DECISION DOCUMENT

297 Wallabout Street
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224299
March 2021

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

DECLARATION STATEMENT - DECISION DOCUMENT

297 Wallabout Street
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224299
February 2021

Statement of Purpose and Basis

This document presents the remedy for the 297 Wallabout Street site, a 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 297 Wallabout 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

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 unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy.

Approximately 2,150 cubic yards of contaminated soil will be removed from the site.

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

3. Backfill

On-site soil which does not exceed the above excavation criteria or the protection of groundwater SCOs for any constituent may be used anywhere beneath the cover system, including below the water table, to backfill the excavation or re-grade the site.

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

4. In-Situ Chemical Reduction

In-situ chemical reduction (ISCR) will be implemented to treat chlorinated volatile organic compounds (CVOCs) in groundwater. A chemical reducing agent will be mixed into the clean backfill to destroy the contaminants in an approximately 200 square foot area located in the north central portion of the site where the highest levels of CVOCs were detected in soil and groundwater.

Monitoring will be required downgradient and within the treatment zone. Monitoring will be conducted for CVOCs within and downgradient of the treatment zone.

5. Vapor Intrusion Evaluation

As part of the track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

<u>Local Institutional Controls</u>:

If no EE or SMP is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOHMH code, which prohibits potable use of groundwater without prior approval.

Contingent Track 1

The intent of the remedy is to achieve a Track 1 unrestricted use, therefore, no environmental easement or site management plan is anticipated. If the soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report, then a Site Management Plan (SMP) and Environmental Easement (EE) will be required to address the SVI evaluation and implement actions as needed; if a mitigation or monitoring action is needed, a Track 1 cleanup can only be achieved if the mitigation system or other required action is no longer needed within 5 years of the date of the Certificate of Completion.

In the event that Track 1 unrestricted use is not achieved, the following contingent remedial elements will be required and the remedy will achieve a Track 4 restricted residential cleanup.

6. Cover System

A site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). 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.

7. 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 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 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 County DOH NYCDOH; and
- require compliance with the Department approved Site Management Plan.

8. 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:

   – Institutional Controls: The Environmental Easement discussed in Paragraph 7 above.
   – Engineering Controls: The Cover System discussed in Paragraph 6 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;
- 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:

- Monitoring of groundwater and soil vapor 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.

March 15, 2021

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

297 Wallabout Street
Brooklyn, Kings County
Site No. C224299
March 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, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

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=C224299

Brooklyn Public Library - Marcy Branch
Attn: Marcia McGibbon
617 Dekalb Avenue
Brooklyn, NY 11216
Phone: (718) 935-0032

Brooklyn Community Board 1
Attn: Dealice Fuller

435 Graham Avenue
Brooklyn, NY 11211
Phone: (718) 389-0009

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 site is a 0.15-acre lot located at 295-297 Wallabout Street in the Williamsburg section of Brooklyn, NY. The site occupies Tax Block 2250 Lot 45. The site is located between Throop Avenue and Harrison Avenue on the north side of Wallabout Street.

Site Features – The site is an unpaved, vacant lot.

Current Zoning and Land Use – The site is zoned R7A for medium density residential use. The surrounding properties are residential and commercial. The site is bounded to the south and west by warehouses, to the north by an apartment building, and to the east by Wallabout Street followed by residential buildings.

Past Use of the Site – The site was developed with a three-story dwelling/auto repair from at least the late 1880s through the 1940s. By the late 1940s the dwellings were demolished and a building encompassing the site and adjoining lots was constructed. The on-site building was used for a variety of manufacturing operations: woodworking in the 1960s, woodworking and plastic products manufacturing between the 1970s and 2007, and steel work in the 1980s and 1990s. By 2012, the manufacturing building was demolished, and the site remained a vacant, undeveloped lot.

Site Geology and Hydrogeology – The site stratigraphy, starting at grade, consists of a maximum of one foot of urban fill underlain by 4-6 feet of brown, medium to fine sand with trace silt. Underlying the sand layer is a 3- to 5-foot layer of firm light brown to tan silty clay. Beneath the clay layer, is a layer of brown, medium sand, which extends at least 12 feet below grade. Groundwater occurs approximately 8 to 8.5 feet below grade and flows to the northeast.

