DECISION DOCUMENT

197 - 201 Canal Street
Brownfield Cleanup Program
Staten Island, Richmond County
Site No. C243046
February 2023

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

DECLARATION STATEMENT - DECISION DOCUMENT

197 - 201 Canal Street
Brownfield Cleanup Program
Staten Island, Richmond County
Site No. C243046
February 2023

Statement of Purpose and Basis

This document presents the remedy for the 197 - 201 Canal 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 197 - 201 Canal 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; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.
- 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

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

- soils which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8, for lead which was found in site groundwater above standards.

All soils in the upper two feet which exceed the Restricted Residential SCOs will be excavated and transported off-site for disposal.

Approximately 940 cubic yards of contaminated soil will be removed from the site. Collection and analysis of confirmation samples at the remedial excavation depth will be used to verify that PGSCOs for the site have been achieved. If confirmation sampling indicates that PGSCOs were not achieved at the stated remedial depth, the Applicant must notify DEC, submit the sample results and, in consultation with DEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that PGSCOs for the site have been achieved.

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. Cover System

A site cover will be required in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs), to allow for future Restricted Residential use of the site. Where a soil cover is to be used it will be a minimum of two feet 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.

5. 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 4 Restricted Residential cleanup at a minimum and will include imposition of a site cover as an engineering 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 and engineering 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.

6. Site Management Plan

A Site Management Plan is required, which includes the following:

a) An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

i. Institutional Controls: The Environmental Easement discussed in Paragraph 5 above.
ii. Engineering Controls: The Cover System discussed in Paragraph 4 above.

This plan includes, but may not be limited to:

- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b) a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- 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.

c) an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

- procedures for operating and maintaining the remedy;
- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining site access controls and Department notification; and
- providing the Department access to the site and O&M records.

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.

February 6, 2023

Date

Jane H. O'Connell, Regional Remediation Engineer
Region 2

DECISION DOCUMENT

197 - 201 Canal Street
Staten Island, Richmond County
Site No. C243046
February 2023

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=C243046

Staten Island Public Library - 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 0.29-acre (12,600 square feet) site is located at 197 - 201 Canal Street in the Stapleton Heights neighborhood of Staten Island, NY, and is designated as Tax Block 527, Lot 50. The site is in a residential and commercial area on a city block bounded by Boyd Street to the north, Wright Street to the east, Canal Street to the south, and Cedar Street to the west.

Site Features: The site is currently vacant and overgrown with vegetation. Prior to a lot merger in January 2022, the site was comprised of two separate lots, Lot 50 and Lot 52. Site grade is approximately 28 feet above mean sea level. The topography of the site and surrounding area is generally level with a gradual slope towards the east.

Current Zoning and Land Use: The site is located within a residential district with a commercial overlay (R6B and C2-3). The site is also located within an area designated for Mandatory Inclusionary Housing (MIH). The adjoining parcels are used for commercial and residential purposes, with the surrounding area generally consisting of residential, commercial, open space and institutional developments.

Past Use of the Site: The site was historically improved with three commercial buildings as early as 1885. Between 1885 and 1970, the site was used for various commercial and light industrial operations including a hotel and secondhand furniture store, a hand printing shop and beer garden, a bowling alley, a shoe company, tackle shop, and food market on Lot 52; and a millinery, tin/metalworking shop, cigar store, a tire sales and services shop, and a barber shop on Lot 50. The buildings were demolished by 1977, and Lot 52 was used for metal storage between at least 1981 and 1983. The site has remained vacant since 1986.

Site Geology and Hydrogeology: The site is underlain with historic fill to depths ranging between 3.5 to 10 feet below grade surface (bgs). The historic fill layer is generally characterized by fine- to coarse-grained sand, silt, and gravel, with varying amounts of brick, asphalt, and concrete. A native layer of medium- to coarse-grained sand with silt was observed below the

historic fill layer, followed by a silt layer extending to boring termination depths of between 10 and 15 feet bgs. In two of the seven soil borings, historic fill is directly underlain by the silt layer. Bedrock was not encountered during the RI, however, depth to bedrock is estimated at 20 to 25 feet bgs. Groundwater at the site was measured at depths ranging from 4.21 to 6.45 feet bgs and flows to flows east towards The Narrows, which is located approximately 2000 feet from the site.

