DECISION DOCUMENT

Willoughby Conversion Project
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224420
October 2026

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

DECLARATION STATEMENT - DECISION DOCUMENT

Willoughby Conversion Project
Brownfield Cleanup Program
Brooklyn, Kings County
Site No. C224420
October 2026

Statement of Purpose and Basis

This document presents the remedy for the Willoughby Conversion Project, 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 (NYSDEC) for the Willoughby Conversion Project site and the public's input to the proposed remedy presented by NYSDEC.

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, any future on-

site buildings which are part of the remedy should be constructed, to the extent feasible, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) in order 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), SiteWise^{TM} (available in the Sustainable Remediation Forum [SURF] library) or similar NYSDEC 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

Track 2 Area
Excavation and off-site disposal of all on-site soils which exceed restricted-residential SCOs, as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet. The Track 2 excavation encompasses the planned redevelopment building footprint and includes remedial excavation to depths ranging from 4 to 15 feet below ground surface (ft bgs). If a Track 2 restricted residential cleanup is achieved, a Cover System will not be a required element of the remedy in that area of the site..

Track 4 Area
All soils in the upper two feet, outside of the planned redevelopment footprint, which exceed the restricted residential SCOs will be excavated and transported off-site for disposal.

Approximately 3,600 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 SCOs for the site have been achieved. If confirmation sampling indicates that SCOs 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 SCOs for

the site have been achieved.

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.

3. Backfill

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

4. Cover System

A site cover will be required in the Track 4 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, sidewalks, building foundations and building slabs. The required thickness of hardscaped areas (including sub-base, if applicable) must otherwise meet the requirements of the New York State Uniform Fire Prevention and Building Code or local building code, whichever is applicable for the site.

5. Vapor Mitigation

Any on-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to mitigate the migration of vapors into the building from the subsurface.

6. Institutional Control

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The area of the site encompassing a redeveloped building footprint will achieve a Track 2 restricted residential cleanup, which does not include a cover system. The remedy for the remainder of the site will achieve a Track 4 restricted residential cleanup at a minimum and will include imposition of a site cover.

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 NYCDOHMH; and
- require compliance with the NYSDEC approved Site Management Plan.

7. Site Management Plan (SMP)

An SMP 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 Remedy Element 6 above.
   - Engineering Controls: The Cover System discussed in Remedy Element 4 and the Vapor Mitigation system discussed in Remedy Element 5 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 that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Remedy Element 5 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
   - provisions for the management and inspection of the identified engineering controls;
   - maintaining site access controls and NYSDEC 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 indoor air to assess the performance and effectiveness of the remedy;
   - a schedule of monitoring and frequency of submittals to NYSDEC.

c) an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system. The plan includes, but is not limited to:
   - procedures for operating and maintaining the system(s);
   - compliance inspection of the system to ensure proper O&M as well as providing the data for any necessary reporting;
   - maintaining site access controls and NYSDEC notification; and

- providing NYSDEC 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 NYSDEC guidance, as appropriate. The remedy is protected of public health and the environment.

October 29, 2026

Date

Scott Deyette, Director
Remedial Bureau B

DECISION DOCUMENT

Willoughby Conversion Project
Brooklyn, Kings County
Site No. C224420
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SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (NYSDEC), 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.

NYSDEC 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

NYSDEC 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 NYSDEC 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=C224420

Brooklyn Community Board 4
1420 Bushwick Avenue, Suite 370
Brooklyn, NY 11237
Phone: (718) 628-8400

Bushwick Public Library
340 Bushwick Avenue
Brooklyn, NY 11206
Phone: (718) 602-1348

Receive Site Citizen Participation Information By Email

Please note that NYSDEC'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 located at 1250 Willoughby Avenue in the Bushwick neighborhood of Brooklyn, NY and consists of Brooklyn Tax Block 3210, Tax Lot 16. The site is bound to the north by an industrial/manufacturing facility (Wilco Chrome and Nickel Plating, owned by Willoughby & Suydam, LLC); to the east by a multi-tenant industrial building including but not limited to furniture manufacturer; to the south by a private residence followed by public school P.S. 123; and to the west by Willoughby Avenue followed by a restaurant supply business.

Site Features: The site consists of an asphalt-paved lot that is primarily used for parking vehicles and storage associated with the east-adjoining multi-tenant industrial building. According to the United States Geological Survey (USGS) Central Park Quadrangle 7.5-minute Series Topographic Map and nearby survey data, the site elevation is about 40 feet above mean sea level and regional topography generally slopes downwards to the north-northwest toward the English Kills and Newtown Creek, which are located approximately 0.48 miles from the site.