A site location map is attached as Figure 1 and a Site Boundaries Map is attached as Figure 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) 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 Volunteer does not have an obligation to address off-site contamination. The Department has determined that this site poses a significant threat to human health and the environment and there are off-site impacts that require remedial activities; accordingly, enforcement actions are necessary.

The Department will seek to identify any parties (other than the Volunteer(s)) known or suspected to be responsible for contamination at or emanating from the site, referred to as Potentially Responsible Parties (PRPs). The Department will bring an enforcement action against the PRPs. If an enforcement action cannot be brought or does not result in the initiation of a remedial program by any PRPs, the Department will evaluate the off-site contamination for action under the State Superfund. The PRPs are subject to legal actions by the State for recovery of all response costs the State incurs or has incurred.

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:

trichloroethene (TCE)
tetrachloroethene (PCE)
cis-1,2-dichloroethene
vinyl chloride
lead
polycyclic aromatic hydrocarbons (PAHS), total

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 was analyzed for VOCs. Based upon investigations conducted to date, the primary contaminants of concern include trichloroethene (TCE), tetrachloroethene (PCE), cis-1,2-dichloroethene (cis-1,2-DCE), vinyl chloride, PAHs and lead.

Soil – Soil data were compared to Restricted Residential Soil Cleanup Objectives (RRSCOs), Unrestricted Use Soil Cleanup Objectives (UUSCOs), and Protection of Groundwater Soil Cleanup Objectives (PGWSCO). The contaminants of concern in soil are chlorinated VOCs (CVOCs), PAHs, and metals. The highest levels of CVOCs were found in the north central section of the site between 8-10 feet below ground surface (bgs). PCE was detected at 20 parts per million (ppm), compared to the RRSCO of 19 ppm and the protection of groundwater (PGWSCO) of 1.3 ppm. TCE was detected at 150 ppm, compared to the RRSCO of 21 ppm and the PGWSCO of 0.47 ppm Elevated PAHs were detected on-site in both shallow samples and samples taken between 8-10 feet bgs. Metals were found throughout the site in the top two feet of soil. Lead was detection ranged from 120-796 ppm; the RRSCO is 400 ppm. Soil was tested for PFOA/PFOS and 1,4-Dioxane; these compounds were not detected above the laboratory reporting limits. Data does not indicate any off-site impacts in soil related to this site.

Groundwater – Groundwater contamination includes CVOCs and SVOCs above the NYS DEC TOGS Ambient Water Quality Standards (NY-AWQS). The highest levels of CVOCs were detected in the north central section of the site at the same sampling location as the highest soil levels for CVOCs, where PCE was detected at 150 parts per billion (ppb); TCE was detected at 3,300 ppb; cis-1,2-DCE was detected at 390 ppb; and vinyl chloride was detected at 6.7 ppb. SVOCs, including PAHs, were found throughout the site. PFOA was detected in the northeast corner, the eastern side, and southeast corner of the site at 13.6 parts per trillion (ppt), 14.9 ppt, and 15.9 ppt, respectively. PFOS was detected in the southeast of the site at 20.4 ppt. The remaining PFOA/PFOS and 1,4-Dioxane samples were below the maximum contaminant levels (MCL). Data indicates the potential for off-site impacts to groundwater related to this site.

Soil Vapor – CVOCs were detected in soil vapor throughout the site. PCE was detected at 620 micrograms per cubic meter ($\mu g/m^3$). TCE detections ranged from 54.8-74,000 $\mu g/m^3$. The maximum PCE and TCE detections were in the north central section of the site and collocated with the maximum values for CVOCs in soil and groundwater. Cis-1,2-DCE detections ranged from 8.8-15.4 $\mu g/m^3$. Data indicates the potential for off-site impacts to 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.*

Persons who enter the site could contact contaminants in the soil by walking on the site, digging or otherwise disturbing the soil. People are not drinking the contaminated 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 soil) may move into buildings and affect indoor

air quality. The 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. Currently, there is no on-site building. However, the potential exists for the inhalation of site contaminants via the soil vapor intrusion pathway for any future on-site development, as well as for offsite 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, or inhalation of volatiles, from contaminated groundwater.

