central area, respectively) were proximate to soil with elevated concentrations of CVOCs (only 1 CVOC, cis-DCE was detected in MW-4 at the southern area of the Site and at a concentration of 1.2 ppb which is less than the NYS ambient water quality standard of 5 ppb).

Ratios of PCE to TCE (where PCE has been reported), and Site-wide detections of cis-DCE (plus low- levels of trans-DCE and VC), support the conclusion that CVOCs in Site groundwater are naturally degrading.

Site groundwater is also characterized by detections of inorganic elements and limited detections of petroleum compounds. The RI data indicated that only sodium and magnesium were present in the dissolved phase groundwater samples (consistent with brackish water inputs from the surrounding surface waters). Inorganic elements detected in unfiltered samples at concentrations above NYS ambient water quality standards included arsenic, magnesium, manganese, iron, selenium, and sodium. The presence of these inorganics in groundwater are attributed to to local groundwater and historic fill conditions.

PFAS were reported in all groundwater samples with the concentrations of total PFOS ranging from 109 to 141 parts per trillion (ppt), and PFOA ranging from 52.7 to 84.2 ppt. The ambient water quality guidance values for PFOS and PFOA are 2.7 and 6.7 ppt, respectively. The RI Report concluded that the source of the PFAS contamination in the groundwater is unknown and may be related to regional contamination.

2.3.5 Nature and Extent of Vapor Contamination

CVOCs and a limited number of petroleum VOCs were found in soil vapor at multiple on-Site locations. CVOC impacts appear to be concentrated in the northwest corner of the Site (SV-1 and SV-6) and in the central part of the Site (SV-4).

Data from 2019 reported PCE concentrations at SV-1 of 1,300 $\mu g/m^3$ and TCE at SV-4 at 1,200 $\mu g/m^3$ and SV-5 at 570 $\mu g/m^3$. Cis-DCE was reported at SV-4 and SV-5 at lower concentrations (210 to 260 $\mu g/m^3$, respectively). Data from 2020 show detections levels of CVOCs at SV-6 (PCE 71,200 $\mu g/m^3$, TCE 2,470 $\mu g/m^3$, and cis-DCE 2,470 $\mu g/m^3$). CVOCs were also reported in sub-slab sample SS- 2 located in the northeast corner of the adjoining building (PCE 3,000 $\mu g/m^3$, TCE 52,300 $\mu g/m^3$, and cis-DCE PCE 1,560 $\mu g/m^3$). The ambient indoor-air sample documented a concentration of TCE of 17.6 $\mu g/m^3$, which was above the NYSDOH Air Guideline Value of 2 $\mu g/m^3$.

Petroleum compounds were detected in SV-5 (ethylbenzene 1,400 $\mu g/m^3$ and xylenes 140 $\mu g/m^3$). Various other VOCs typically encountered in urban settings or within poor-quality fill, including other petroleum compounds and solvents, were reported in all samples at trace to low levels.

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2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Decision Document dated August 2021 are as follows:

2.4.1 Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

2.4.2 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.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

2.4.3 Surface Water

RAOs for Public Health Protection

- Prevent ingestion of water impacted by contaminants.
- Prevent contact or inhalation of contaminants from impacted water bodies.
- Prevent surface water contamination which may result in fish advisories.

RAOs for Environmental Protection

- Restore surface water to ambient water quality criteria for the contaminant of concern.
- Prevent impacts to biota from ingestion/direct contact with surface water causing toxicity and impacts from bioaccumulation through the marine or aquatic food chain.

2.4.3 Sediment

RAOs for Public Health Protection

- Prevent direct contact with contaminated sediments.
- Prevent surface water contamination which may result in fish advisories.

RAOs for Environmental Protection

- Prevent releases of contaminant(s) from sediments that would result in surface water levels in excess of (ambient water quality criteria).
- Prevent impacts to biota from ingestion/direct contact with sediments causing toxicity or impacts from bioaccumulation through the marine or aquatic food chain.
- Restore sediments to pre-release/background conditions to the extent feasible.

2.4.4 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 Selected Remedy and RD Documentation

This Section summarizes the selected remedy presented in the Decision Document as well as remedial design documentation consisting of the RDD (GEI, 2023) and a *Remedial Design Modification* (RD Modification; Anchor QEA, January 2024).

2.5.1 Selected Remedy

The selected remedy elements were presented in the NYSDEC's Decision Document and consisted of the following:

- Excavation: Excavating and transporting contaminant source areas for off-Site disposal, including:
  - grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u).

  - soils which exceed the protection of groundwater SCOs, as defined by 6 NYCRR Part 375-6.8 for those contaminants found in Site groundwater above standards.
  - any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.
  - excavating and transporting soil in the upper foot that exceeds the commercial SCOs for off-Site disposal.

- **Backfill:** Backfilling excavation areas with excavated/reuse material that meet the protection of groundwater or imported materials that meet the requirements of 6 NYCRR Part 375-6.7(d).
- **Cover System:** Placing a Site cover to allow for commercial use of the Site in areas where the upper one foot of exposed surface soil will exceed protection of groundwater SCOs. Where used, the soil cover must consist of a minimum of one foot of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the Site, will meet the SCOs for cover material for the use of the Site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of Site redevelopment. Such components may include, but are not necessarily limited to pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.
- **Groundwater Extraction and Treatment:** Dewatering as required to facilitate excavation and subgrade work. Treating contaminated groundwater from dewatering operations as necessary prior to discharge to the municipal sewer system.
- **In-Situ Chemical Reduction:** In-situ chemical reduction (ISCR) will be implemented to treat CVOCs in groundwater. A reducing agent will be applied to the base of the excavation to destroy the contaminants in an approximately 9,760 square foot area located in the northern and central

portions of the Site where CVOC concentrations were elevated in the groundwater. The method and depth of treatment will be determined during the remedial design. Monitoring will be required within the treatment zone. Monitoring will be conducted for CVOCs upgradient and downgradient of the treatment zone for in-situ chemical treatment remedy.

- **Monitored Natural Attenuation:** Groundwater contamination remaining after active remediation will be addressed with monitored natural attenuation (MNA). Groundwater will be monitored for Site-related contamination and for MNA indicators which will provide an understanding of the biological activity breaking down the contamination. It is anticipated that contamination will decrease by an order of magnitude in a reasonable period (5 to 10 years). Reports of the attenuation will be provided at 1 year, and additional active remediation will be proposed if it appears that natural processes alone will not address the contamination. The contingency remedial action will depend on the information collected, but it is currently anticipated that a hydrogen releasing compound such as lactic acid would be the expected contingency remedial action.
- **Vapor Mitigation:** Any on-Site buildings will be required to have a sub-slab depressurization system (SSD system), or other acceptable measures, to mitigate the migration of vapors into the building from soil and groundwater. To address the off-Site soil vapor impacts, an active SSD system will be installed within the commercial-use building located on the west adjoining property at 350 Beach 79th Street, Far Rockaway, NY (Block 16100, Lot 14).
- **Institutional Control:** Imposition of an institutional control in the form of an Environmental Easement for the controlled property which will:
  - require the remedial party or Site owner to complete and submit to NYSDEC a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3).

  - allow the use and development of the controlled property for commercial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws.
  - restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH) or New York City Department of Health & Mental Hygiene (NYCDOHMH).
  - require compliance with an NYSDEC-approved Site Management Plan (SMP).

- **Site Management Plan:** Preparing and implementing an SMP.

2.5.2 Remedial Design

The remedial design was prepared by GEI and approved by NYSDEC on October 11,2023. The approve RD included excavation of 4,200 cubic yards (CY) of impacted soil to a maximum depth that aligned with the top of the clay layer. Following excavation, the design called for the placement of CarBstrate™ (from ETEC, Inc. Advanced Bioremediation Systems [ETEC]) in the excavation cells prior to backfill to enhance in-situ anaerobic bioremediation for residual impacts in the groundwater. In addition, the RD required installation of:

- A Site-wide cover system over areas where remaining soils contain COCs at concentrations above the Commercial Industrial SCOs to prevent exposures to remaining impacted soil.
- A SSD system below the existing building on the adjacent parcel (Block 16100, Lot 14).
- A vapor barrier beneath occupied areas of the new building

The RD also detailed the requirements for preparing and implementing a SMP including on-going SSD system monitoring and maintenance and groundwater sampling.