Current Zoning and Land Use: The site is in an urban area characterized by commercial, industrial, and residential uses. According to the New York City Planning Commission Zoning Map 13b, the site is located in M1-5 (manufacturing)/R7D (residential) zoning district, which represent light industrial and medium-density residential apartment house districts. The site is also in a Special Mixed Use district MX-22, which allows uses for residential and non-residential (commercial, community facility, and light industrial). The site is located in a disadvantaged community.

Past Use of the Site: Historical site use included residential dwellings (late 1800s to 1960s), a thermometer factory (1907 to 1930s), single automobile garages (1930s to 1980s), an eyeglass frames factory (1930s to 1950s), a radio repair station (1950s), and a parking lot (1970s to present).

Site Geology and Hydrogeology: Previous investigations identified a layer of non-native fill

beneath the surface cover to depths ranging from 5 to 10 feet below grade surface (bgs). The non-native fill generally consists of light to dark-brown, medium-grained sand with varying amounts of gravel and brick and ash. Native soil was identified below about 10 feet bgs. Groundwater was observed at about 43 feet bgs. Inferred groundwater flow is to the north-northwest toward Newtown Creek. According to the Federal Emergency Management Agency (FEMA) Preliminary Flood Insurance Rate Map (FIRM) dated September 5, 2007 (Map Number 3604970208F), the site is located in Zone X, outside the 0.2% annual chance of flood and 100-year flood plain.

A site location map is attached as Figure 1 and a site plan is attached as Figure 2.

SECTION 4: LAND USE AND PHYSICAL SETTING

NYSDEC 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, an alternative that restricts 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 Applicant does not have an obligation to address off-site contamination. However, NYSDEC 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
- sub-slab 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. NYSDEC 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 is/are:

benzo(a)anthracene
chrysene
benzo(b)fluoranthene
mercury
copper
lead
arsenic
tetrachloroethene (PCE)
benzo(a)pyrene
dibenz[a,h]anthracene
indeno(1,2,3-cd)pyrene
phenanthrene
barium
chromium-6
manganese

The contaminants 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.

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 for OU 1 include PCE in groundwater and soil vapor, VOCs in soil vapor, SVOCs in soil, and metals in soil.

Soil - Sample results were compared against the restricted residential soil cleanup objectives (RRSCO). Protection of groundwater soil cleanup objectives (PGSCOs) did not apply to any contaminants found in soil.

No VOCs, PCBs, or PFAS were detected above RRSCOs.

SVOCs were detected above RRSCOs, including maximum concentrations of benzo(a)anthracene at 2.81 parts per million, or ppm (RRSCO of 1.4 ppm), benzo(a)pyrene at 2.15 ppm (RRSCO of 1 ppm), benzo(b)fluoranthene at 2.13 ppm (RRSCO of 1.4 ppm), dibenz(a,h)anthracene at 0.38 ppm (RRSCO of 0.33 ppm), and phenanthrene at 5.44 ppm (RRSCO of 4.9 ppm).

Metals were detected above RRSCO including maximum concentrations of arsenic at 21.7 ppm (RRSCO of 16 ppm), barium at 429 ppm (RRSCO of 410 ppm), hexavalent chromium at 2.16 ppm (RRSCO of 1 ppm), copper at 3270 ppm (RRSCO of 280 ppm), lead at 2010 ppm (RRSCO of 400 ppm), manganese at 2390 ppm (RRSCO of 2000 ppm), and mercury at 86.6 ppm (RRSCO of 0.3 ppm).

Data does not indicate any off-site impacts in soil related to this site.

Groundwater - Sample results were compared against the NYS Ambient Water Quality Standards and Guidance Values (AWQSGVs).

No SVOCs or PCBs were detected in groundwater above AWQSGVs.

Other than naturally occurring minerals such as sodium, iron, and magnesium, no dissolved metals were detected above their respective AWQSGVs.

One VOC was detected above AWQSGVs, tetrachloroethene (PCE) at a maximum concentration of 75.5 parts per billion, or ppb (AWQSGVs of 5 ppb).

PFAS were detected above AWQSGVs, including maximum concentrations of PFOS at 0.0117 ppb (AWQSGVs of 0.0027 ppb), and PFOA at 0.0302 ppb (AQWSGVs of 0.0067 ppb).

Data does not indicate any off-site impacts in groundwater-related to this site.

