DECISION DOCUMENT

2435 Pacific Street
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224322
June 2023



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

DECLARATION STATEMENT - DECISION DOCUMENT

2435 Pacific Street
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224322
June 2023

Statement of Purpose and Basis

This document presents the remedy for the 2435 Pacific 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 2435 Pacific 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 shall be

constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWiseTM (available in the Sustainable Remediation Forum [SURF] library) or similar Department accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (*e.g.*, hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Excavation

All soils in the upper two feet which exceed the restricted residential soil cleanup objectives (SCOs) will be excavated and transported off-site for disposal. Approximately 2,600 cubic yards of contaminated soil will be removed from the site.

To ensure proper handling and disposal of excavated material, waste characterization sampling will be completed for all identified contaminated site material. Waste characterization sampling will be performed exclusively for the purposes of off-site disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state and local laws, rules, and regulations and facility-specific permits.

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

3. Backfill

On-site soil which does not exceed the excavation criteria may be used below the cover system described in Paragraph 4 below to backfill the excavation to the extent that a sufficient volume of on-site soil is available and establishes the designed grades at the site.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the

excavated soil or complete the backfilling of the excavation 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 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.

Institutional Controls

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 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 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 NYSDEC-approved Site Management Plan.

Engineering Controls:

Cover system as described in Paragraph 4 above.

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 control remains in place and effective:
 - Institutional Controls: The environmental easement discussed in Paragraph 5 above.
 - Engineering Controls: The cover system 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 recommended to address exposures related to soil vapor intrusion;
- A provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Section 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives;
- Provisions for the management and inspection of the identified engineering controls; 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:

- Monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above; and
- A schedule of monitoring and frequency of submittals to the Department, as needed.

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.

June 15, 2023	Richard a. Manto
Date	Richard A. Mustico, Director
	Remedial Rureau A

DECISION DOCUMENT

2435 Pacific Street Brooklyn, Kings County Site No. C224322 June 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 repository:

DECInfo Locator - Web Application https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C224322

Brooklyn Public Library - Brownsville Branch 61 Glenmore Avenue Brooklyn, NY 11212

Phone: (718) 498-9721

Brooklyn Community Board 16 444 Thomas Boyland Street, Rm. 103 Brooklyn, NY 11212 (718) 385-0323 bk16@cb.nyc.gov

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 0.8-acre site is located in an urban area of Brooklyn on the northern side of Pacific Street, between Sackman Street to the west and East New York Avenue to the east. The site is comprised of two contiguous tax lots (Lot 46 to the east and Lot 58 to the west).

Site Features:

The site is primarily grassy land. Gravel and paved surface areas are located along the western and southern property borders, respectively. Chain-link fences and concrete block walls define the property borders.

Current Zoning and Land Use:

The site is currently vacant and is located in a mixed-use C4-5D/R7D zoning district (a general commercial district with a residential overlay). The adjoining parcels are currently used for a combination of institutional (north), industrial (east), residential (south), and commercial (northeast and west) purposes.

Past Uses of the Site:

The site was first developed for commercial and manufacturing use sometime between 1908 and 1928. Known commercial uses have included a large automobile garage containing gasoline tanks on Lot 46, subsequently used as a manufacturing facility for elevators, lamps and clothing, and a warehouse on Lot 58 that was occupied by a clothing manufacturer and several retail stores. Onsite buildings were demolished by the 1980s (Lot 58) and 2007 (Lot 46).

Site Geology and Hydrogeology:

Site soils are derived from glacial materials, which overlie deep glacial deposits of sand, gravel and clay, with bedrock located well below the surface, beyond 102 feet below ground surface (bgs). Subsurface soils generally consist of fill (coarse to medium sand, clay, crushed stone, crushed brick and crushed concrete), ranging in depth from three to 15 feet bgs, and underlying

native materials were generally comprised of sands with variable size gravel. Geotechnical borings documented deeper native materials comprised of dense sands and gravels. Site elevation is about 68 feet above mean sea level. Depth to groundwater (from well casings) is about 60 feet bgs. Groundwater flow in the vicinity of the property generally follows surficial topography in a southeasterly direction, toward Jamaica Bay (located approximately three miles from the property).

A site location map and site layout are attached as Figures 1 & 2.

