DECISION DOCUMENT

475 Bay Street and 31 Wave Street
Brownfield Cleanup Program
Staten Island, Richmond County
Site No. C243044
October 2021

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - DECISION DOCUMENT

475 Bay Street and 31 Wave Street
Brownfield Cleanup Program
Staten Island, Richmond County
Site No. C243044
October 2021

Statement of Purpose and Basis

This document presents the remedy for the 475 Bay Street and 31 Wave Street brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the 475 Bay Street and 31 Wave Street site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at

a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation

The existing on-site building will be demolished and materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

Excavation and off-site disposal of contaminant source areas, including:

- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead; and
- soils which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standards.

Excavation and off-site disposal of all on-site soils which exceed restricted-residential soil cleanup objectives (SCOs), as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet.

Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

Approximately 9,300 cubic yards of contaminated soil will be removed from the site.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

4. Engineering and Institutional Controls

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 2 restricted residential cleanup at a minimum.

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 the Department a periodic certification of institutional controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for restricted residential 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 NYSDOH or NYCDOH; and
- require compliance with the Department approved Site Management Plan.

5. Site Management Plan

A Site Management Plan is required, which includes the following:
a. an Institutional Control Plan that identifies all use restrictions for the site and details the steps and media-specific requirements necessary to ensure the following institutional control remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 4 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions to address exposures related to soil vapor intrusion;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional control.

a. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
   - monitoring of groundwater to assess the performance and effectiveness of the remedy;
   - a schedule of monitoring and frequency of submittals to the Department;
   - monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

October 13, 2021

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

475 Bay Street and 31 Wave Street
Staten Island, Richmond County
Site No. C243044
October 2021

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, where a contaminant is present at levels exceeding the soil cleanup objectives or other health-based or environmental standards, criteria or guidance, based on the reasonably anticipated use of the property.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C243044

New York Public Libary - Stapleton Branch
132 Canal Street
Staten Island, NY 10304
Phone: (718) 727-0427

Staten Island Community Board 1

1 Edgewater Plaza, Suite 217
Staten Island, NY 10305
Phone: (718) 981-6900

Receive Site Citizen Participation Information by Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The 1.53-acre site is located at 475 Bay Street and 31 Wave Street, in the Stapleton Heights section of Staten Island, NY. The site occupies a portion of Block 488, Lots 9, 157, 162, and 164. The site is bounded to the north by commercial and industrial buildings; to the east by the elevated NYCT Staten Island Railway, followed by Murry Hulbert Avenue and then parkland; to the south by commercial buildings; and to the west by Bay Street followed by commercial and residential buildings.

Site Features: Lots 9, 157, and 162 are all asphalt and gravel paved. Lot 164 is occupied by a vacant one-story slab-on-grade building and an asphalt paved parking area. The western portion of the site is paved with concrete or is covered with gravel and overgrown with vegetation. The site is enclosed in a security fence and gate.

Current Zoning and Land Use: The site is located in the Special Bay Street Corridor District (BSC). The site is zoned R6/C2-3 (residential with a commercial overlay). The site is currently vacant.

Past Use of the Site: By the late 1890s, the lots were improved with residential, commercial, and industrial buildings. Several industrial enterprises have occupied portions of the site: lumber yard (1889 to 1917), coal yard (1937 to 1950), a gasoline filling station with three tanks, a grease and oil storage shed (1937 to 1950), a sand and gravel yard with one gasoline tank and two garages (1950 to 1962), auto painting (1937 to 1950), auto repair (1977), unlabeled manufacturing (1981 to 1988), iron works facility (1984), a truck shop (1937 to 1950). By 1991, Lots 9, 157, and 162 were vacant and Lot 164 was developed with a one-story commercial building. Site conditions appeared generally the same from 1991 to 2007. The auto repair facility on Lot 164 was also identified in the Solid Waste/Landfill (SW/LF) database as a car dismantling facility.