Soil Vapor – Petroleum and chlorinated VOCs were detected in soil vapor including: 1,1,1-trichloroethane up to 190 micrograms per cubic meter (ug/m3), PCE up to 840 ug/m3, toluene up to 2380 ug/m3, and trichloroethene up to 26.1 ug/m3.

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.*

Since the site is fenced and covered by asphalt or concrete, people will not come into contact with site-related soil and groundwater contamination unless they dig below the surface. 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 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. Because there is no on-site building, inhalation of site contaminants in indoor air due to soil vapor intrusion does not represent a concern for the site in its current condition. However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site development. In addition, sampling indicates soil vapor intrusion from site contamination is not a concern off-site.

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.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

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

Soil Vapor

RAOs for Public Health Protection

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

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

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

The selected remedy is a multi-track Track 2 and Track 4 restricted residential use remedy.

The selected remedy is referred to as the Excavation, Cover System, and Vapor Mitigation remedy.

The elements of the selected remedy, as shown in Figures 3 through 5, 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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- 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, any future on-site buildings which are part of the remedy should be constructed, to the extent feasible, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) in order 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), SiteWise™ (available in the Sustainable Remediation Forum [SURF] library) or similar NYSDEC 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

Track 2 Area
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restricted residential SCOs will be excavated and transported off-site for disposal.

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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.

