DECISION DOCUMENT

1487 1st Avenue Redevelopment Site
Brownfield Cleanup Program
New York, New York County
Site No. C231152
April 2023

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

DECLARATION STATEMENT - DECISION DOCUMENT

1487 1st Avenue Redevelopment Site
Brownfield Cleanup Program
New York, New York County
Site No. C231152
April 2023

Statement of Purpose and Basis

This document presents the remedy for the 1487 1st Avenue Redevelopment 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 1487 1st Avenue Redevelopment 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:

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- 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;
- any underground storage tanks (USTs), underground piping or other structures; and
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Excavation and off-site disposal of all on-site soils that exceed unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8, to depths ranging from 12 to 19 feet below sidewalk grade. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy. Collection and analysis of confirmation and documentation samples at the remedial excavation depths will be used to verify that SCOs for the site have been achieved. If confirmation/documentation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify the Department, submit the sample results and, in consultation with the Department, 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.

Approximately 3,180 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.

3. Backfill

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

4. Groundwater Treatment

Additional groundwater treatment may be implemented to treat chlorinated volatile organic compounds (VOCs) in groundwater if the post-interim remedial measure (IRM) groundwater sampling discussed in Section 6.2 indicates VOC levels in groundwater have not been adequately reduced. The type, method and depth of treatment would be determined based on the sampling results.

5. Vapor Intrusion Evaluation

As part of the Track 1 remedy, a soil vapor intrusion evaluation, including sub-slab and indoor air sampling, will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

6. Local Institutional Controls

If no Environmental Easement (EE) or Site Management Plan (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 NYCDOH code, which prohibits potable use of groundwater without prior approval.

Conditional 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 (COC).

If Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required, and the remedy will achieve a Track 2 restricted residential cleanup.

7. Institutional Control

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

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for restricted residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOH; and
- require compliance with the Department approved Site Management Plan.

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.

   This plan includes, but may not be limited to:
   - descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
   - a provision for evaluation of the potential for soil vapor intrusion, including sub-slab and indoor air samples, for any occupied buildings on the site, including provision for

implementing actions recommended to address exposures related to soil vapor intrusion;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional 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 to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department; and
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional 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.

4/6/23
Date

Janet E. Brown
Assistant Division Director

DECISION DOCUMENT

1487 1st Avenue Redevelopment Site
New York, New York County
Site No. C231152
April 2023

SECTION 1: SUMMARY AND PURPOSE

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

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

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

SECTION 2: CITIZEN PARTICIPATION

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

New York Public Library - Webster Library
1465 York Avenue
New York, NY 10075
Phone: (212) 288-5049

Manhattan Community Board 8
505 Park Avenue, Suite 620
New York, NY 10022
Phone: (212) 758-4616

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C231152

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 0.23-acre lot located at 1487-1493 1st Avenue in the Upper East Side of Manhattan, and is designated as Block 1452, Lot 27 on the NYC Tax Map. The site is bounded to the north by East 78th Street followed by a five-story residential building, to the west by a four-story residential building, to the south by a nine-story residential building, and to the east by 1st Avenue followed by three four-story mixed residential and commercial buildings and one five-story residential building.

Site Features:
The site currently consists of vacant land where former building basements have been partially backfilled with remnant demolition debris and recently regraded to approximately 4 to 8 feet below street grade.

Current Zoning and Land Use:
The site is within a C2-8 commercial district which allows for commercial and residential uses. The adjoining parcels and surrounding area are of mixed use including residential and commercial.

Past Use of the Site:
The property had consisted of one- to five-story mixed-use commercial and residential buildings between 1896 and 1939. Historical operations on the subject site included dyeing and cleaning operations between 1920 and 2005. A solvent tank was identified on the Sanborn Maps from 1951 to 2005 in the north-central area of the site, which has since been removed. Abandoned fuel oil underground storage tanks (USTs) are suspected due to historical fuel oil burner application records.

Site Geology and Hydrogeology:
Beneath the former basement slabs (located approximately 8 to 10 feet below street grade (bsg)), the subsurface consists of an approximately 1- to 4-foot-thick layer of historic fill underlain by a

6- to 13-foot-thick native layer of sand and clayey sand. Bedrock is approximately 17 to 23 feet bsg. Bedrock tends to be deeper in the southern part of the site. The site is underlain by the Manhattan bedrock formation, consisting mainly of schists and amphibolite.