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 Contingent Track 1 remedy.

The selected remedy is referred to as the Excavation with In-Situ Chemical Reduction remedy.

The elements of the selected remedy, as shown in Figure 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;
- 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

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 unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy.

Approximately 2,150 cubic yards of contaminated soil will be removed from the site.

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

3. Backfill

On-site soil which does not exceed the above excavation criteria or the protection of groundwater SCOs for any constituent may be used anywhere beneath the cover system, including below the water table, to backfill the excavation or re-grade the site.

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

4. In-Situ Chemical Reduction

In-situ chemical reduction (ISCR) will be implemented to treat chlorinated volatile organic compounds (CVOCs) in groundwater. A chemical reducing agent will be mixed into the clean backfill to destroy the contaminants in an approximately 200 square foot area located in the north central portion of the site where the highest levels of CVOCs were detected in soil and groundwater.

Monitoring will be required downgradient and within the treatment zone. Monitoring will be conducted for CVOCs within and downgradient of the treatment zone.

5. Vapor Intrusion Evaluation

As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

Local Institutional Controls:

If no EE or SMP is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOHMH code, which prohibits potable use of groundwater without prior approval.

Contingent Track 1

The intent of the remedy is to achieve a Track 1 unrestricted use, therefore, no environmental easement or site management plan is anticipated. If the soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report, then a Site Management Plan (SMP) and Environmental Easement (EE) will be required to address the SVI evaluation and implement actions as needed; if a mitigation or monitoring action is needed, a Track 1 cleanup can only be achieved if the mitigation system or other required action is no longer needed within 5 years of the date of the Certificate of Completion.

In the event that Track 1 unrestricted use is not achieved, the following contingent remedial elements will be required and the remedy will achieve a Track 4 restricted residential cleanup.

6. Cover System

A site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). 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.

7. 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 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 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 County DOH NYCDOH; and
- require compliance with the Department approved Site Management Plan.

8. 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:

   – Institutional Controls: The Environmental Easement discussed in Paragraph 7 above.
   – Engineering Controls: The Cover System discussed in Paragraph 6 above.