Site Geology and Hydrogeology: The site consists of historic fill material extending to depths between 5 and 13 feet below ground surface (bgs). The fill material consists of brown and black, fine to coarse grained sand with varying amounts of gravel, silt, brick, coal, slag, ceramics, wood, incinerated material, and concrete. Fill material is underlain by light gray to reddish brown silty, fine sand with varying amounts of fine gravel and clay lenses. Bedrock was not encountered

during site investigation, and the expected depth to bedrock is between 30-50 feet. Groundwater was encountered between about 3.5 and 5 feet bgs, and flows east-southeast towards The Narrows/New York Harbor.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant under the Brownfield Cleanup Agreement is a Volunteer. The Applicant do not have an obligation to address off-site contamination. However, the Department has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- soil
- groundwater
- soil vapor
- sub-slab air
- indoor air
- air

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

lead
mercury
barium
arsenic
nickel
trivalent chromium
benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
benzo(k)fluoranthene
chrysene
dibenzo(a,h)anthracene
fluoranthene
indeno(1,2,3-cd)pyrene
phenanthrene
pyrene
tetrachloroethene
trichloroethene
cis-1,2-dichloroethene
carbon tetrachloride

The contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Nature and Extent of Contamination:

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), pesticides and 1,4-dioxane. Soil vapor was analyzed for VOCs. Based upon investigations conducted to date, the primary contaminants of concern for the site include metals and SVOCs.

Soil - Soil data were compared to Restricted-Residential Soil Cleanup Objectives (RRSCOs) and Protection of Groundwater Soil Cleanup Objectives (PGSCO). The contaminants of concern in soil are metals and SVOCs, which were both found throughout the site at depths of up to 20 feet below ground surface. Exceedances of PGSCOs were only in the top 15 feet. Lead was detected at a maximum of 2,530 parts per million (ppm) (RRSCO is 400 ppm); mercury was detected at a maximum of 5.76 ppm (RRSCO of 0.81 ppm); arsenic was detected at a maximum of 18.8 ppm (RRSCO of 16 ppm); barium was detected at a maximum of 453 ppm (RRSCO of 400 ppm); and nickel was detected at a maximum of 488 ppm (RRSCO of 310 ppm). There are two lead and barium hot spots located in the southern portion of the site and a mercury hot spot located in the south central portion of the site Benzo(a)anthracene was detected at a maximum concentration of 34.7 ppm (RRSCO is 1 ppm, PGSCO 1 ppm);benzo(a)pyrene at a maximum concentration of 46.1 ppm (RRSCO is 1 ppm); benzo(b)fluoranthene at a maximum concentration of 38 ppm (RRSCO is 1 ppm); benzo(k)fluoranthene at a maximum concentration of 35.2 ppm (RRSCO is 3.9 ppm); chrysene at a maximum of 43.2 ppm (RRSCO of 3.9 ppm, PGSCO of 1 ppm); dibenzo(a,h)anthracene at a maximum of 7.34 ppm (RRSCO of 0.33 ppm); fluoranthene was detected at a maximum concentration of 135 ppm (RRSCO is 100 ppm);indeno(1,2,3-cd)pyrene at a maximum concentration of 26.1 ppm (RRSCO is 0.5 ppm). No VOCs, pesticides or PCBs were detected at concentrations exceeding RRSCOs.

1,4-dioxane was not detected above the reporting limit. Perfluorooctanoic acid (PFOA) was detected at a maximum of .134 parts per billion (ppb); the guidance value for restricted residential site use is 44 ppb and protection of groundwater is 1.1 ppb. Perfluorooctanesulfonic acid (PFOS) was detected on site at a maximum of 0.53 ppb; the guidance value for restricted residential site

use is 33 ppb and protection of groundwater is 3.7 ppb. Data does not indicate any off-site impacts in soil related to this site.

Groundwater - Groundwater data was compared to NYSDEC TOGS Ambient Water Quality Standards (AWQSs). Benzo(a)anthracene was detected at a maximum of 0.0649 ppb (AWQS is 0.002 ppb); and chrysene detected at a maximum of 0.0757 ppb (AWQS is 0.002 ppb). Metals, VOCs, SVOCs other than benzo(a)anthracene and chrysene, pesticides, herbicides, and PCBs were not detected above AWQSs. 1,4-dioxane was not detected above the reporting limit and is not considered a contaminant of concern. PFOA was detected at a maximum of 178 parts per trillion (ppt); the Maximum Contaminant Level (MCL) is 10 ppt. PFOS was detected at a maximum of 130 ppt; the MCL is 10 ppt. PFOA and PFOS were not detected above PGSCOs onsite and levels in groundwater are consistent across the site. The source of PFOA and PFOS in groundwater is unknown. No VOCs, metals, pesticides or PCBs were detected at concentrations exceeding AWQS.