2.5.3 Remedial Design Modification

Anchor QEA submitted a RD Modification to NYSDEC in January 2024 proposing CarBstrate™ injection without excavation in select cells based on an analytical data review for each of the proposed excavation cells. Anchor QEA noted that the supporting analytical data for the COCs in certain cells was only slightly above the protection of groundwater SCOs and that injection alone could achieve the remedial goals (in these cells) as presented in the Decision Document. Anchor QEA proposed CarBstrate™ injection without excavation in 11 cells and two half-cells as presented in the RD Modification. NYSDEC and NYSDOH reviewed and approved the RD Modification in a March 29, 2024, letter to 79 Averne Development LLC.

2.6 Remedial Activities

2.6.1 Remedial Activities Kick Off Meeting

Prior to initiating the remedial activities, a kick off meeting was held and attended by NYSDEC, 79 Arverne Development LLC, Posillico, Inc. (Posillico; the I RA Contractor) and Anchor QEA. During the kick off meeting, the excavation depths were discussed, and all parties agreed that the excavation would extend to the top of the confining clay layer and not into the layer. Excavation into the clay layer would not be performed (to prevent mixing between the contaminated shallow aquifer and deeper aquifer). Consistent with the defined excavation depth, the agreed upon post excavation sampling requirements consisted of the collection of "documentation samples" as defined in DER-10.[1]

2.6.2 Remedial Activities

The RA generally included the following activities:

- Contractor mobilization and utility clearance.

[1]Documentation sample" means a sample taken after remedial action is complete to document the level of contamination remaining. For example, if the remedial objective specifies the treatment or removal of a specific volume of soil instead of a cleanup level, documentation samples are taken so that the level of any remaining contaminants is known.

- General Site cutdown consisting of excavating soil to elevation 5.75 above mean sea level (AMSL) within the new building footprint and 1.5 feet below final grade outside of the new building footprint and within the Department of Buildings fence line.
- Soil excavation from designated cells to the top of clay in accordance with the RDD.
- Documentation sample collection from the terminal ends (i.e., excavation cell bottoms and sidewalls not abutting other excavation cells) of each excavation cell.
- CarBstrate™ application in accordance with the RDD and the RD Modification. Per the RDD and the Remedial Design Modification, a total of 4,900 pounds of CarBstrate™ was applied.
- Backfilling and Site restoration. In preparation for Site redevelopment, the entire Site area was backfilled with a minimum of 1-foot of clean gravel (source approved by NYSDEC on XCXXX). Prior to final redevelopment the gravel fill serves as the Site cover.

2.6.3 Supplemental Site Investigation Activities During the RA

During Phase I RA implementation, Anchor QEA noted that certain subsurface conditions did not align with the prior documentation presented in the Gallagher-Bassett RI Report and GEI Pre-Design Investigation Report and Remedial Design Document. These discrepancies included the following:

- The existing monitoring well locations did not align with the RI Report or other existing drawings. Some monitoring wells were located up to 40 feet from the mapped locations.
- Significant amounts of masonry materials associated with former Site occupants (including intact building foundations, timber piles, building slabs, equipment pads, and process piping) in the shallow subsurface soils. The shallow subsurface conditions were not consistent with the subsurface conditions previously reported in the investigation documents.

- A layer (approximately 6 to 18 inches thick) of oil like material (OLM) in soil/fill material immediately above the clay surface in excavation cells in the central portion of the Site. The OLM exhibited a petroleum-like odor but did not register total organic vapors above 10 parts per million (ppm) when screened with a photoionization detector (PID). The OLM appeared to be limited to a 6- to 18-inch gravel or coarse sand layer directly above the clay.

In response to these discrepancies, Anchor QEA performed additional Site investigations to confirm the RA was performed consistent with the Decision Document and RDD. The additional investigation activities included the following:

- Direct imaging supplemental investigation.
- OLM investigation, which included a historical research and documentation review, OLM forensic testing, and completing OLM delineation borings.
- Post-remedial construction groundwater sampling.

The results of the supplemental Site investigation activities were used, in addition to the documentation sample results to determine the nature and extent of contamination remaining in the subsurface following remediation.

2.6.4 Documentation Sampling Activities and Results

Anchor QEA collected documentation samples from the terminal ends (i.e., excavation cell bottoms and sidewalls not abutting other excavation cells) of each excavation cell. A total of 62 samples (not including quality assurance/quality control [QA/QC] samples) were collected from 28 cells and submitted to Eurofins Environment Testing Northeast, LLC (Eurofins) of Edison, NJ for laboratory analysis. Results received for the laboratory analysis of the documentation samples indicated the following:

- 38 out of 62 documentation samples contained CVOCs at concentrations that were the same order of magnitude as or did not exceed the protection of groundwater SCOs.

- A total of nine cells (Cells 11, 12, 16 through 18, 20 through 22, and 39) had at least one sample containing CVOCs at concentrations exceeding protection of groundwater SCOs by two orders of magnitude.
- Cells 9, 10, 15, 23, and 38 had at least one documentation sample containing CVOCs at concentrations exceeding protection of groundwater SCOs by three or four orders of magnitude. Of the eight samples that fit this category, four of them were collected from the bottom of the excavation (i.e., top of clay), two of them were collected from the western terminal wall (Cells 9 and 10), one was collected from the southern terminal wall (Cell 23), and one from the eastern wall (Cell 23).

Attached Figure 2-1 shows the documentation sample locations and soil analytical results exceeding the protection of groundwater SCOs, and attached Table 2-2 presents the documentation sampling results.

2.7 Remaining Contamination2.7.1 Remaining Soil Impacts

Based on the documentation sampling results, CVOCs remain in select locations at concentrations exceeding protection of groundwater standards in certain “bottom samples” collected from the clay layer, as well as sidewall samples, also collected from the clay layer,

Based on the soil sample characterization from oil delineation soil borings, OLM-impacted soil remains beyond the limits of the remedial excavation. The residual OLM appears to be heavily weathered and does not appear to have an impact on dissolved phase groundwater chemistry (based on the groundwater sampling data discussed below)

As indicated on Figure 2-1, documentation samples collected from the following locations contained CVOCs at concentrations three or more orders of magnitude greater than protection of groundwater SCOs:

Table 2-3
Key Documentation Sample Results

Excavation Cell	Sample ID Note 1	CVOC Concentration (mg/kg)
9	9W 9B	TCE – 140; cis-1,2-DCE – 79 TCE – 9,000; PCE – 47; cis-1,2-DCE – 1,700
10	10W 10B	PCE – 220; TCE – 1,500 cis-1,2-DCE – 440
15	15B	TCE – 56; cis-1,2-DCE – 460; VC – 8.4
23	23E 23B	TCE – 240 TCE – 79; cis-1,2-DCE – 27
38	38B	PCE – 99; TCE – 3,600; cis-1,2-DCE – 250

1. Sample IDs represent the cell number and sample location. E = east side of excavation sidewall; B= excavation bottom; W = west side of excavation sidewall.

Attached Tables 2-3 and Figure [x] summarize the results of all soil samples collected that exceed the Unrestricted Use SCOs and the commercial Use SCOs at the Site after completion of remedial action.

This section should describe the existing soil conditions, both on-Site and off-Site, at the time of issuance of the FER.

This section should include the following:

- A description of the contaminant classes and major compounds or elements identified in the soil;
- A table of exceedances of applicable/relevant Unrestricted Use SCOs (Part 375-6) after completion of the remedial action;
- A figure of exceedances of applicable/relevant Unrestricted Use SCOs (Part 375-6) after implementation of the remedial action. This figure should also identify areas complying with Unrestricted Use SCOs (Part 375-6) after completion of the remedial action;
- A figure showing the elevations of the top of remaining soil contamination and the thickness of the remaining contamination;
- A description of the estimated volume of remaining soil contamination;
- A description of the demarcation layer (if present, including material, depth, extent, etc.) or a description of the depth at which remaining contamination will be encountered, and the depth at which contamination is no longer expected;
- A description of areas of the Site that contain remaining source areas or higher levels of contamination;
- A description of active utility lines or other subsurface infrastructure present at the Site and remaining contamination that may be encountered during maintenance or removal of the utility or infrastructure;

- A description of remaining contamination that was not remediated due to the presence of buildings or critical infrastructure; and
- Information necessary to support any soil sampling required as part of the Monitoring and Sampling Plan (Section 4.0 of this SMP).