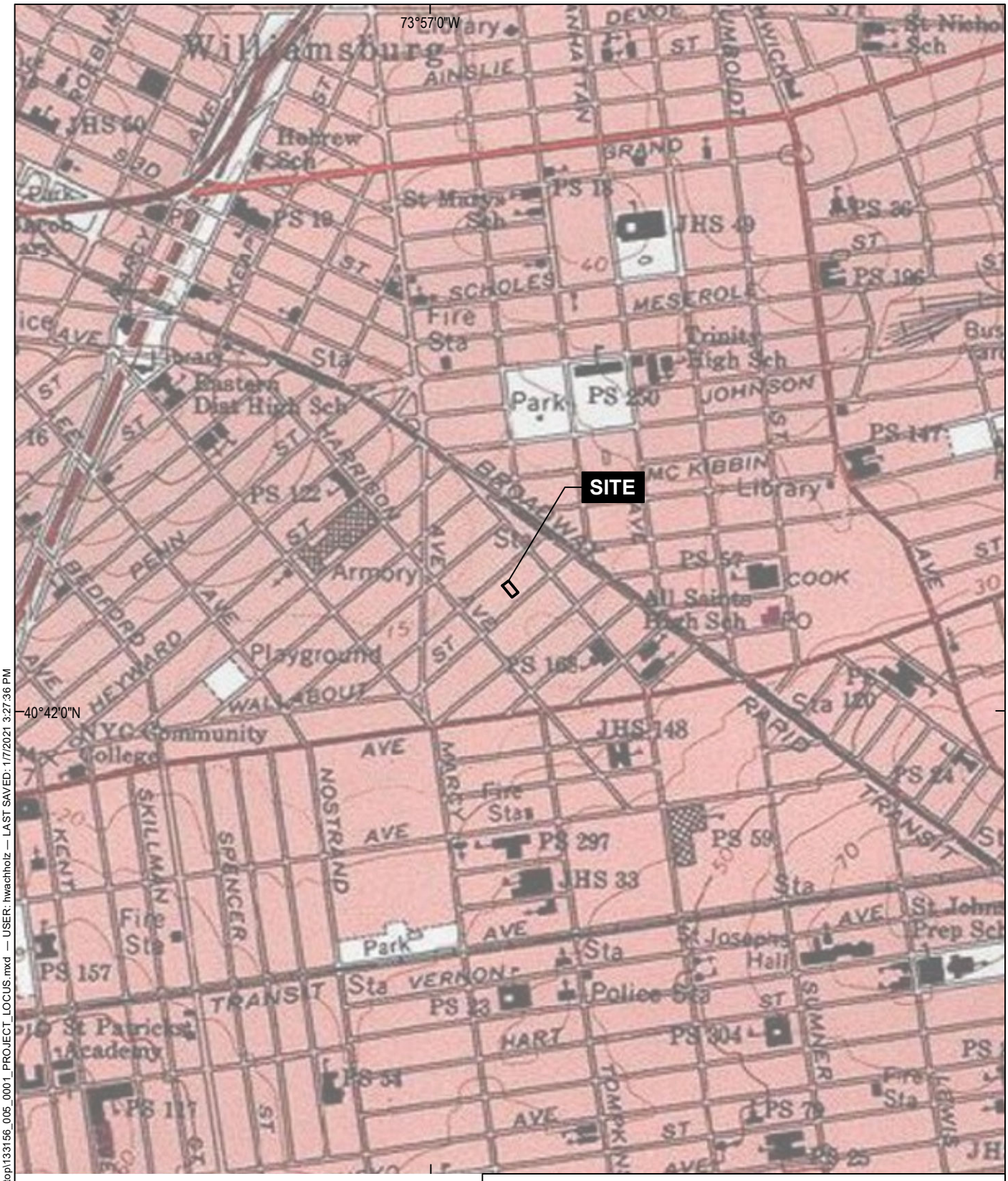
   This plan includes, but may not be limited to:

- 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;
- 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:

- Monitoring of groundwater and soil vapor 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.