Soil Vapor Soil vapor was sampled for VOCs. Tetrachloroethene (PCE) detections ranged from 3.1 – 13 µg/m^3; tetrachloroethene (TCE) was detected in one sample at 0.38 µg/m^3; cis-1,2-dichloroethenedetections ranged from 0.21 – 1.1 µg/m^3. Carbon tetrachloride detections ranged from 0.3 – 0.78 µg/m^3. Data do not indicate any off-site impacts in soil vapor related to this site.

Sub-slab and Indoor Air– Sub-slab vapor and indoor air data from an onsite building were compared to the *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, October 2006, with updates. Sub-slab detections of PCE ranged from 2 – 35 µg/m3; PCE was not detected in the indoor air samples collocated with the sub-slab samples. Sub-slab detections of carbon tetrachloride ranged from 0.42 – 0.51 µg/m^3; carbon tetrachloride was detected in one, collocated indoor air sample at 0. 5 µg/m^3. Based on these data, no actions were needed to address soil vapor intrusion on the site. Data do not indicate any off-site impacts in soil vapor related to this site.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

Since the site is fenced and covered with asphalt or concrete, people will not come into contact with site-related soil contamination unless they dig below the surface. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in soil vapor (air spaces within the soil) may move into buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site development. In addition, sampling indicates that soil vapor intrusion is not a concern for off-site buildings.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

RAOs for Environmental Protection

- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
-

RAOs for Environmental Protection

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

Soil Vapor

RAOs for Public Health Protection

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

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Track 2: Restricted use with generic soil cleanup objectives remedy.

The selected remedy is referred to as the Excavation remedy.

The elements of the selected remedy, as shown in Figure 2, are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation

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Excavation and off-site disposal of contaminant source areas, including:

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Excavation and off-site disposal of all on-site soils which exceed restricted-residential SCOs, as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet.

Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

Approximately 9,300 cubic yards of contaminated soil will be removed from the site.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

Engineering and Institutional Controls
Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 2 restricted residential cleanup at a minimum.

4. 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 the Department a periodic certification of institutional controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for restricted residential 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 NYSDOH or NYCDOH; and
- require compliance with the Department approved Site Management Plan.

5. Site Management Plan

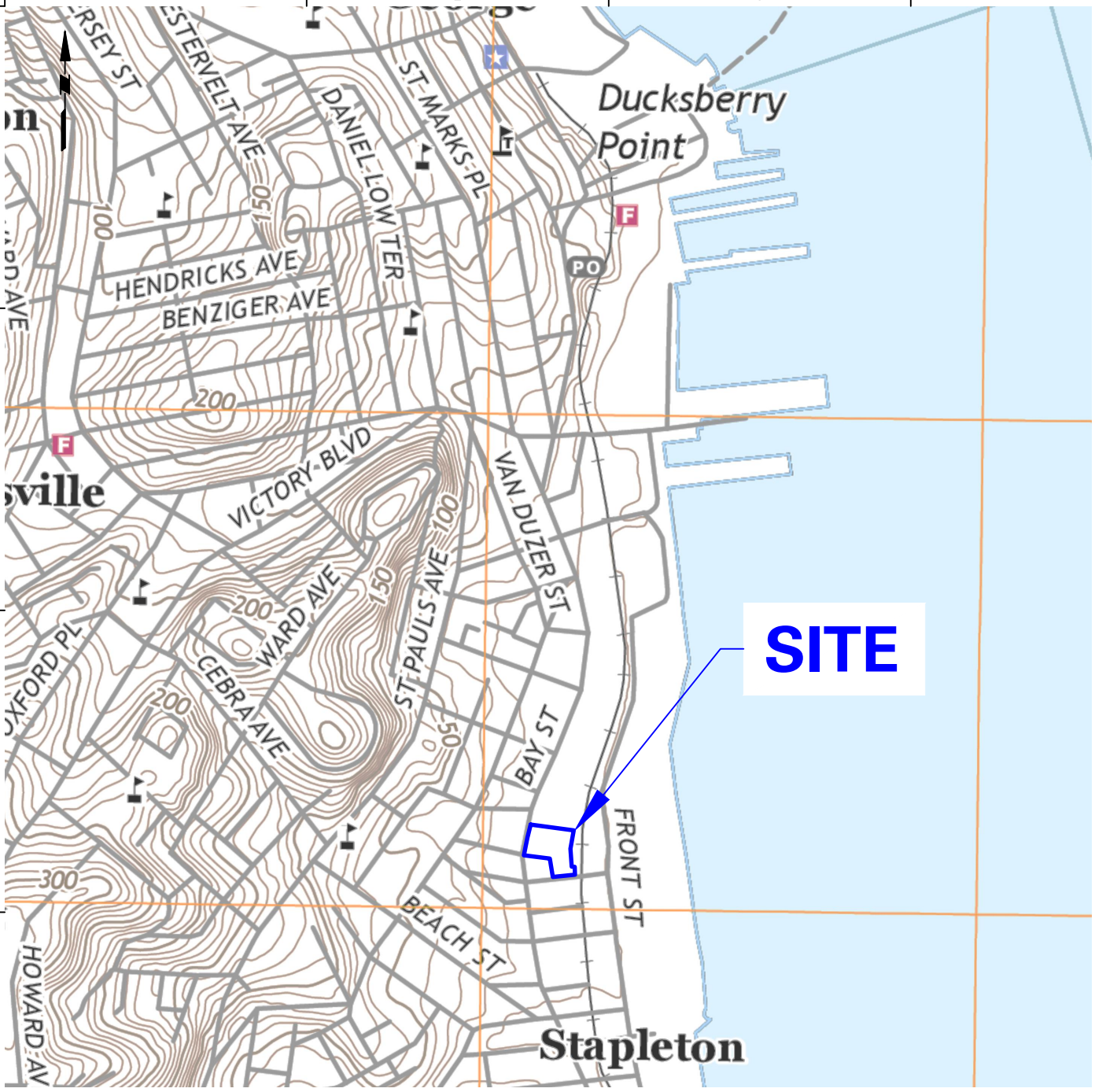
A Site Management Plan is required, which includes the following:
a. an Institutional Control Plan that identifies all use restrictions for the site and details the steps and media-specific requirements necessary to ensure the following institutional control remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 4 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions to address exposures related to soil vapor intrusion;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional control.