Based on the presence of groundwater immediately above weathered bedrock, it is assumed to be present in a perched condition. Overburden groundwater was measured between 13 feet bsg and 15.5 feet bsg and flows easterly toward the East River. Groundwater in bedrock flows to the south.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

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

A comparison of the results of the Remedial Investigation (RI) against unrestricted use 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. 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:

trichloroethene (TCE)	barium
tetrachloroethane (PCE)	copper
cis-1,2-dichloroethene	mercury
chloroform	

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.

The following IRM has been completed at this site based on conditions observed during the RI.

Excavation and In-Situ Groundwater Treatment

To address an identified source of chlorinated volatile organic compounds in the area of the former solvent storage tank, the following remedy elements were included in the approved IRM Work Plan dated January 2023:

1. The existing on-site building was demolished, and demolition debris was taken off-site for proper disposal in order to implement the remedy.
2. Soil excavation of approximately 250 cubic yards of contaminated soil in the vicinity of a former solvent storage tank in the northern portion of 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 and confirm the effectiveness of the remedy. If confirmation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify the Department, submit the sample results and, and in consultation with the Department, determine if further remedial excavation is necessary. If necessary, further excavation will be conducted in this area during the final remedy. 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 was conducted on the excavated material.
3. In-situ groundwater treatment via zero-valent iron (ZVI) and carbon substrate will be injected into the subsurface to destroy contaminants in groundwater in the eastern half of the site where chlorinated VOCs were elevated in groundwater. The groundwater treatment will be conducted via injections into the overburden soil and bedrock fractures up to 50 feet below street grade to destroy the contaminants. Prior to the full implementation of this technology, laboratory and on-site pilot scale studies were conducted to define design parameters. Following the injections, groundwater monitoring events will be performed at three months and six months post-injection to evaluate the effectiveness of the remedy.

IRM activities began in February 2023 and are ongoing. These activities will be documented in the Final Engineering Report (FER).

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), pesticides, and per- and polyfluoroalkyl substances (PFAS). Soil vapor was analyzed for VOCs. The primary contaminants of concern are chlorinated VOCs in soil, groundwater, and soil vapor.

Soil - Prior to the IRM, the chlorinated VOC tetrachloroethene (PCE) was detected at a concentration of 1.6 parts per million (ppm) in one location, above the unrestricted use soil cleanup objective (UUSCO) and protection of groundwater soil cleanup objective (PGWSCO), both of 1.3 ppm. No other VOCs were detected above their respective UUSCOs or PGWSCOs in soil samples. However, the presence of PCE, trichloroethene (TCE), and cis-1,2-dichloroethene (DCE) in on-site groundwater and soil vapor indicate that a source is present in proximity to the former solvent storage tank. IRM excavation is ongoing; end-point samples will be compared to UUSCOs and applicable PGWSCOs to confirm the remedy was effective.

The following metals were detected in soil at concentrations exceeding their respective UUSCOs: barium up to 451 ppm (UUSCO of 350 ppm), copper up to 81.8 ppm (UUSCO of 50 ppm), lead up to 474 ppm (UUSCO of 63 ppm), nickel up to 55.8 ppm (UUSCO of 30 ppm) and mercury up to 0.269 ppm (UUSCO of 0.18 ppm).

The following pesticides were detected above the USUCO of 0.0033 ppm for each compound: 4,4'-DDD up to 0.0281 ppm, 4,4'-DDE up to 0.0416 ppm, and 4,4'-DDT up to 0.133 ppm.

For PFAS, perfluorooctanesulfonic acid (PFOS) was detected in five locations up to 1.09 parts per billion (ppb) compared to the unrestricted use guidance value of 0.88 ppb, and perfluorooctanoic acid (PFOA) was detected in two locations up to 1.11 ppb (unrestricted use guidance value of 0.66 ppb).

SVOCs and PCBs were not detected above their UUSCOs or applicable PGWSCOs in any soil samples.

The data do not indicate any off-site impacts in soil related to this site.

Groundwater - The following chlorinated VOCs were detected in groundwater exceeding Class GA Ambient Water Quality Standards (AWQS): PCE up to 2,660 ppb (AWQS is 5 ppb), TCE up to 209 ppb (AWQS is 5 ppb), DCE up to 103 ppb (AWQS is 5 ppb) and chloroform up to 15 ppb (AWQS is 7 ppb).