NY

N

MAP SOURCE: ESRI
SITE COORDINATES: 40°42'08"N, 73°56'52"W

HALEY ALDRICH

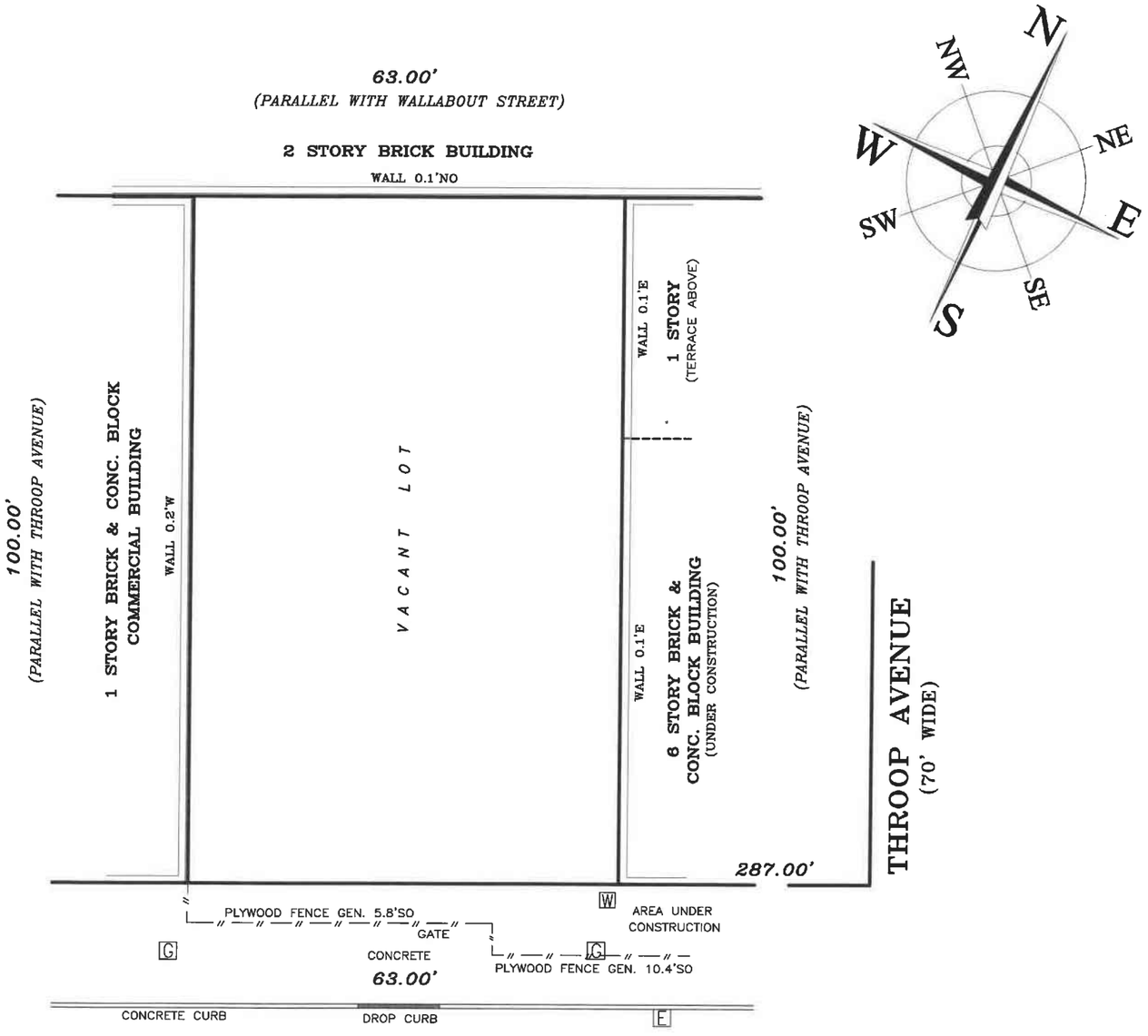
ROCK BROKERAGE
297 WALLABOUT STREET
BROOKLYN, NEW YORK

SITE LOCATION MAP

APPROXIMATE SCALE: 1 IN F= 1000 FT
JANUARY 2021

FIGURE 1

GIS FILE PATH: C:\Users\hwachholz\Desktop\133156_005_0001_PROJECT_LOCUS.mxd — USER: hwachholz — LAST SAVED: 1/7/2021 3:27:36 PM



NOTES

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGERY FROM MAP OF SURVEY BY LEONARD J. STRANDBERG AND ASSOCIATES, MARCH 2018