    - a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to monitoring of groundwater to assess the performance and effectiveness of the remedy;
    - a schedule of monitoring and frequency of submittals to the Department;
    - monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.



LEGEND:

APPROXIMATE SITE BOUNDARY

NOTES:

1. BASE MAP IS REFERENCED FROM UNITED STATES GEOLOGICAL SURVEY (USGS) 7.5-MINUTE SERIES TOPOGRAPHICAL MAPS, JERSEY CITY QUADRANGLE, DATED 2016.

1000 0 500 1000

SCALE IN FEET

LANGAN

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New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan International LLC

Collectively known as Langan

Project

475 BAY STREET AND 31 WAVE STREET

BLOCK No. 488, LOT Nos. 9, 157, 162, & 164
STATEN ISLAND

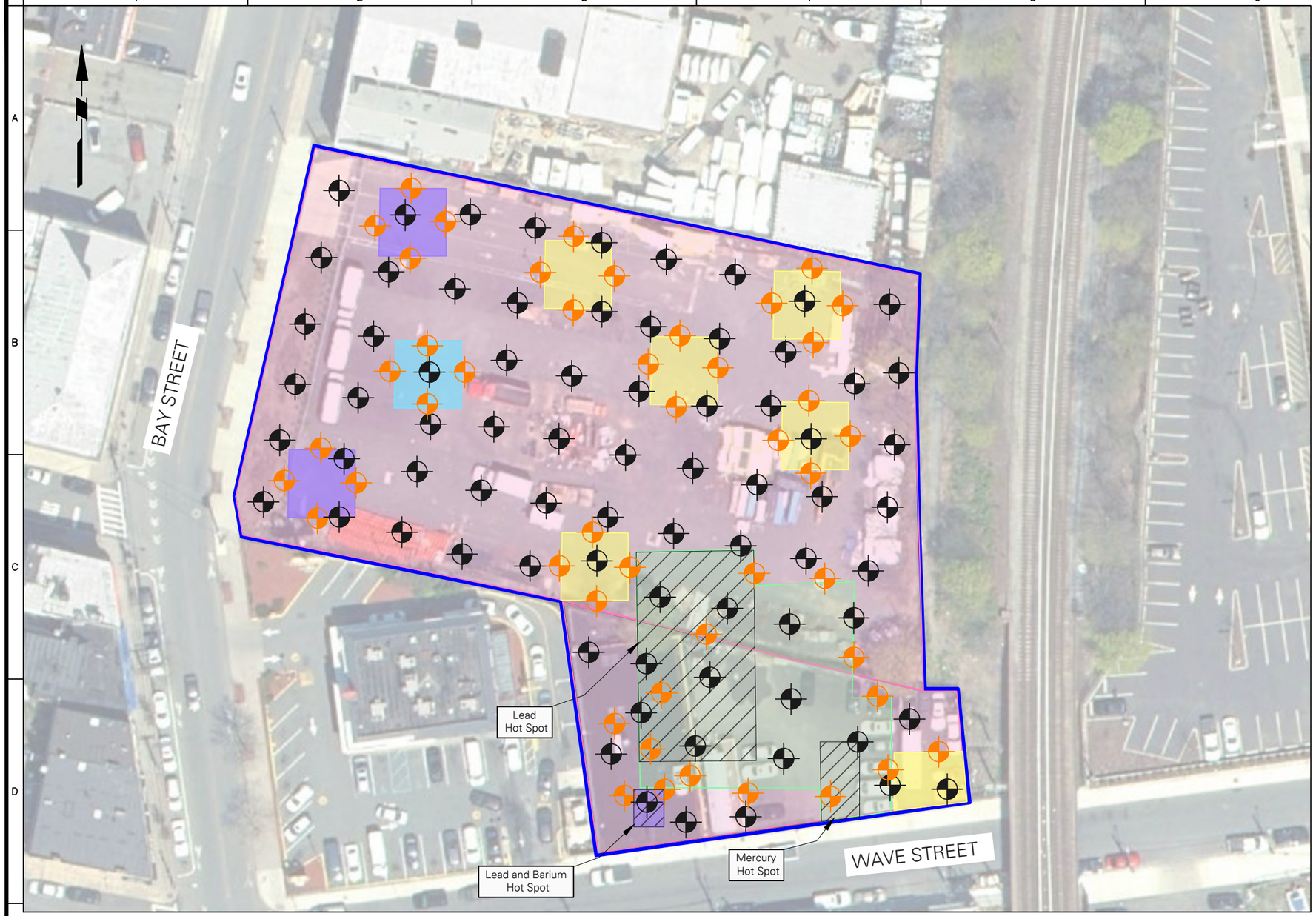
RICHMOND COUNTY NEW YORK

Figure Title

SITE LOCATION MAP

Project No. 170610601	Figure No. 1
Date 02/03/2020	
Scale 1" = 1000'	
Drawn By KG / Checked By	
Submission Date	Sheet 1 of 14

Filename: \\langan.com\data\NYC\data6\170610601\Project Data\CAD\01\SheetFiles\Environmental\RIR\Figure 1 - Site Location Map.dwg Date: 10/27/2020 Time: 12:42 User: dpalazzolo Style Table: Langan.stb Layout: Site Location Map



LEGEND:

- APPROXIMATE SITE BOUNDARY
- PROPOSED ENDPOINT SAMPLE LOCATION
- PROPOSED SIDEWALL CONFIRMATION SAMPLE LOCATION
- EXCAVATION TO ABOUT 2 FEET BGS
- EXCAVATION TO ABOUT 5 FEET BGS
- EXCAVATION TO ABOUT 9 FEET BGS
- EXCAVATION TO ABOUT 11 FEET BGS
- EXCAVATION TO ABOUT 15 FEET BGS
- APPROXIMATE AREA OF HOT SPOT

GENERAL NOTES:

1. BASEMAP TAKEN FROM LANGAN ENGINEERING, ENVIRONMENTAL, SURVEYING, LANDSCAPE ARCHITECTURE & GEOLOGY, D.P.C. NEARMAP WEB PORTAL, ACCESSED ON JANUARY 29, 2020.
2. LANGAN SOIL BORING AND SOIL VAPOR SAMPLES SHOWN ARE APPROXIMATE AND BASED ON FIELD MEASUREMENTS, EXCEPT FOR THOSE CO-LOCATED TO MONITORING WELLS
3. BGS = BELOW GRADE SURFACE

50 0 25 50
SCALE: 1 INCH = 50 FEET

LANGAN
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Project
475 BAY STREET & 31 WAVE STREET
BLOCK No. 488, LOTS No. 9, 157, 162, 164
STATEN ISLAND
RICHMOND COUNTY NEW YORK

Figure Title
PROPOSED ENDPOINT SAMPLE LOCATION PLAN

Project No.	170610601
Date	06/30/2021
Drawn By	DP
Checked By	KS

Figure **2**

Filename: \\langan.com\data\NYC\data6\170610601\Project Data\CAD\01\SheetFiles\Environmental\RAWP\Figure 2 - Proposed End Point Sample Plan_DEC Request.dwg Date: 9/30/2021 Time: 10:55 User: dstammers Style Table: Langan.stb Layout: ANSIB-BL (1)