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 that restrict 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 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 does 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:

- groundwater
- soil
- soil vapor

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:

benzo(a)anthracene	indeno(1,2,3-cd)pyrene
benzo(a)pyrene	lead
benzo(b)fluoranthene	benzo(k)fluoranthene
barium	methyl ethyl ketone (2-butanone)

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), and pesticides. Soil vapor samples were analyzed for VOCs. Based upon investigations conducted to date, the primary contaminants of concern are SVOCs and metals, most notably lead, in soil and groundwater, and VOCs in soil vapor.

Soil - Four SVOCs, were detected in shallow soil samples in exceedance of the Restricted Residential Soil Cleanup Objectives (RRSCOs) including benzo(a)anthracene at a maximum concentration of 1.3 parts per million, or ppm (RRSCO is 1 ppm), benzo(a)pyrene (max. 1.6 ppm, RRSCO is 1 ppm), benzo(b)fluoranthene (max. 2.3 ppm, RRSCO is 1 ppm), and indeno(1,2,3-cd)pyrene (max. 1.2 ppm, RRSCO is 0.5 ppm). Several metals were detected at concentrations exceeding the RRSCOs, including barium (max. 894 ppm, RRSCO is 400 ppm), mercury (max. 1.9 ppm, RRSCO is 0.81 ppm), and lead (max. 4,060 ppm, RRSCO is 400 ppm). This concentration of lead also exceeds the Protection of Groundwater SCO of 450 ppm, which is applicable since dissolved lead was found in groundwater. No VOCs, PCBs or pesticides were found at concentrations exceeding the RRSCOs, and no PFAS were found at concentrations exceeding the restricted residential guidance values. Data does not indicate any off-site impacts in soil related to this site.

Groundwater - Five SVOCs were identified in groundwater samples at concentrations above the Ambient Water Quality Standard (AWQS) of 0.002 parts per billion (ppb), including benzo(a)anthracene (max. 0.17 ppb), benzo(b)fluoranthene (max. 0.2 ppb), benzo(k)fluoranthene (max. 0.09 ppb), chrysene (max. 0.15 ppb), and indeno(1,2,3-cd)pyrene (max. 0.14 ppb). Benzo(a)pyrene (max. 0.17 ppb) was also identified in groundwater, exceeding the AWQS of non-detect. One dissolved metal of concern, lead, was detected in exceedance of the AWQS of 25 ppb at a maximum concentration 34.01 ppb. For the PFAS compounds, perfluorooctanoic acid (PFOA) was found at a maximum concentration of 253 parts per trillion (ppt) and perfluorooctanesulfonic acid (PFOS) at a maximum concentration of 25.8 ppt. These detections exceed the maximum contaminant level, or MCL (drinking water standard) or 10 ppt each. Data does not indicate any off-site impacts in groundwater related to this site.

Soil Vapor - Several VOCs were detected in soil vapor throughout the site, including benzene at a maximum concentration of 22.4 micrograms per cubic meter ($\mu g/m^3$), toluene (max. 23.3 $\mu g/m^3$), ethylbenzene (max. 10.5 $\mu g/m^3$), total xylene (max. 145.5 $\mu g/m^3$), 2-butanone (max. 1,610 $\mu g/m^3$), and n-hexane (max 36.3 $\mu g/m^3$). Data does 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.*

The site is completely fenced which restricts public access. Persons who enter the site may come in contact with contaminants in soil by walking on, digging through, or otherwise disturbing the soil. People are not drinking contaminated groundwater because the area is served by a public water supply that is not affected by site contamination. Volatile organic compounds in the soil vapor (air spaces within the soil) can 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. Because the site is vacant and unoccupied, soil vapor intrusion is not a current concern. The potential exists for inhalation of site-related contaminants due to soil vapor intrusion for any future on-site redevelopment and building occupancy. Environmental sampling indicates that soil vapor intrusion from site contaminants 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.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

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

Soil Vapor

RAOs for Public Health Protection

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

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 4: Restricted use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as the Soil Excavation and Site Cover remedy.