HALEY ALDRICH

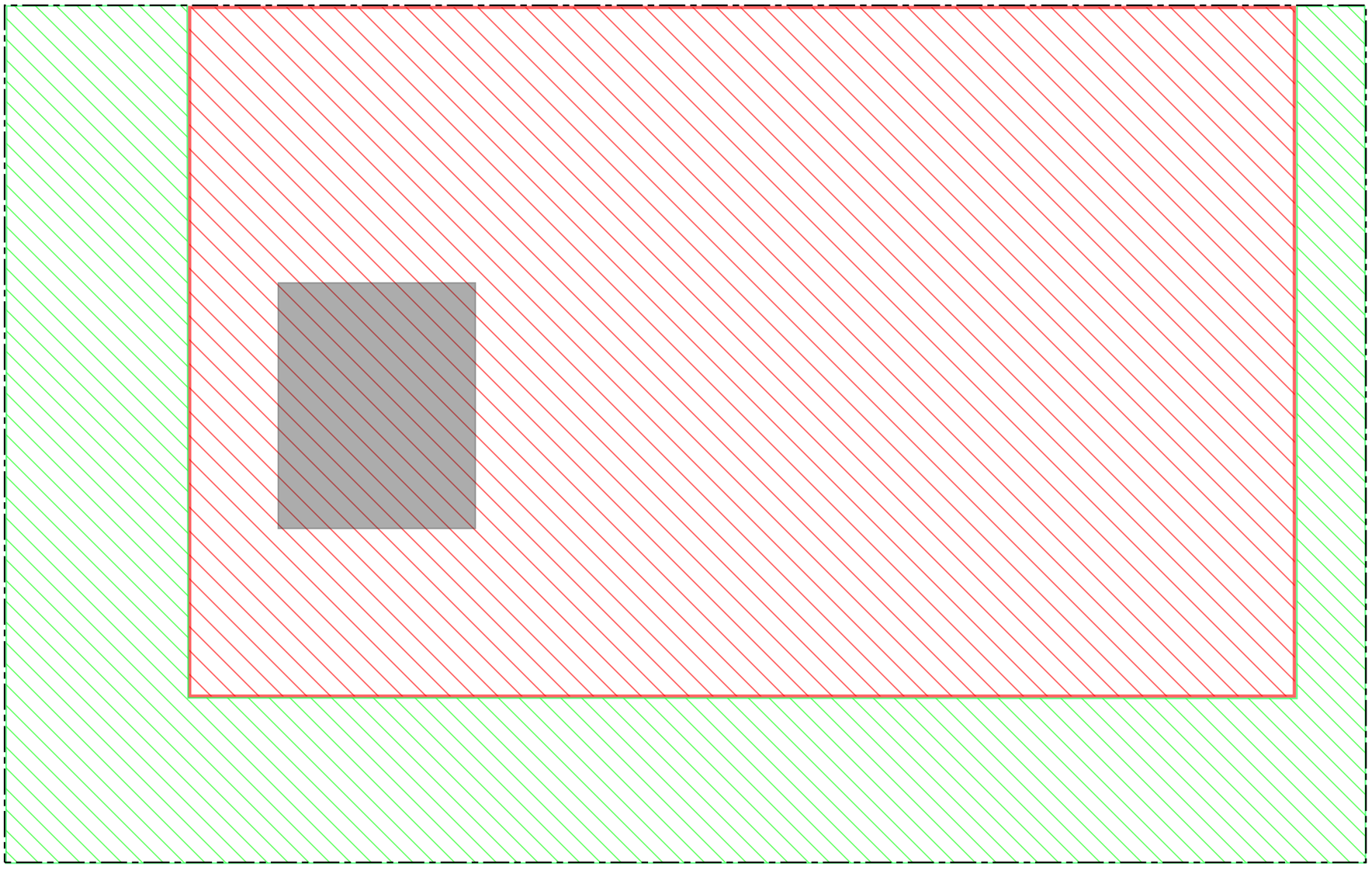
295-297 WALLABOUT STREET
BROOKLYN, NEW YORK

SITE BOUNDARIES MAP

JANUARY 2021

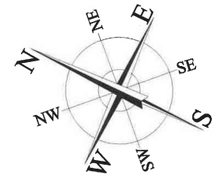
FIGURE 2

FILE PATH: \\haleyaldrich.com\share\CF\Projects\133156\005 - 297 Wallabout\Deliverables\RIR\Figures



LEGEND

- SITE BOUNDARY
- 8 FT EXCAVATION
- 2 FT EXCAVATION
- 17 FT SOURCE OVER-EXCAVATION AND CHEMICAL REDUCING AGENT APPLICATION AREA



NOTES

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGERY FROM ARCHITECTURAL SET DATED SEPTEMBER 2020.

HALEY ALDRICH

EHC95-297 WALLABOUT STREET
BROOKLYN, NEW YORK

REMEDIAL WORK PLAN MAP

JANUARY 2021

FIGURE 3

FILE PATH: \\haleyaldrich.com\share\CF\Projects\133156\005 - 297 Wallabout\Deliverables\RIR\Figures