The following text should be included in this section:

2.7.2 Groundwater

Groundwater samples collected from temporary piezometers installed east and west of the central soil excavation area and within three of the excavation cells indicate the presence of PCE, TCE, cis-1,2-DCE, and VC in groundwater. Oher chlorinated compounds previously reported at concentrations above the TOGS 1.1.1 criteria were not detected during the post-RA sampling event at concentrations above their respective criteria.

Attached Table [x] and Figure [x] summarize the results of all samples of groundwater that exceed the SCGs after completion of the remedial action.

This section should describe the existing groundwater conditions, both on-Site and off-Site, after completion of the remedy.

This section should include the following:

- A description of the contaminant classes and major compounds or elements identified in the groundwater;
- Table of exceedances of applicable/relevant SCGs after completion of the remedial action;
- Figure of exceedances of applicable/relevant SCGs after completion of the remedial action;
- Figure of plume;
- A description of the depths, range and aerial location of the remaining groundwater contamination at the Site including contaminants of concern and levels above SCGs for the Site;
- A description of areas of the Site that contain remaining source areas or higher levels of contamination; and
- Information necessary to support any groundwater sampling required as part of the Monitoring and Sampling Plan (Section 4.0 of this SMP).

The following text should be included in this section:

2.5.5 Soil Vapor

Post RA soil vapor samples were not collected. Per the Decision Document, a vapor barrier is being installed under occupied first floor spaces and a SSD system will be

installed under the off-Site building (Lot 14). Figure 2-4 shows the areas of the Site where a vapor barrier has been installed as part of the Site redevelopment. Additional details regarding the vapor barrier and SSD system will be provided in the FER.

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, such as the implementation of the Excavation Work Plan (EWP) (as provided in Appendix E) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site; anAny 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 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 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 [x]. These ICs are:

- The property may be used for: 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 New York City Department of Health and Mental Hygiene 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 [x], and any potential impacts that are identified must be monitored or mitigated;

- The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6 NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.
- Vegetable gardens and farming on the Site are prohibited; and
- An evaluation shall be performed to determine the need for further investigation and remediation should large scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible.

3.3 Engineering Controls

It is important to note that the vapor barrier will be installed as part of the ongoing redevelopment of the Site and the SSD system described below will be installed following NYSDEC approval of the off-Site SSD system remedial design (to be submitted in August 2024).

3.3.1 Vapor Barrier

A vapor barrier will be installed underneath the occupied portions of the on-Site building as shown on Figure X.

groundwater.

3.3.2 Cover (or Cap)

Exposure to remaining contamination at the Site is prevented by a cover system placed over the Site. This cover system is comprised of a minimum of 12 inches of clean soil over a demarcation layer. Soil cover material, including any fill material brought to the Site, will meet the SCOs for cover material for the use of the Site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of Site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

Figure 3-1 presents the location of the cover system and applicable demarcation layers. The Excavation Work Plan (EWP) provided in Appendix E outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP; Appendix F) and associated Community Air Monitoring Plan (CAMP; Appendix G) prepared for the Site. Any breach of the Site's cover system must be overseen by 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.

3.3.3 Sub-slab Depressurization System

Procedures for operating and maintaining the SSD 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 G– Operations and Maintenance Manual. Figure 3-2 shows the location of the SSD system for the Site.

3.3.4 CarBstrate™ Post RA Injection System

To facilitate ongoing degradation of CVOCs in the clay layers and in groundwater, an injection system will be installed to deliver CarBstrate™ to targeted areas on Site as detailed in the Supplemental Remedial Action Work Plan. This system allows for addition of a reagent that will facilitate ongoing reductive dechlorination of the CVOCs on an as-needed basis, as determined by long-term groundwater monitoring data.

3.3.5 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.

3.3.4.1 – Cover System

The cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity.

3.3.4.2 – 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.

3.3.4.3 – Post Remedial Action CarBstrate ™ Injection System

The reagent injection system will be maintained and not removed/closed in place unless prior written approval is granted by the NYSDEC project manager. In the event that monitoring data indicates that the reagent injection system may no longer be required, a

proposal to discontinue the system will be submitted by the remedial party to the NYSDEC project manager. Conditions that may warrant discontinuing the injection system include contaminant concentrations in groundwater that: (1) reach levels that are consistently below ambient water quality standards or the Site SCGs, as appropriate; (2) have become asymptotic to a low level over an extended period of time, as accepted by the NYSDEC; or (3) the NYSDEC has determined that the reagent injection system has reached the limit of its effectiveness. This assessment will be based in part on post-remediation contaminant levels in groundwater collected from monitoring wells located throughout the Site. Systems will remain in place and operational until permission to discontinue their use is granted in writing by the NYSDEC project manager.

3.3.4.4 – Monitoring Wells associated with Monitored Natural Attenuation

Groundwater monitoring activities to assess natural attenuation 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, the Site SCGs, or have become asymptotic at an acceptable level over an extended period. In the event that monitoring data indicates that monitoring for natural attenuation may no longer be required, a proposal to discontinue the monitoring 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 source removal, treatment and/or control measures will be evaluated.

[3.3.4.5 – Monitoring Wells associated with Post-Remediation Injection

Groundwater monitoring activities to assess reductive dechlorination associated with the application of CarBstrate™ 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, source removal, 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 H.

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 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 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 I – 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 SSD System Monitoring and Sampling

Monitoring of the SSD system will be performed on a routine basis, as identified on Table 4-1 SSD system Monitoring Requirements and Schedule (see below). The monitoring of remedial systems must be conducted by 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 injection system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. SSD system components to be monitored include, but are not limited to, the components included in Table 4-1 below.

The SSD system will be monitored on a quarterly basis as identified
Modification to the frequency or sampling requirements will require approval from the NYSDEC. 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 SSD system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Table 4-1 presents SSD system components to be monitored include, but are not limited to, the system blowers, meters and alarm systems.

Table 4-1 – SSD System Monitoring Requirements and Schedule

Remedial System Component	Monitoring Parameters	Monitoring Schedule
Blowers	• The blower is operating correctly and free of excess noise or rattle. • The blower is free of any damage or debris. • The blower is generating the proper amount of flow and vacuum.	Annually
Extraction Points and Piping	• Extraction points are accessible, clean and not covered by debris or otherwise damaged. • System piping is clear of condensation that may have accumulated during operation	Annually
Gauges	• Vacuum gauges are connected to the system piping and are operational. • Vacuum gauge is registering required amount of vacuum at each of the extraction points.	Annually
Alarms	• Alarms are operating as designed	Annually

4.4 Post Remedial Action CarBstrate ™ Injection System Monitoring

Monitoring of the Post Remedial Action CarBstrate ™ Injection System will be performed on a routine basis, as identified in Table 4-2 Injection System Monitoring Requirements and Schedule (see below). The monitoring of remedial systems must be conducted by 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 injection system has been reported or an

emergency occurs that is deemed likely to affect the operation of the system. Injection system components to be monitored include, but are not limited to, the components included in Table 4-2 below.

Table 4-2 – Post Remedial Action CarBstrate ™ Injection System Monitoring Requirements and Schedule

Remedial System Component	Monitoring Parameter	Monitoring Schedule
Injection Point	• Surface completion is free of any damage or accumulated debris. • Injection piping is free of biofouling, silt accumulation or other obstructions that may affect reagent delivery.	Prior to injections

A complete list of components to be inspected is provided in the Inspection Checklist, provided in Appendix I – 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 Monitoring and Sampling

4.4.1 Groundwater Monitoring to Assess Remedy Performance

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

Seven new permanent groundwater monitoring wells (PMW-1, PMW-2, PMW-4, PMW-5, PMW-6, PMW-7, and PMW-8) and one existing monitoring well (renamed PMW-3) will be utilized to monitor upgradient, on-Site and downgradient groundwater conditions at the Site. The network of on-Site wells has been designed based on the following criteria:

- One monitoring well will be downgradient of the areas with remaining CVOCs, adjacent to Barbadoes Basin and injection well 1 (PMW-1)

- Two monitoring wells, PMW-2 and PM-4, will be downgradient of center of the remedial excavation area and primary injection wells (IW2 – IW10).
- Two monitoring wells, PMW-3 and PMW-5, will be sidegradient (west) of the remedial excavation area and primary injection wells (IW2 – IW10).
- Two monitoring wells, PMW-6 and PMW-7 will be located within the remedial excavation area and primary injection wells (IW2 – IW10).
- One monitoring well, PMW-8, will be located upgradient of the remedial excavation area and primary injection wells (IW2 – IW10).
- Each new monitoring well will be installed approximately 6 inches into the top of the clay unit.
- Each new monitoring well will consist of 2-inch diameter solid PVC well casing with 10 slot (0.010 inch slot size) 5-foot long well screens.