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 does/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:

- 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 contaminants of concern identified at this site are:

benzo(a)anthracene benzo(a)pyrene benzo(b)fluoranthene benzo(k)fluoranthene lead

The contaminants of concern exceed the applicable SCGs for:

- 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.

Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), pesticides, herbicides, and cyanide during the Remedial Investigation. Soil results were compared to restricted residential soil cleanup objectives (RRSCOs) and the restricted residential guidance values for PFAS. Groundwater results were compared to the Ambient Water Quality Standards and Guidance Values (AWQSs and AWQGVs). Soil vapor samples were analyzed for VOCs. Based upon investigations conducted to date, the primary contaminants of concern for the site are lead and polycyclic aromatic hydrocarbons (PAHs), which are a subset of SVOCs.

Soil – PAHs (*e.g.*, benzo(a)anthracene) and lead were detected above RRSCOs in on-site fill materials. PAHs were detected above RRSCOs in soil in the majority of the soil borings from the surface to as deep as 15 feet below ground surface (bgs). However, the majority of the impacts were in the shallower sample intervals. For PAHs, the maximum values, as compared to the RRSCO include: benzo(a)anthracene at 82 parts per million (ppm); benzo(a)pyrene at 77 ppm; and benzo(b)fluoranthene at 75 ppm (RRSCOs 1 ppm); and benzo(k)fluoranthene at 71 ppm (RRSCO 3.9 ppm). Lead was detected above the RRSCO of 400 ppm at up to 2,620 ppm.

Sampling of the deepest soil intervals, which reached clean native materials, generally showed limited contamination. These findings are consistent with general impacts from poor-quality fill, demolition debris, and/or former commercial uses, rather than any localized source areas of soil contamination. Data do not indicate any off-site impacts in soil related to this site.

Groundwater – Concentrations of some ubiquitous metals (e.g., sodium and manganese) exceed, and some PAH compounds in groundwater slightly exceed, their respective AWQS and are not considered contaminants of concern in groundwater.

PFAS were reported in all groundwater samples, including the upgradient wells. Perfluorooctanesulfonic acid (PFOS) was detected up to 57.0 parts per trillion (ppt) (AWQGV 2.7 ppt), and perfluorooctanoic acid PFOA was detected up to 87.2 ppt (AWQGV 6.7 ppt). The results indicate that the site is not a source of PFAS to groundwater.

Groundwater contamination may, in part, be related to the presence of poor-quality on-site fill materials. However, groundwater impacts are similar to conditions typically encountered in urban areas and are likely related to local groundwater conditions, rather than a significant onsite source area. Data do not indicate any off-site impacts in groundwater related to the site.

Soil Vapor - Soil vapor samples were analyzed for VOCs. Soil vapor was not found to be impacted by site-related contamination. The highest detections were for acetone up to 945 micrograms per cubic meter ($\mu g/m^3$), tertiary butyl alcohol up to 355 $\mu g/m^3$, chloroform up to 532 $\mu g/m^3$, and tetrachloroethene up to 180 $\mu g/m^3$. Data do not indicate any off-site impacts in soil vapor related to the 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*.

Access is restricted by a fence. However, people who enter may come into contact with contaminants in soil by walking on the site, digging, or otherwise disturbing the soil. People are not drinking the groundwater because the area is served by a public water supply that is 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 site is vacant so inhalation of site contaminants in indoor air is not a current concern, however, could be a concern for future on-site occupied structures. Environmental sampling indicates soil vapor 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
- Prevent contact with contaminated groundwater.

Soil

RAOs for Public Health Protection

• Prevent ingestion/direct contact with contaminated soil.

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 Excavation, Cover System, and Site Management remedy.

The elements of the selected remedy, as shown in Figures 3 & 4, 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;
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 feasible in the future development at this site, any future on-site buildings shall be
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justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (*e.g.*, hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

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Institutional Controls

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 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 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 NYSDEC-approved Site Management Plan.

Engineering Controls:

Cover system as described in Paragraph 4 above.

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 control remains in place and effective:

- Institutional Controls: The environmental easement discussed in Paragraph 5 above.
- Engineering Controls: The cover system discussed in Paragraph 4 above.