3. Backfill

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

4. Cover System

A site cover will be required in the Track 4 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, sidewalks, building foundations and building slabs. The required thickness of hardscaped areas (including sub-base, if applicable) must otherwise meet the requirements of the New York State Uniform Fire Prevention and Building Code or local building code, whichever is applicable for the site.

5. Vapor Mitigation

Any on-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to mitigate the migration of vapors into the building from the subsurface.

6. Institutional Control

Imposition of an institutional control in the form of an environmental easement and a Site

Management Plan, as described below, will be required. The area of the site encompassing a redeveloped building footprint will achieve a Track 2 restricted residential cleanup, which does not include a cover system. The remedy for the remainder of the site will achieve a Track 4 restricted residential cleanup at a minimum and will include imposition of a site cover.

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- require the remedial party or site owner to complete and submit to NYSDEC a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for 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 NYSDOH or NYCDOHMH; and
- require compliance with the NYSDEC approved Site Management Plan.

7. Site Management Plan (SMP)

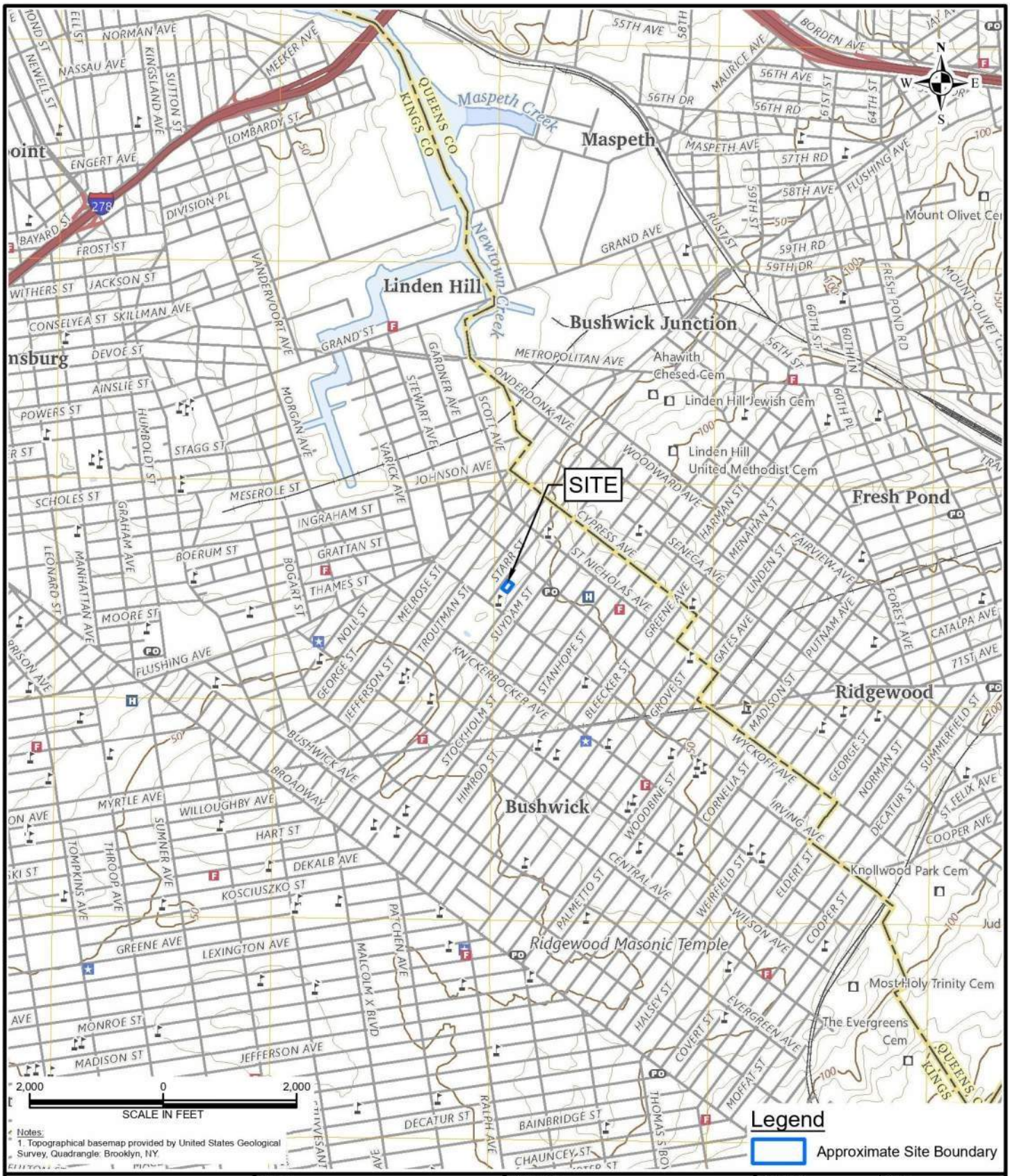
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a) an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:
   - Institutional Controls: The Environmental Easement discussed in Remedy Element 6 above.
   - Engineering Controls: The Cover System discussed in Remedy Element 4 and the Vapor Mitigation system discussed in Remedy Element 5 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 that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Remedy Element 5 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
   - provisions for the management and inspection of the identified engineering controls;
   - maintaining site access controls and NYSDEC 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 indoor air to assess the performance and effectiveness of the remedy;
   - a schedule of monitoring and frequency of submittals to the NYSDEC.