The elements of the selected remedy, as shown in Figures 2 and 3, 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; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.
- 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

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

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All soils in the upper two feet which exceed the Restricted Residential SCOs will be excavated and transported off-site for disposal.

Approximately 940 cubic yards of contaminated soil will be removed from the site. Collection and analysis of confirmation samples at the remedial excavation depth will be used to verify that PGSCOs for the site have been achieved. If confirmation sampling indicates that PGSCOs were not achieved at the stated remedial depth, the Applicant must notify DEC, submit the sample results and, and in consultation with DEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that PGSCOs for the site have been achieved.

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.

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A site cover will be required in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs), to allow for future Restricted Residential use of the site. Where a soil cover is to be used it will be a minimum of two feet 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.

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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 and engineering 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.

6. Site Management Plan

A Site Management Plan is required, which includes the following:

a) An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

i. Institutional Controls: The Environmental Easement discussed in Paragraph 5 above.
ii. Engineering Controls: The Cover System discussed in Paragraph 4 above.

This plan includes, but may not be limited to:

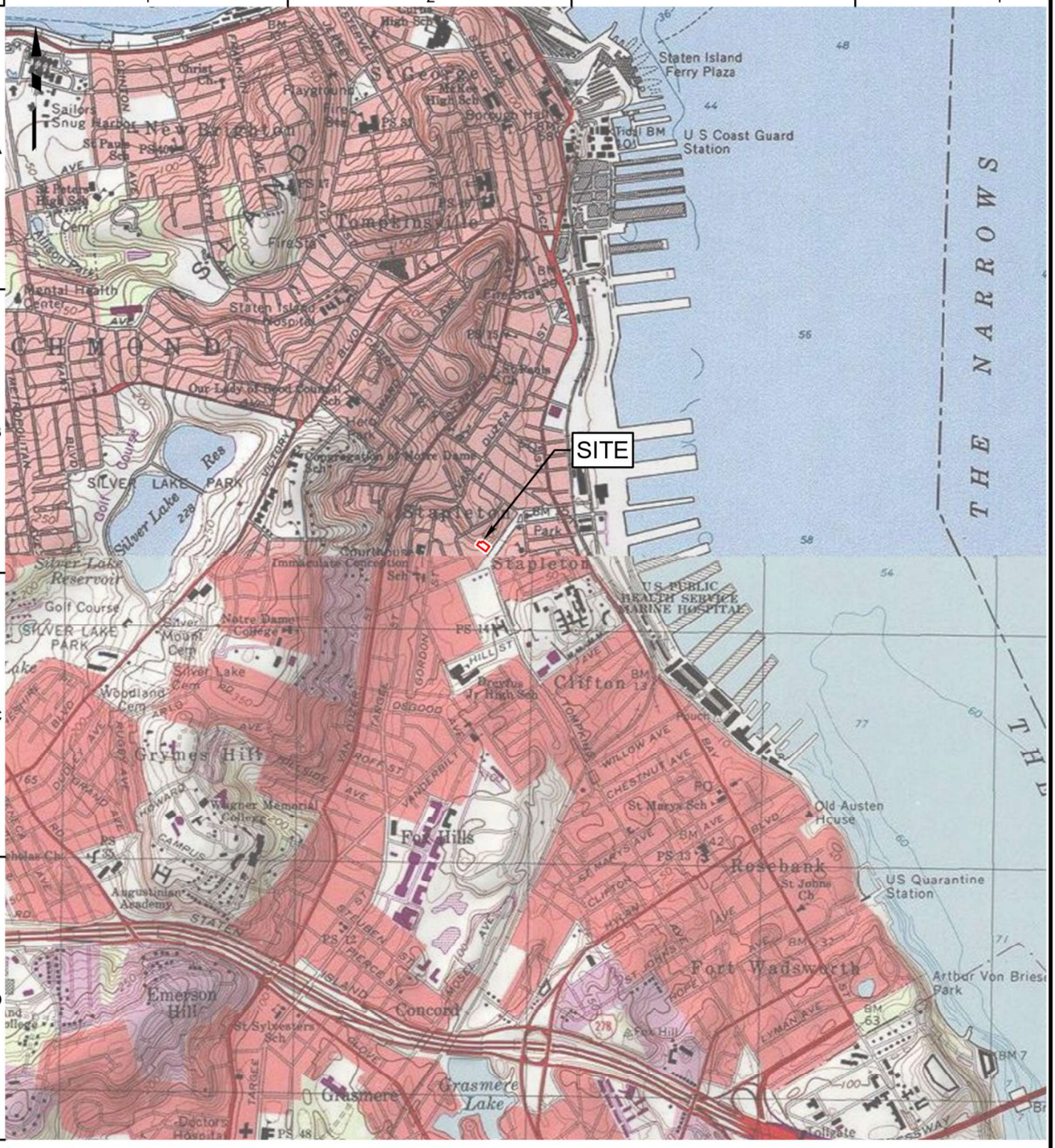
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b) a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- 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.