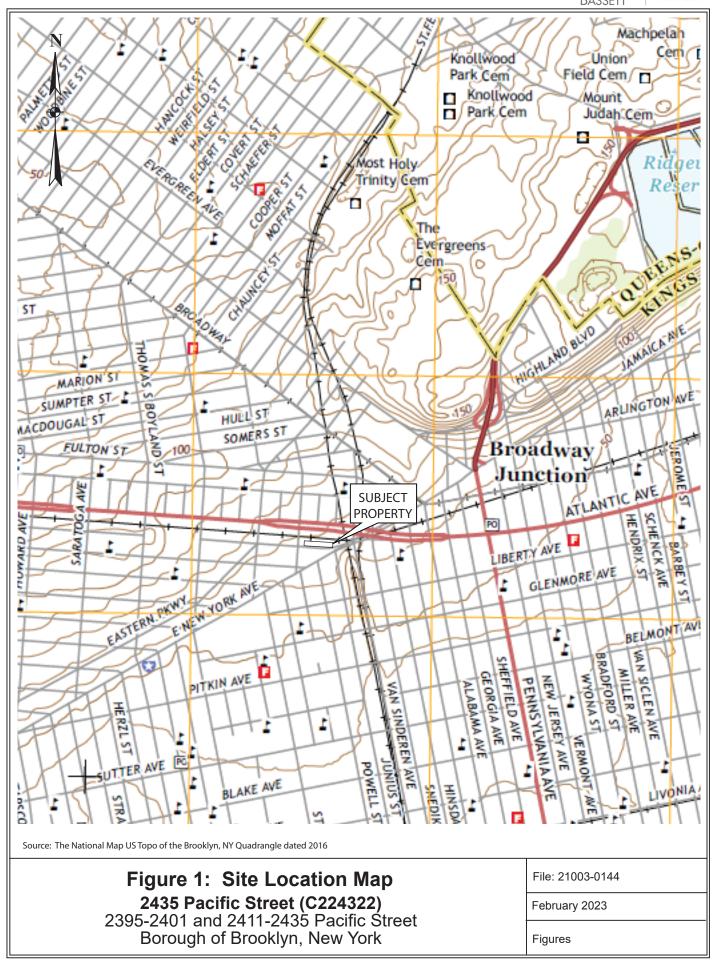
This plan includes, but may not be limited to:

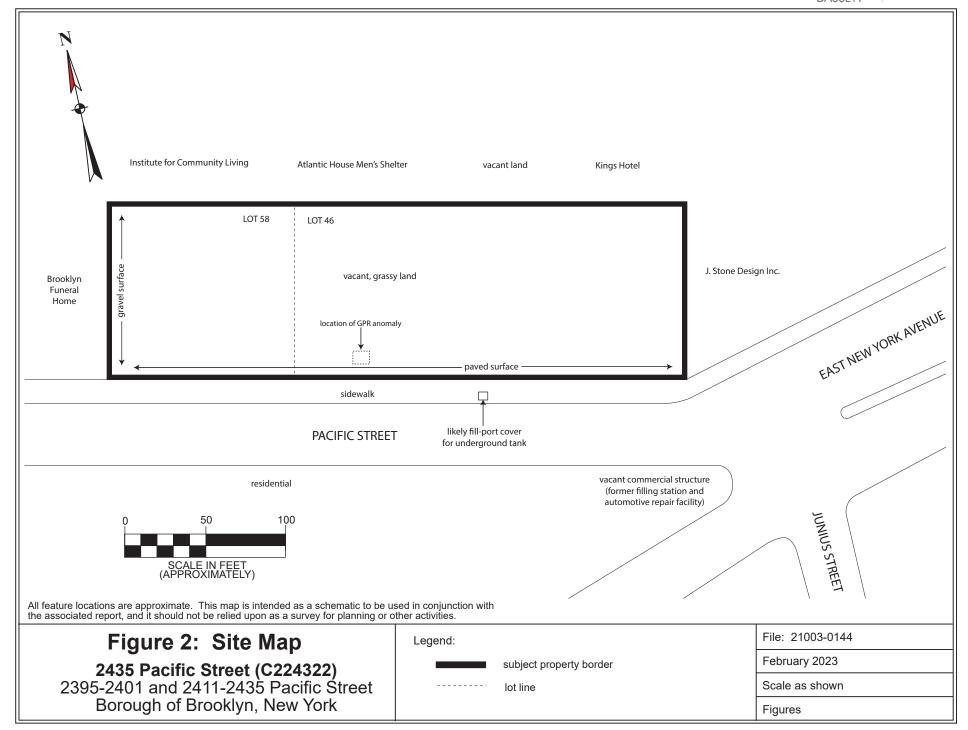
- An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
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• The steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