c) an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system. The plan includes, but is not limited to:
   - procedures for operating and maintaining the system(s);
   - compliance inspection of the system to ensure proper O&M as well as providing the data for any necessary reporting;
   - maintaining site access controls and NYSDEC notification; and
   - providing NYSDEC access to the site and O&M records.



LANGAN Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. 368 Ninth Avenue, 8th Floor New York, NY 10001-2727 T: 212.479.5400 F: 212.479.5444 www.langan.com	Project **WILLOUGHBY CONVERSION PROJECT** BROOKLYN NEW YORK	Figure Title **SITE LOCATION MAP**	Project No. 170794301 Date 7/11/2025 Scale 1" = 2,000 feet Drawn By MG	Figure 1

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Legend

Approximate Site Boundary

Notes:
1. Aerial imagery provided through Langan's subscription to Near Map dated 07/03/2025.

WARNING: It is a violation of the NYS Education Law Article 145 for any person, unless acting under the direction of a licensed professional engineer, land surveyor or geologist, to alter this item in any way.

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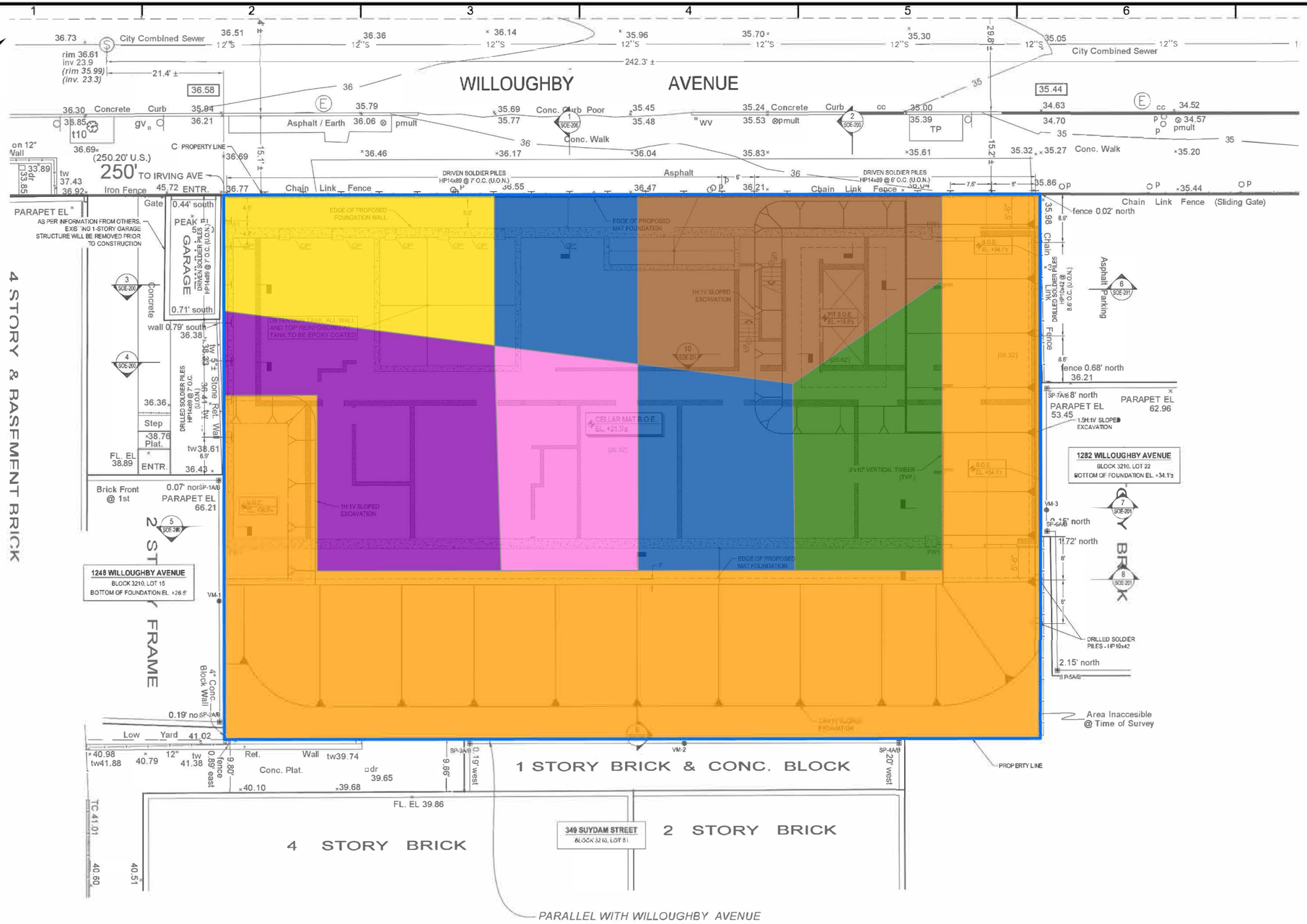
Project
WILLOUGHBY CONVERSION PROJECT
BROOKLYN NEW YORK

Figure Title
SITE LAYOUT MAP

Project No.	Figure No.
170794301	2
Date: 12/31/2025	
Scale: 1"=30'	
Drawn By: MG	

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Legend

- Approximate Site Boundary

Track 2 Area

- Proposed Extent of Excavation to about 4 feet bgs
- Proposed Extent of Excavation to about 6 feet bgs
- Proposed Extent of Excavation to about 11 feet bgs
- Proposed Extent of Excavation to about 13 feet bgs
- Proposed Extent of Excavation to about 14 feet bgs
- Proposed Extent of Excavation to about 15 feet bgs

Track 4 Area

- Proposed Extent of Excavation to about 2 feet bgs

Notes:
1. Basemap from Drawing No. SOE-100.00 "Support of Excavation Plan" prepared April 4, 2025 by GEO Design.
2. bgs - below grade surface

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Project: WILLOUGHBY CONVERSION PROJECT
BROOKLYN NEW YORK

Figure Title: ALTERNATIVE II: TRACK 2/TRACK 4 REMEDY

Project No.	170794301
Date	8/5/2026
Scale	1"=20'
Drawn By	GS
Figure No.	3

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Legend

- Approximate Site Boundary
- Proposed Documentation Endpoint Sample Locations
- Proposed Confirmation Endpoint Sample Locations

Notes:
1. Basemap from Drawing No. SOE-100.00 "Support of Excavation Plan" prepared April 4, 2025 by GEO Design.

WARNING: It is a violation of the NYS Education Law Article 145 for any person, unless acting under the direction of a licensed professional engineer, land surveyor or geologist, to alter this item in any way.