The SVOC phenol was detected at a concentration of 5.5 ppb in one groundwater sample (AWQS of 1 ppb).

Excluding naturally occurring minerals, such as manganese and sodium, no dissolved metals were detected above standards in site groundwater.

PFOA and PFOS were reported at concentrations of up to 127 parts per trillion (ppt), and 239 ppt, respectively, exceeding the ambient water quality guidance values of 6.7 ppt and 2.7 ppt, respectively, in groundwater. There are no public water supply wells within a half mile of the site and there is a municipal prohibition on the use of groundwater underlying the site. 1,4-dioxane was not detected in groundwater samples.

The data do not indicate any off-site impacts in groundwater related to this site.

Soil Vapor - The following chlorinated VOCs were detected in on-site soil vapor: PCE up to 8,610 micrograms per cubic meter ($\mu g/m^3$), TCE up to 489 $\mu g/m^3$, and DCE up to 6.44 $\mu g/m^3$ with the highest concentrations located in the immediate vicinity of the former solvent storage tank. Concentrations decreased significantly moving away from the tank location.

The data do not indicate any off-site impacts in soil vapor related to this site.

6.4: Summary of Human Exposure Pathways

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

The site is completely fenced, which restricts public access. 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 contaminated by the site. 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 via vapor intrusion is not a current concern. However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site development. Environmental sampling indicates soil vapor intrusion is not a concern for off-site buildings.

6.5: Summary of the Remediation Objectives

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

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking

water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection
- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- 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 Conditional Track 1 remedy.

The selected remedy is referred to as the Excavation, Groundwater Treatment and Soil Vapor Intrusion Evaluation remedy.

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

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:
- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;

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

2. Excavation

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- 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;
- any underground storage tanks (USTs), underground piping or other structures; and
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Excavation and off-site disposal of all on-site soils that exceed unrestricted SCOs, as defined by 6 NYCRR Part 375-6.8, to depths ranging from 12 to 19 feet below sidewalk grade. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy. Collection and analysis of confirmation and documentation samples at the remedial excavation depths will be used to verify that SCOs for the site have been achieved. If confirmation/documentation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify the Department, submit the sample results and, in consultation with the Department, 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.

Approximately 3,180 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.

3. Backfill

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

4. Groundwater Treatment

Additional groundwater treatment may be implemented to treat chlorinated volatile organic compounds (VOCs) in groundwater if the post-interim remedial measure (IRM) groundwater sampling discussed in Section 6.2 indicates VOC levels in groundwater have not been adequately reduced. The type, method and depth of treatment would be determined based on the sampling results.

5. Vapor Intrusion Evaluation

As part of the Track 1 remedy, a soil vapor intrusion evaluation, including sub-slab and indoor air sampling, will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

6. Local Institutional Controls

If no Environmental Easement (EE) or Site Management Plan (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 NYCDOH code, which prohibits potable use of groundwater without prior approval.

Conditional 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 (COC).

If Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required, and the remedy will achieve a Track 2 restricted residential cleanup.

7. Institutional Control

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

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for restricted residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOH; and
- require compliance with the Department approved Site Management Plan.

8. Site Management Plan

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

b. 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

This plan includes, but may not be limited to:

- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion, including sub-slab and indoor air samples, for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional 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 to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department; and
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional Control Plan discussed above.