Samples shall be collected from the groundwater monitoring wells on a routine basis. Sampling locations, required analytical parameters and schedule are provided in Table 4-3 – Post Remediation Groundwater Sampling Requirements and Schedule below. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

Table 4-3 – Post Remediation Groundwater Sampling Requirements and Schedule

Sampling Location	Parameters			Schedule
	VOCs (EPA Method 624)	TAL Metals (EPA Method 6010B)	pH (EPA Method 9040)	
Monitoring Wells #PMW1 – PMW8	X	X	X	Bi-Annually

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

Monitoring well construction details, including the wells' identification numbers, location, depths, diameter and screened intervals of the wells are summarized below on Table 4-4. As part of the groundwater monitoring, 1 upgradient well, 2 on-Site wells, 2 side gradient wells, and 3 downgradient wells will be sampled to evaluate the effectiveness of the remedial action and ongoing natural attentuation. The remedial party

will measure depth to the water table for each monitoring well in the network before sampling.

Table 4-4 – Monitoring Well Construction Details

TO BE COMPLETED FOLLOWING INSTALLATION

Monitoring Well ID	Well Location	Coordinates		Well Diameter (inches)	Elevation (above mean sea level)			
		Longitude	Latitude		Casing	Surface	Screen Top	Screen Bottom
PMW-1	Downgradient			2				
PMW-2	Downgradient							
PMW-3	Side Gradient							
PMW-4	Downgradient							
PMW-5	Side Gradient							
PMW-6	On-Site							
PMW-7	On-Site							
PMW-8	Upgradient							

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

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.

4.4.2 Groundwater Sampling to Evaluate Injection Effectiveness

Groundwater monitoring will be performed following injections of CarBstrate™ to evaluate the effectiveness of the reagent in treating the residual CVOCs in the clay layer and groundwater. Sampling locations, required analytical parameters and schedule are provided in Table 4-5 – Post-Injection Groundwater Sampling Requirements and Schedule below. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

Table 4-5 – Post Injection Groundwater Sampling Requirements and Schedule

Sampling Location	**Parameters**			**Schedule**
	CVOCs (EPA Method 624)	pH (EPA Method 9040)	Dechlorination Indicators[1]	
Monitoring Wells # PMW1 – PMW8	X	X	X	6 months after injection

1. In-situ treatment system dechlorination indicators include: Alkalinity; Ammonia-Nitrogen; Nitrate-Nitrogen; Sulfate; Methane/ethene/ethane (low-level analysis); total organic carbon; Dissolved Iron; and Dissolved Manganese.

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

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 SSD and CarBstrateTM injection systems;
- Will be updated periodically to reflect changes in Site conditions or the way the SSD and CarBstrateTM injection systems are operated and maintained.

Further detail regarding the Operation and Maintenance of the SSD system is provided in Appendix G – 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 SSD System Performance Criteria

The SSD System performance criteria are presented below in Table 5-1.

Table 5-1 – SSD System

System Component	Monitoring Parameters	Operating Range[1]	Monitoring Schedule
Extraction Points	Flow Rate	20.1 - 25 inches of water column	Annually
Vacuum monitoring points	Vacuum	0.03 inches of water or greater	Annually

1. Operating range based on the results of the SSD System pilot test performed by EnviroTrac Engineering P.E. P.C and presented in their *Subslab Depressurization System Pilot Study Report* (EnviroTrac Engineering 2024a).

5.3 Operation and Maintenance of Sub-slab Depressurization System

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

5.3.1 System Start-Up and Testing

Pre-Startup

Prior to the safe and successful startup of the SSD system, evaluate and document the following conditions:

- **Electrical Service:** Visually confirm that the electrical service connection is switched OFF at the system circuit breaker located in the electrical service distribution panel. Confirm that the blower power switches are in the OFF position. Prior to any repairs or modifications to the system, the electrical service should be disconnected using the lock out/tag out procedures, and only be conducted by qualified personnel.
- **System Installation:** Assess the SSD System components and document that the components are installed per the SSD system design and are free from damage or obstructions that could impede their operation as designed, including the blowers, piping, depressurization points, and all instrumentation. Defects or damage to the SSD System should be repaired or replaced prior to the startup of the system.
- **Electrical connections:** Visually assess the connections to document that the SSD system components are connected to the electrical service and that electrical components are free of any damage, defects or accumulated debris; and confirm that the SSD system components are connected to electrical service that meets the voltage requirements as specified in the SSD system design documents.
- **Discharge Stack:** Confirm the system discharge stack is not obstructed or blocked with debris that might cause unacceptable back pressure on the system.
- **Other Piping:** Confirm piping, including extraction system piping and condensation bypass piping is free of blockage or damage.

System Startup

Presented below is the SSD system start up procedure. This procedure should be conducted after the pre-startup items above have been assessed and confirmed.

1. Plug in the blowers. Confirm the blower is operating correctly and note if there is noise. Check the inlet vacuum and confirm the vacuum is within the normal operating range of the installed blower. Normal operating

vacuum should range from 0 - 2.0 inches of water column which can be read using the manometer located at the blower inlet. If the blower is not operating correctly, unplug the blowers and make the proper repairs.

2. Once the blowers are operating, note the operating vacuum at the extraction blower using the manometer. This reading will be used as a baseline to determine if the system is operating correctly in the future.

The system testing described above will be conducted if, or when the SSD system goes down (due to power outages or maintenance or repair), or significant changes are made to the system such that the system must be restarted.

The system testing described above will be conducted if, in the course of the SSD 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

Table 5-1 below provides a summary and schedule of routine maintenance.

.Table 5-1: SSD System Monitoring Requirements and Schedule

Remedial System Component	Monitoring Parameters	Monitoring Schedule
Blowers	• The blower is operating correctly and free of excess noise or rattle. • The blower is free of any damage or debris. • The blower is generating the proper amount of flow and vacuum.	Annually
Extraction Points and Piping	• Extraction points are accessible, clean and not covered by debris or otherwise damaged. • System piping is clear of condensation that may have accumulated during operation	Annually
Gauges	• Vacuum gauges are connected to the system piping and are operational. • Vacuum gauge is registering required amount of vacuum at each of the extraction points.	Annually
Alarms	• Alarms are operating as designed	Annually

5.3.3 Non-Routine Operation and Maintenance

1. If the system fails to operate, or alarms are triggered, the following non-routine operation and maintenance activities should be performed: Confirm system is properly connected to the power supply and that electrical service is not compromised or diverted from the SSD system.
2. Visually assess discharge stacks and confirm no obstructions or other blockages.
3. Visually assess piping from the extraction points to the discharge stacks to confirm the piping has not been damaged or otherwise compromised.
4. Confirm the system piping has not accumulated condensation fluids during operations. In the event that condensation has accumulated within the piping, power down the system and allow the condensation to drain back to the extraction point(s).

If any system damage has been noted or the alarm warning device is sounding, the owner should contact the consultant retained by the RP for assistance and/or to schedule any system maintenance.

5.3.4 System Monitoring Devices and Alarms

The SSD 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 SSD system will be restarted. Operational problems will be noted in the Periodic Review Report to be prepared for that reporting period.

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Screening and Climate 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. Climate Screenings can identify potential impacts to Site or remedy and are used to determine if a full-scale Climate Vulnerability Assessment (CVA) is necessary. CVAs provide an in depth evaluation of climate hazards and impacts and present adaptation measures to ensure that remedial systems are resilient.