c) an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

- procedures for operating and maintaining the remedy;
- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining site access controls and Department notification; and
- providing the Department access to the site and O&M records.



Legend

Approximate Site Boundary

2,000 0 2,000

SCALE IN FEET

Notes:
1. Basemap adapted from United States Geological Survey (USGS) 7.5-Minute Series Topographical Maps, Jersey City, New York, Quadrangle.

LANGAN

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T. 212.479.5400 F. 212.479.5444 www.langan.com

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

Collectively known as Langan

Project
197-201 CANAL STREET
BLOCK No. 527 LOT No. 50
STATEN ISLAND
RICHMOND COUNTY NEW YORK

Figure Title
SITE LOCATION MAP

Project No.	170702101
Date	7/20/2022
Scale	1"=2,000'
Drawn By	GS
Submission Date	

Figure No. 1

Path: \\langan.com\data\NYC\data1\170702101\Project Data\ArcGIS\APRX\170702101.aprx Date: 7/20/2022 User: Gsajbel Time: 4:02 PM

Legend

- Approximate Site Boundary
- Excavation to about 2 feet bgs
- Approximate Extent of Lead-Impacted Area
- Approximate Soil Boring Location
- Approximate Soil Boring and Monitoring Well Location

Notes:
1. Aerial imagery provided through Langan's subscription to NearMap.com, flown 02/27/2022.
2. Sample locations from "Figure 5 - Sample Location Map" prepared by Tenen Environmental, LLC, March 2021.
3. bgs = below grade surface
4. All features shown are approximate.

30 0 30
SCALE IN FEET

LANGAN
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Project
197-201 CANAL STREET
BLOCK No. 527 LOT No. 50
STATEN ISLAND
RICHMOND COUNTY NEW YORK

Figure Title
ALTERNATIVE II - TRACK 4 CLEANUP

Project No.	170702101
Date	8/26/2022
Scale	1"=30'
Drawn By	GS
Figure No.	2

Path: \\langan.com\data\NYC\data1\170702101\Project Data\ArcGIS\APRX\170702101.aprx Date: 8/26/2022 User: Gsajbel Time: 2:00 PM

Legend

- Approximate Site Boundary
- Proposed Endpoint Sample Location

Notes:
1. Aerial imagery provided through Langan's subscription to NearMap.com, flown 02/27/2022.
2. Sample locations from "Figure 5 - Sample Location Map" prepared by Tenen Environmental, LLC, March 2021.
3. All features shown are approximate.

20 0 20
SCALE IN FEET

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Project
197-201 CANAL STREET
BLOCK No. 527 LOT No. 50
STATEN ISLAND
RICHMOND COUNTY NEW YORK

Figure Title
PROPOSED ENDPOINT SAMPLE LOCATION PLAN

Project No.	170702101
Date	1/18/2023
Scale	1"=20'
Drawn By	GS
Figure No.	3

Path: \\langan.com\data\NYC\data1\170702101\Project Data\ArcGIS\APRX\170702101.aprx Date: 1/18/2023 User: Gsajbel Time: 2:23 PM