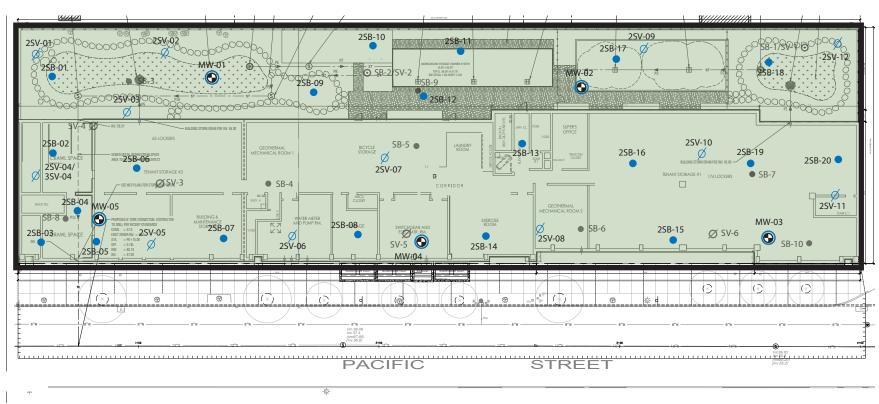
b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- Monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above; and
- A schedule of monitoring and frequency of submittals to the Department, as needed.











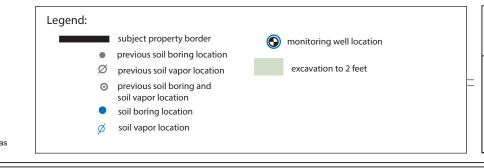


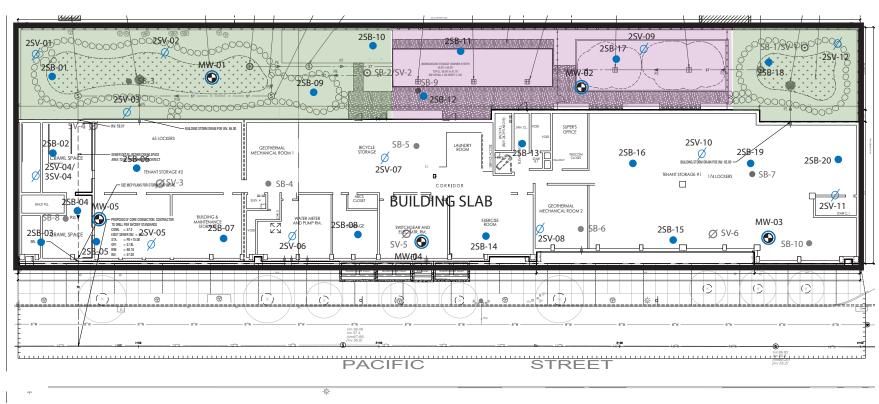
Figure 3: Remedial Excavation Pl	an
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2435 Pacific Street (C224322) 2395-2401 and 2411-2435 Pacific Street Borough of Brooklyn, New York

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File: 21003-0144		
Scale as shown		
February 2023	Figures	

Base map provided by SLCEArchitects, LLP - Drainage Plan C101dated 11/19/22. All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.







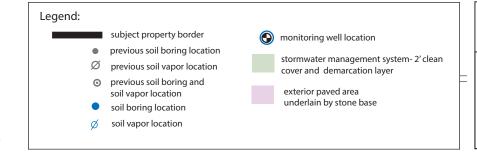


Figure 4: Proposed Engineering Controls

2435 Pacific Street (C224322) 2395-2401 and 2411-2435 Pacific Street Borough of Brooklyn, New York

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Scale as shown		
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Base map provided by SLCEArchitects, LLP - Drainage Plan C101dated 11/19/22. All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.