This section provides a discussion of the Climate Screening and if necessary, a CVA that evaluates the vulnerability of the Site and/or engineering controls to impacts related to potential changes in identified climate hazards. This section also identifies vulnerability assessment updates that will be conducted for the Site in Periodic Review Reports.

- **Flood Plain:** Based on the Flood Insurance Rate Map issued by the Federal Emergency Management Agency (FEMA), the Site is located within the 100-year flood plain (FEMA 2007). The New York City Flood Hazard Mapper classifies both the Site and adjacent Lot 14 (where the SSD system will be installed) as Flood Zone AE with a base flood elevation of 10 feet above mean sea level (New York City Planning 2024). Following flood events, the engineering controls should be assessed to confirm the systems are operating as intended.

- **Sea Level Rise:** The Site's northern boundary is Barbadoes Basin and the Rockaway spit is part of the network of barrier islands that comprise the south shore of long island (Tanski 2012). As a barrier island, the Rockaway spit is susceptible to sea level rise or storm surge events (ex: Super Storm Sandy), as well as shoreline erosion. Following storm surge events, the engineering controls should be assessed to confrm the systems are operating as intended.
- **Site Drainage and Storm Water Management:** Following redevelopment, most of the Site will be covered with the Site building or porous pavement. The existing stormwater outfall into Barbadoes Basin will remain unchanged from pre-development conditions. Additional drainage structures that connect to infiltration-based storm water retention systems will be installed as part of the Site redevelopment.
- **Erosion:** Following completion of the Site redevelopment, the majority of the Site will paved or covered with the Site building. As part of the Site restoration, a tidally influenced wetland will be created along the northern edge of the Site. This wetland area has been designed to withstand inundation. Based on the Site redevelopment plan, erosion is not anticipated to be an issue should there be increased flooding or rain events as a result of climate change.
- **High Wind Events** (Hurricanes, Noreasters, or other high wind events): The redeveloped site is not anticipated to be susceptable to damage from high wind events.
- **Electrical Service:** Power loss and/or fluctuations in voltage as a result of climate-induced storms or regional electrical system overload could impact the operation of the SSD System.
- **Spill/Contaminant Release:** The Site will be used for commercial ministorage facility, and the off-Site building that houses the SSD System is currently used for commercial/light industrial purposes. No liquids or regulated materials would be stored at the Site as part of the long-term remedy that pose a spill release.

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).

- **Waste Generation:** No wastes are expected to be generated at the Site following completion of the Site redevelopment.
- **Energy usage:** an increase in energy usage at the Site will be associated with operation of the SSD system**.**
- **Emissions:** Emissions from the SSD system are anticipated to be below the NYSDEC air discharge standard of 0.5 pounds per year. An increase in carbon dioxide emissions in anticipated related to travel to the site for annual site visits
- **Water usage:** Potable water usage increases are anticipated during future CarBstrate injection events.
- **Land and/or ecosystems:** The Site redevelopment includes the restoration of tidal wetlands at the northern portion of the site, which will add new greenspace in an areas that is heavily urbanized with little to no vegetation.

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.

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.

6.2.5 Metrics and Reporting

As discussed in Section 7.0 and as shown in Appendix I – 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.

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.

REPORTING REQUIREMENTS

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 I. These forms are subject to NYSDEC revision. All Site management inspection, maintenance, and monitoring events will be conducted by 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 Table 7-1 and summarized in the Periodic Review Report.

Table 7-1: Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Inspection Report	Annually
Periodic Review Report	Annually, or as otherwise determined by the NYSDEC
Groundwater Monitoring Reports	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 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. 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 screening to determine if the remedy remains resilient to projected changes in climate hazards.

- An update to the CVA if Site or external conditions have changed since the previous assessment or if the Climate Screening determines one is now required, 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 I.

- 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;

  - The average, high, and low flows per day;

  - The contaminant mass removed and the cost per pound of mass removed during the certification period and during the life of the treatment system;

  - 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 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, [name], of [business address], am certifying as Owner's Designated Site Representative for the Site."

"I certify that the New York State Education Department has granted a Certificate of Authorization to provide Professional Engineering services to the firm that prepared this Periodic Review Report."

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 Appendix M.. 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

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APPENDIX A – ENVIRONMENTAL EASEMENT AND METES AND BOUNDS

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

This page is part of the instrument. The City Register will rely on the information provided by you on this page for purposes of indexing this instrument. The information on this page will control for indexing purposes in the event of any conflict with the rest of the document.

2024052700002001001E05E9

RECORDING AND ENDORSEMENT COVER PAGE **PAGE 1 OF 11**

Document ID: 2024052700002001 Document Date: 05-13-2024 Preparation Date: 05-27-2024
Document Type: EASEMENT
Document Page Count: 10

PRESENTER:
BETTER RECORDINGS, LLC
1 PARAGON DRIVE - RANY-50296
SUITE 150B
MONTVALE, NJ 07645
REC@BETTERTITLERESEARCH.COM

RETURN TO:
BETTER RECORDINGS, LLC
1 PARAGON DRIVE - RANY-50296
SUITE 150B
MONTVALE, NJ 07645
REC@BETTERTITLERESEARCH.COM

PROPERTY DATA

Borough	Block	Lot	Unit	Address
QUEENS	16100	18	Entire Lot	350 BEACH 79 STREET

Property Type: NON-RESIDENTIAL VACANT LAND

CROSS REFERENCE DATA

CRFN_____ *or* DocumentID_____ *or* _____ Year_____ Reel____ Page_____ *or* File Number_____

PARTIES

GRANTOR/SELLER:
79 ARVERNE DEVELOPMENT LLC
220-46 73RD AVENUE
BAYSIDE, NY 11364

GRANTEE/BUYER:
THE STATE OF NEW YORK
C/O: COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENT, 625 BROADWAY
ALBANY, NY 12233

FEES AND TAXES

Mortgage :		
Mortgage Amount:	$	0.00
Taxable Mortgage Amount:	$	0.00
Exemption:		
TAXES: County (Basic):	$	0.00
City (Additional):	$	0.00
Spec (Additional):	$	0.00
TASF:	$	0.00
MTA:	$	0.00
NYCTA:	$	0.00
Additional MRT:	$	0.00
TOTAL:	$	0.00
Recording Fee:	$	87.00
Affidavit Fee:	$	0.00

Filing Fee:	$	100.00
NYC Real Property Transfer Tax:	$	0.00
NYS Real Estate Transfer Tax:	$	0.00

RECORDED OR FILED IN THE OFFICE OF THE CITY REGISTER OF THE CITY OF NEW YORK
Recorded/Filed 05-30-2024 09:08
City Register File No.(CRFN): **2024000136891**

City Register Official Signature

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this as of 13th day of May, 2024, between Owners, 79 Arverne Development, LLC, having an office at 220-46 73rd Avenue, Bayside, County of Queens, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee"), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 350 Beach 79th Street in the City and State of New York, known and designated on the tax map of the New York City Department of Finance being a portion of tax map parcel number: Block 16100, Lot 18 (Former Lot 18 & 20), being a portion of that property conveyed to Grantor by deed dated January 11, 2018 and recorded in the City Register of the City of New York as CRFN # 2018000021063. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 1.228 +/- acres, and is hereinafter more fully described in the Land Title Survey dated February 2, 2022, last revised April 16, 2024, prepared by Gregory S. Gallas, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: C241207-04-18, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls 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 New York City Department of Health and Mental Hygiene 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 the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(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 this Environmental Easement.

B. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation

Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her 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

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against

the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C241207
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the

recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

11. Consistency with the SMP. To the extent there is any conflict or inconsistency between the terms of this Environmental Easement and the SMP, regarding matters specifically addressed by the SMP, the terms of the SMP will control.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

79 Arverne Development, LLC:

By: _____, Manager

Print Name: Uri Kaufman

Title: Manager Date: _____

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF NASSAU)

On the 5th day of May, in the year 2024, before me, the undersigned, personally appeared Uri Kaufman, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public - State of New York

JOSEPH KAUFMAN
Notary Public - State of New York
NO. 01KA0020565
Qualified in Nassau County
My Commission Expires Feb 1, 2028

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting by and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Andrew O. Guglielmi, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 13 day of May, in the year 2024 before me, the undersigned, personally appeared Andrew O. Guglielmi, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

Cheryl A. Salem
Notary Public State of New York
Registration No. 01SA0002177
Qualified in Albany County
My Commission Expires March 3, 2027

SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, LYING AND BEING IN THE FIFTH WARD, BOROUGH AND COUNTY OF QUEENS, CITY AND STATE OF NEW YORK BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE DIVIDING LINE BETWEEN LOT 18, LANDS NOW OR FORMERLY OF 79 ARVERNE DEVELOPMENT LLC, LOT 24, LANDS NOW OR FORMERLY OF BEACH CHANNEL DRIVE LAND ENTERPRISES, INC. AND LOT 29, LANDS NOW OR FORMERLY OF THE DEPARTMENT OF CITY WIDE ADMINISTRATIVE SERVICES (DCAS), ALSO KNOWN AS PARK LANDS PER CITY MAP NO. 3841, DATED JUNE 1, 1956, ADOPTED APRIL 9, 1957, SAID POINT BEING DISTANT THE FOLLOWING TWO COURSES FROM A POINT FORMED BY THE INTERSECTION OF THE NORTHERLY SIDE OF ROCKAWAY FREEWAY (ALSO KNOWN AS BEACH CHANNEL DRIVE), 50 FEET WIDE WITH THE WESTERLY SIDE OF BEACH 77TH STREET (50 FEET WIDE)

A.) NORTH 13 DEGREES 08 MINUTES 14.9 SECONDS EAST, A DISTANCE OF 15.40 FEET TO THE NORTHERLY LINE OF LOT 29 (PARKS LAND) THENCE;

B.) CONTINUING ALONG SAID PARKS LAND WESTERLY 93.63 FEET TO THE ABOVE DESCRIBED POINT AND PLACE OF BEGINNING RUNNING THENCE;

NORTH 15 DEGREES 44 MINUTES 50 SECONDS EAST 325.45 FEET TO THE UNITED STATES PIERHEAD AND BULKHEAD LINE OF BARBADOES BASIN;

THENCE ALONG SAID LINE OF SAID BASIN NORTH 52 DEGREES 23 MINUTES 10 SECONDS WEST 162.82 FEET TO THE EASTERLY SIDE OF LOT 14;

THENCE ALONG SAID LOT LINE SOUTH 16 DEGREES 12 MINUTES 28.5 SECONDS WEST, 373.68 FEET TO THE SOUTHEASTERLY CORNER OF LOT 14 AND THE NORTHEASTERLY CORNER OF LOT 33, THE FOLLOWING TWO COURSES THROUGH LOT 18;

THENCE SOUTH 63 DEGREES 20 MINUTES 01.5 SECONDS EAST, 40.67 FEET TO A POINT;

THENCE SOUTH 16 DEGREES 12 MINUTES 28.5 WEST, 2.38 FEET;

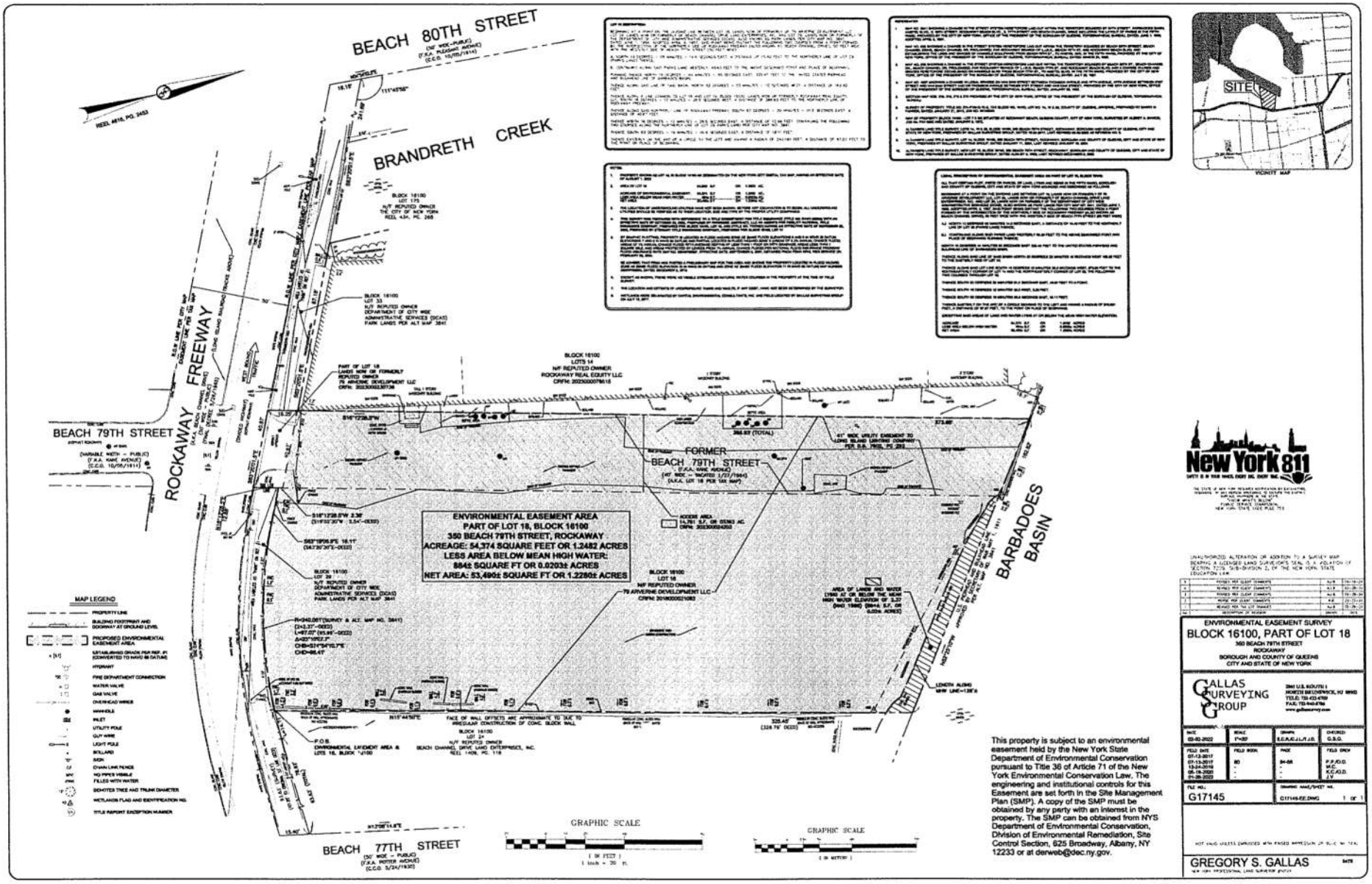
THENCE SOUTH 63 DEGREES 19 MINUTES 06.9 SECONDS EAST, 18.11 FEET;

THENCE EASTERLY ON THE ARC OF A CIRCLE BEARING TO THE LEFT AND HAVING A RADIUS OF 240.061 FEET, A DISTANCE OF 97.07 FEET, TO THE POINT OR PLACE OF BEGINNING.