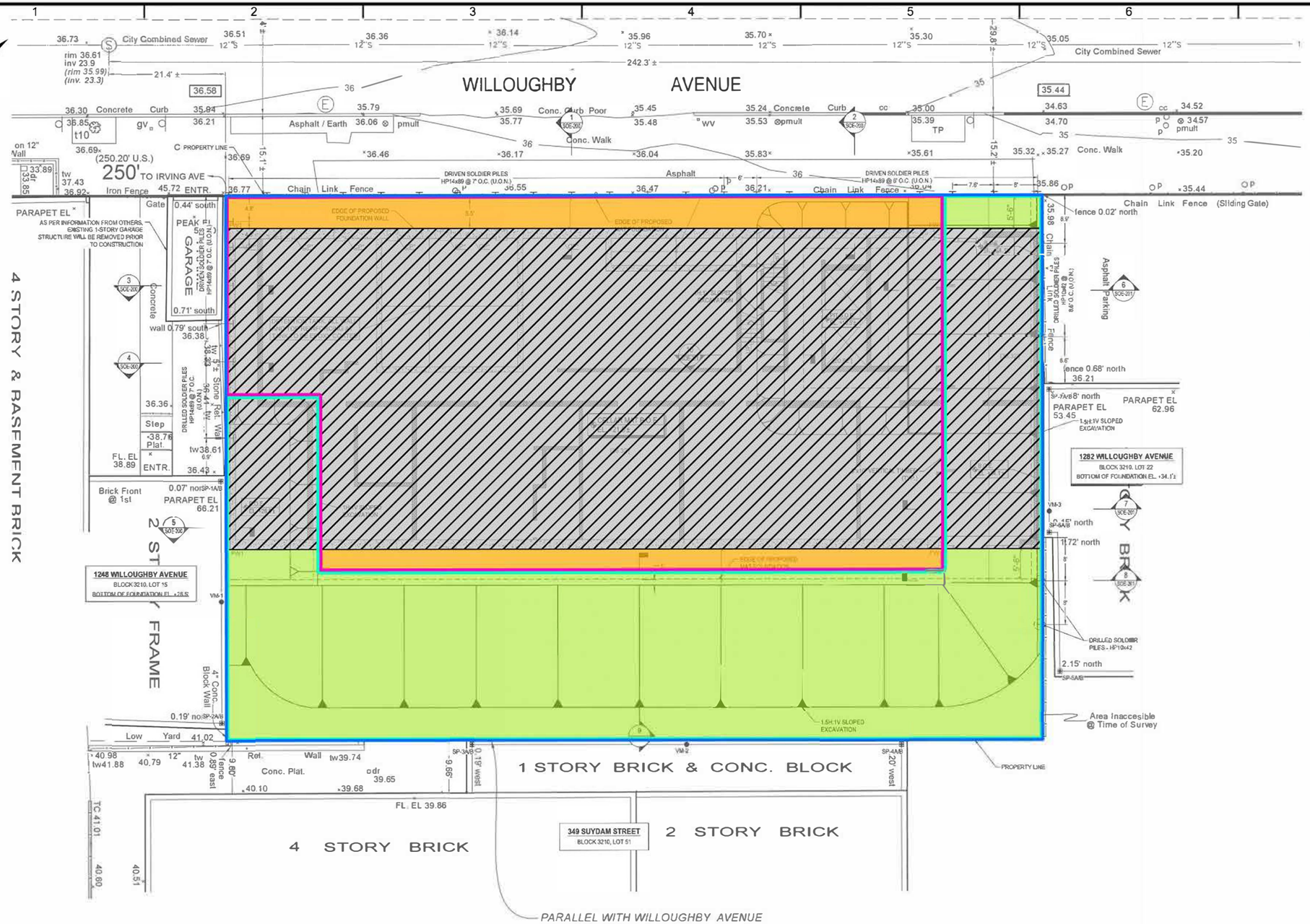
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Project	WILLOUGHBY CONVERSION PROJECT
BROOKLYN	NEW YORK
Figure Title	PROPOSED ENDPOINT SAMPLE LOCATION PLAN
Project No.	170794301
Date	3/26/2026
Scale	1"=20'
Drawn By	GS
Figure No.	4

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Notes:
1. Basemap from Drawing No. SOE-100.00 "Support of Excavation Plan" prepared April 4, 2025 by GEO Design.
2. bgs - below grade surface

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Project	WILLOUGHBY CONVERSION PROJECT
BROOKLYN	NEW YORK
Figure Title	ENGINEERING CONTROLS PLAN
Project No.	170794301
Date	3/27/2026
Scale	1"=20'
Drawn By	GS
Figure No.	5

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