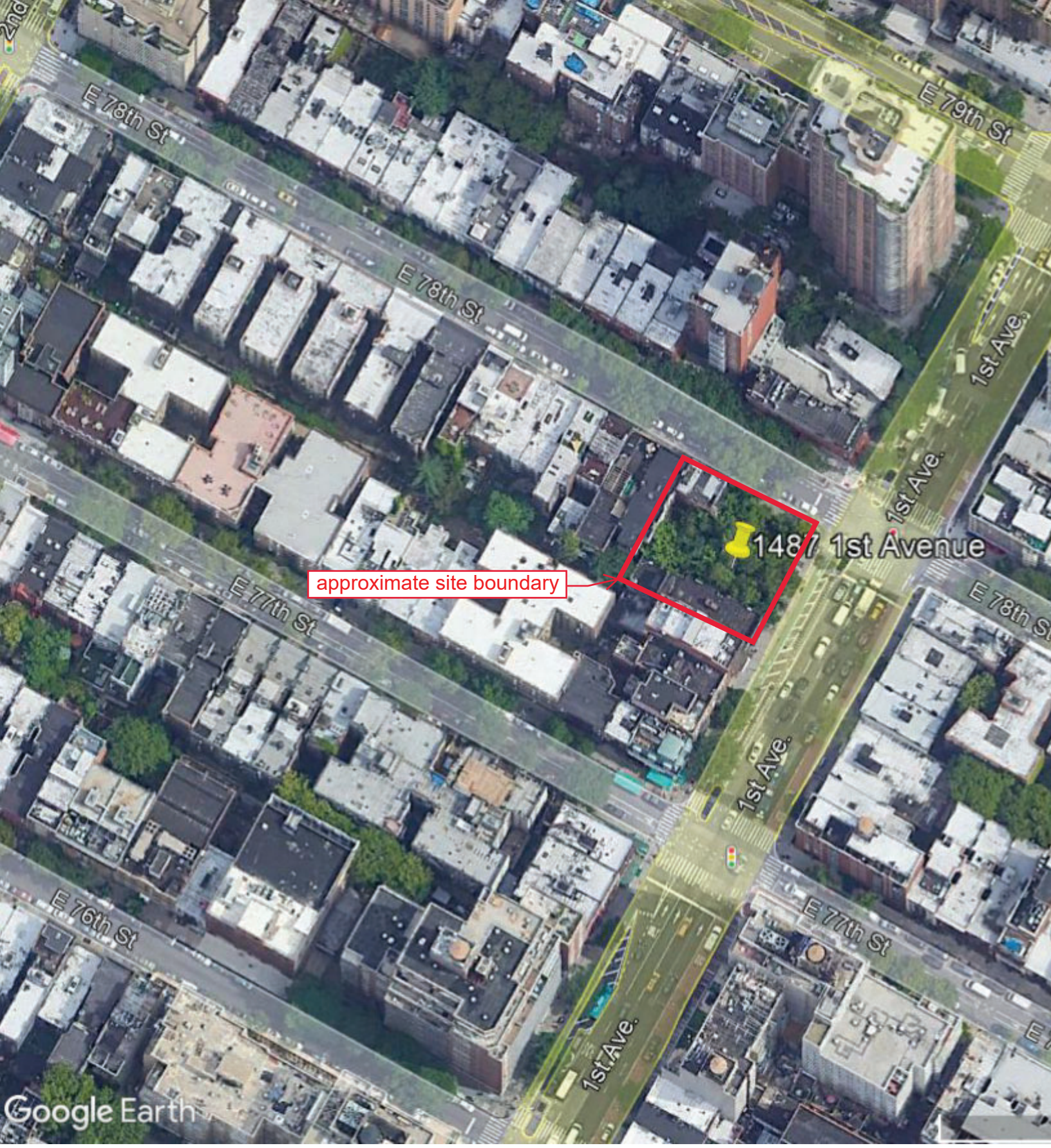

Figure 1
Site Location
1487 1st Avenue Redevelopment Site

LEGEND

- SITE BOUNDARY
- EXCAVATION TO 12 FEET BSL
- EXCAVATION TO 17 FEET BSL
- EXCAVATION TO 18 FEET BSL
- EXCAVATION TO 19 FEET BSL
- EXCAVATION TO APPROXIMATELY 18.5 FEET BSL FOR THE REMOVAL OF THE CVOC HOTSPOT (IN ACCORDANCE WITH THE IRMWP)
- EXCAVATION TO 14 FEET BSL

NOTES:
1. BASE MAP SOURCE: FO-100.00 FOUNDATION PLAN BY HILL WEST ARCHITECTS DATED 07 SEPTEMBER 2022.

15 0 15
SCALE IN FEET

LANGAN
300 Kimball Drive
Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com
Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
Langan International LLC
Collectively known as Langan
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1487 FIRST AVENUE REDEVELOPMENT SITE
BLOCK No. 1452, LOT No. 27
MANHATTAN
NEW YORK NEW YORK

Drawing Title
ALTERNATIVE I - TRACK 1 CLEANUP

Project No.	Figure
100963701	**Figure 2**
Date: 3/10/2023	
Scale: 1:180	
Drawn By: PDT	