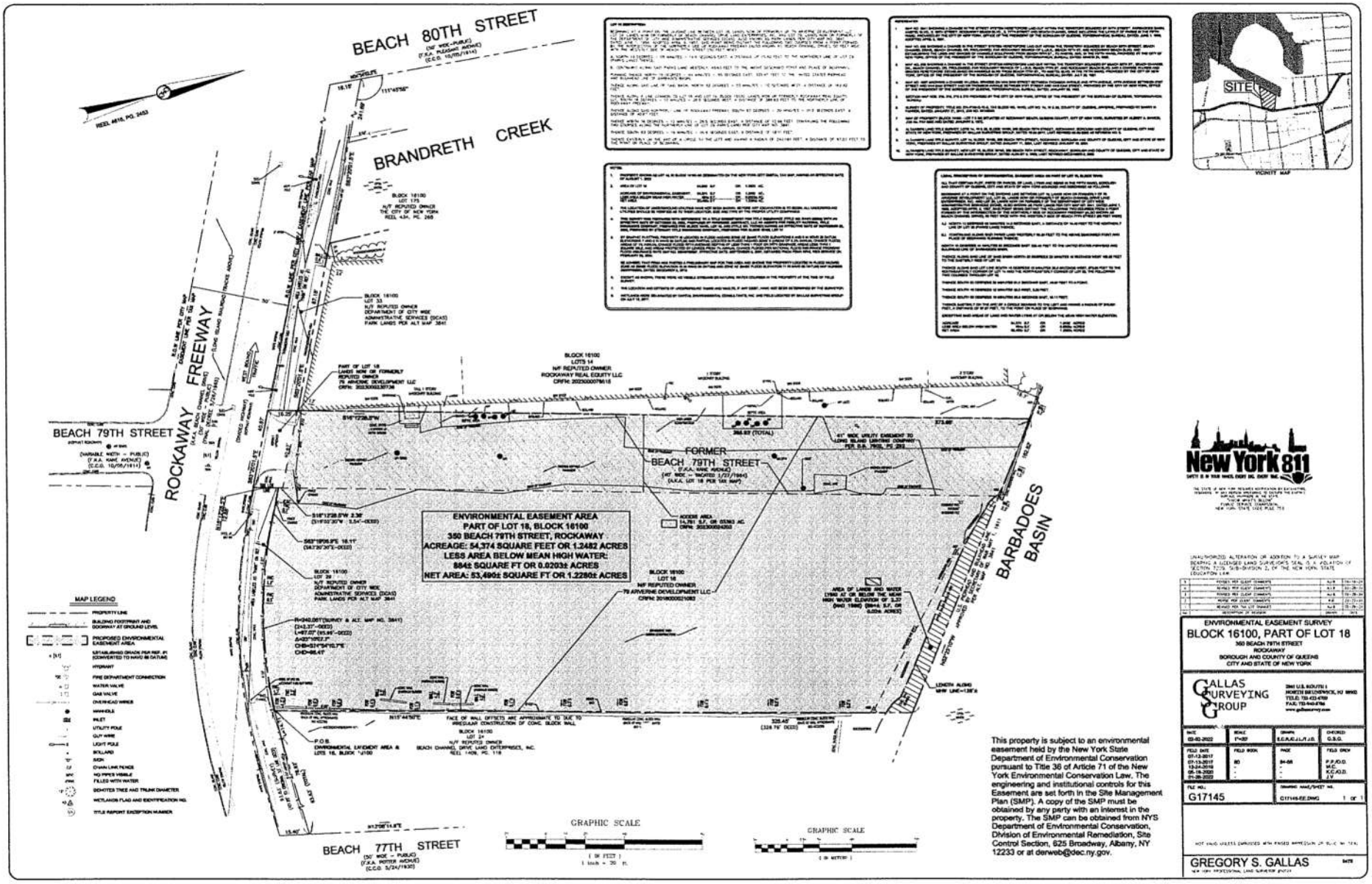
EXCEPTING SAID AREAS OF LAND AND WATER LYING AT OR BELOW THE MEAN HIGH WATER ELEVATION.

ACREAGE	54,374 S.F.	OR	1.2482 ACRES
LESS AREA BELOW HIGH WATER	884± S.F.	OR	0.0203± ACRES
NET AREA	53,490± S.F.	OR	1.2280± ACRES

Schedule "B" Survey



Schedule "B" Survey



APPENDIX B – LIST OF SITE CONTACTS

Role	Name	Phone	Email Address
Site Owner Remedial Party	79 Arverne LLC Uri Kaufman	917-453-3384	urikaufman50@gmail.com
Remedial Engineer	Anchor QEA Engineering, PLLC Margaret Carrillo-Sheridan, PE	315-414-2049	mcarrillo-sheridan@anchorqea.com
NYSDEC Project Manager	Mandy Yau	631- 482-7778	mandy.yau@dec.ny,gov
NYSDEC Project Manager's Supervisor	Cris-Sandra Maycock	718-482-4679	cris-sandra.maycock@dec.ny.gov
NYSDEC Site Control			DERSiteControl@dec.ny.gov
NYSDOH Project Manager	Julia Kenney	518- 402-7873	julia.kenney@health.ny.gov
Lot 14 Building Manager Site Manager	Abingdon Capital, LLC Kevin Desharnais	914-482-7622	kevin@abingdon-llc.com
Remedial Party Attorney	Allen&Desnoyers, LLP Dale Desnoyer, Esq.	518-426-2290	Dale@allendesnoyers.com

APPENDIX C - GEOLOGIC CROSS-SECTIONS AND SOIL BORING LOGS

These will be included in Final SMP and consolidated from the RI Report, PDI Report and FER.

APPENDIX D – GROUNDWATER MONITORING WELL BORING AND CONSTRUCTION LOGS

These will be included in Final SMP and consolidated from the RI Report, PDI Report and FER.

APPENDIX E – EXCAVATION WORK PLAN (EWP)

E-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination or breach or alter the Site's cover system, the Site owner or their representative will notify the NYSDEC contacts listed in the table below. Table [x] includes contact information for the above notification. 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.

Table E-1: Notifications*

Name	Contact Information
NYSDEC Project Manager Mandy Yau	(631) 482-7778 mandy.yau@dec.ny.gov
NYSDEC Project Manager's Supervisor Cris-Sandra Maycock	(718) 482-4679 cris-sandra.maycock@dec.ny.gov
Chief, Site Control Section	DERSiteControl@dec.ny.gov]
NYSDOH Project Manager Julia Kenney	(518) 402-7873 julia.kenney@health.ny.gov

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

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for Site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated, any modifications of truck routes, and any work that may impact an engineering control;

- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern,

potential presence of grossly contaminated media, and plans for any pre-construction sampling;

- A schedule for the work, detailing the start and completion of all intrusive work, and submittals (e.g., reports) to the NYSDEC documenting the completed intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP, 29 CFR 1910.120 and 29 CFR 1926 Subpart P;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix C of this SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with the required request to import form and all supporting documentation including, but not limited to, chemical testing results.

The NYSDEC project manager will review the notification and may impose additional requirements for the excavation that are not listed in this EWP. The alteration, restoration and modification of engineering controls must conform with Article 145 Section 7209 of the Education Law regarding the application professional seals and alterations.

E-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed during all excavations into known or potentially contaminated material (remaining contamination) or a breach of the cover system. A qualified environmental professional as defined in 6 NYCRR Part 375, a 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 will perform the screening. Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-Site disposal and material that requires testing to determine if the material can be reused on-Site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-Site disposal of materials and on-Site reuse is provided in Section D of this Appendix.

E-3 SOIL STAGING METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps unless being actively managed (adding soils or removing stockpiled soils). Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by the NYSDEC.

E-4 MATERIALS EXCAVATION AND LOAD-OUT

A qualified environmental professional as defined in 6 NYCRR Part 375, a 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 will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the Site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the Site. A Site utility stakeout will be completed for all utilities prior to any ground intrusive activities at the Site.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements). Trucks transporting contaminated soil must have either tight-fitting opaque covers that are secured on the sides and/or back, or opaque covers that are locked on all sides.

A truck wash will be operated on-Site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the Site until the activities performed under this section are complete. Truck wash waters will be collected and disposed of off-Site in an appropriate manner.

Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-Site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the Site are clean of dirt and other materials derived from the Site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to

Site-derived materials. Material accumulated from the street cleaning and egress cleaning activities will be disposed off-Site at a permitted landfill facility in accordance with all applicable local, State, and Federal regulations.

E-5 MATERIALS TRANSPORT OFF-SITE

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

Material transported by trucks exiting the Site will be secured with either tight-fitting opaque covers that are secured on the sides and/or back, or opaque covers that are locked on all sides. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes will follow the NYC Department of Transportation Truck Route Map[2]. A copy of the truck route map is attached to this appendix as Exhibit E-1. All trucks loaded with Site materials will exit the vicinity of the Site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport;

Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.

[2] In accordance with the New York City Traffic Rules and Regulations as contained in Chapter 4 of Title 34 of the Rules of the City of New York, all trucks (two axles and six tires, or three or more axles) are required to follow the truck route network to the greatest extent possible, deviating from it only for the minimum distance required to get from their origin to the nearest truck route and/or from the nearest truck route to the destination. The Truck Route network is updated and the drivers are responsible for planning and verifying their route to and from the Site.

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

Queuing of trucks will be performed on-Site in order to minimize off-Site disturbance. Off-Site queuing will be prohibited.

E-6 MATERIALS DISPOSAL OFF-SITE

All material excavated and removed from the Site will be treated as contaminated and regulated material and will be transported and disposed off-Site in a permitted facility in accordance with all local, State and Federal regulations. If disposal of material from this Site is proposed for unregulated off-Site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC project manager. Unregulated off-Site management of materials from this Site will not occur without formal NYSDEC project manager approval.

Off-Site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, (e.g. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C&D debris recovery facility). Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include, but will not be limited to: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-Site will be handled consistent with 6 NYCRR Parts 360, 361, 362, 363, 364 and 365. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State C&D debris recovery facility (6 NYCRR Subpart 360-15 registered or permitted facility).

E-7 MATERIALS REUSE ON-SITE

The qualified environmental professional, as defined in 6 NYCRR Part 375, will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material (i.e. contaminated) does not remain on-Site. Contaminated on-Site material, including historic fill and contaminated soil, that is acceptable for reuse on-Site will be placed below the demarcation layer or impervious surface, and will not be reused within the cover system or within landscaping berms. Contaminated on-Site material may only be used beneath the Site cover as backfill for subsurface utility lines with prior approval from the DEC project manager.

Proposed materials for reuse on-Site must be sampled for full suite analytical parameters including per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. The sampling frequency will be in accordance with DER-10 Table 5.4(e)10 unless prior approval is obtained from the NYSDEC project manager for modification of the sampling frequency. The analytical results of soil/fill material testing must meet the Site use criteria presented in NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for all constituents listed, and the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances dated November 2022 (or date of current version, whichever is later) guidance values. Approvals for modifications to the analytical parameters must be obtained from the NYSDEC project manager prior to the sampling event.

Soil/fill material for reuse on-Site will be segregated and staged as described in Sections X-2 and X-3 of this EWP. The anticipated size and location of stockpiles will be provided in the 15-day notification to the NYSDEC project manager. Stockpile locations will be based on the location of Site excavation activities and proximity to nearby Site features. Material reuse on-Site will comply with requirements of NYSDEC DER-10 Section 5.4(e)4. Any modifications to the requirements of DER-10 Section 5.4(e)4 must be approved by the NYSDEC project manager.

Any demolition material proposed for reuse on-Site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-Site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site will not be reused on-Site.

E-8 FLUIDS MANAGEMENT

All liquids to be removed from the Site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed off-Site at a permitted facility in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the Site, and will be managed off-Site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

E-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the decision document. The cover system is comprised of a minimum of one foot of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Substitution of other materials and components for the cover system may be allowed where such components already exist or are a component of the tangible property to be placed as

part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs. The demarcation layer, consisting of geotextile material, has been placed to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP. The alteration, restoration and modification of engineering controls must conform with Article 145 Section 7209 of the Education Law regarding the application professional seals and alterations.

E-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the Site will be approved by the qualified environmental professional, as defined in 6 NYCRR Part 375, and will be in compliance with provisions in this SMP prior to receipt at the Site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review. A copy of the form is presented in Appendix D.

Material from industrial sites, spill sites, other environmental remediation sites, or potentially contaminated sites will not be imported to the Site.

All imported soils will meet the backfill and cover soil quality standards established in 6 NYCRR 375-6.7(d) and DER-10 Appendix 5 for commercial use. Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in Table E-1. Soils that meet 'general' fill requirements under 6 NYCRR Part 360.13, but do not meet backfill or cover soil

objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC project manager. Soil material will be sampled for the full suite of analytical parameters, including PFAS and 1, 4-dioxane. Solid waste will not be imported onto the Site.

Trucks entering the Site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

E-11 STORMWATER POLLUTION PREVENTION

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

E-12 EXCAVATION CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition. The NYSDEC project manager will be promptly notified of the discovery.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes [TAL metals, TCL volatiles and semi-volatiles (including 1,4-dioxane), TCL pesticides and PCBs, and PFAS], unless the Site history and previous sampling results provide sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC project manager for approval prior to sampling. Any tanks will be closed as per NYSDEC regulations and guidance.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone within two hours to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

E-13 COMMUNITY AIR MONITORING PLAN

A figure showing the location of air sampling stations based on generally prevailing wind conditions is shown in Appendix G. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

E-13A: Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 part-per-million, monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be pre-determined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.

- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 micrograms per cubic meter, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 micrograms per cubic meter or less at the monitoring point.

- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each Site.

E-13B: Special Requirements for Indoor Work with Co-Located Residences or Facilities

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under "Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures" except that in this instance "nearby/occupied structures" would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.

E-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-Site and on-Site. Specific odor control methods to be used on a routine basis will include limiting size of excavation area and exposed soil faces, and or application of a vapor suppressant such as Biosolve® or Rusmar Foam Technologies™. If nuisance odors are identified at the Site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance

odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the remedial party's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-Site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; and (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

E-15 DUST CONTROL PLAN

Particulate monitoring must be conducted according to the Community Air Monitoring Plan (CAMP) provided in Appendix G. If particulate levels at the Site exceed the thresholds listed in the CAMP or if airborne dust is observed on the Site or leaving the Site, the dust suppression techniques listed below will be employed. The remedial party will also take measures listed below to prevent dust production on the Site.

A dust suppression plan that addresses dust management during invasive on-Site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved using a dedicated on-Site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.

- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-Site roads will be limited in total area to minimize the area required for water truck sprinkling.

E-16 OTHER NUISANCES

A plan for rodent control will be developed and utilized by the contractor prior to and during Site clearing and Site grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

APPENDIX F – GENERIC HEALTH AND SAFETY PLAN

Will be included in Final SMP

APPENDIX G – COMMUNITY AIR MONITORING PLAN

Will be included in Final SMP

APPENDIX H – OPERATION, MAINTENTANCE, AND MONITORING MANUAL

Will be included in Final SMP

APPENDIX I – QUALITY ASSURANCE PROJECT PLAN

Will be included in Final SMP

APPENDIX J – SITE MANAGEMENT FORMS

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 K – FIELD ACTIVITIES PLAN

Will be included in Final SMP

APPENDIX L – RESPONSIBILITIES OF OWNER

L-1 Responsibilities

The responsibilities for implementing the Site Management Plan ("SMP") for the Far Rockaway Site (the "Site"), number C241207, are divided between the Site owner(s) and a Remedial Party, as defined below. The owner(s) is currently listed as:

Uri Kaufman
79 Arverne Development LLC
220-46 73rd Ave
Bayside, NY 11364
917-453-3384
urikaufman50@gmail.com

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:

Uri Kaufman
79 Arverne Development LLC
220-46 73rd Ave
Bayside, NY 11364
917-453-3384
urikaufman50@gmail.com

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) The owner will (NOT APPLICABLE) on behalf of the RP. The RP remains ultimately responsible for maintaining the engineering controls.

9) 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.

10) 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 H (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 M – REMEDIAL SYSTEM OPTIMIZATION TABLE OF CONTENTS

REMEDIAL SYSTEM OPTIMIZATION FOR 3-60 BEACH 79TH STREET FAR ROCKAWAY, NEW YORK

TABLE OF CONTENTS

APPENDIX N

PERMITS AND/OR PERMIT EQUIVALENT

Copies of permits will be included in final SMP.

APPENDIX N - REQUEST TO IMPORT/REUSE FILL MATERIAL FORM

Refer to https://extapps.dec.ny.gov/docs/remediation_hudson_pdf/requesttoreusesoil.pdf for original forms. A copy of the April 2023 version of the form is on the following page.

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:

Have Ecological Resources been identified?

Is this soil originating from the site?

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

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?

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

Is this virgin material from a permitted mine or quarry?

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

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.

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SECTION 3 CONT'D - SAMPLING

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

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

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

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

Location where fill was obtained:

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

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

Provide a list of supporting documentation included with this request:

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The information provided on this form is accurate and complete.

_____ _____

Signature Date

_____

Print Name

_____

Firm

Revised April 2023