

DECISION DOCUMENT

Seton Brilla Charter School
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203152
July 2022



**Department of
Environmental
Conservation**

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

DECLARATION STATEMENT - DECISION DOCUMENT

Seton Brilla Charter School
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203152
July 2022

Statement of Purpose and Basis

This document presents the remedy for the Seton Brilla Charter School 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 Seton Brilla Charter School 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

The existing on-site building will be demolished and materials which cannot be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u); and
- soils which exceed the protection of groundwater soil cleanup objectives (PGSCOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standards; and
- any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

All soils in the upper two feet which exceed the restricted residential soil cleanup objectives (RRSCOs) will be excavated and transported off-site for disposal. In addition, petroleum source material associated with NYSDEC Spill No. 2103719 in the western portion of the site down to approximately 2 feet below the water table, where petroleum-related VOCs exceeded protection of groundwater soil cleanup objectives (PGSCOs) and/or RRSCOs will be excavated and taken off-site for proper disposal.

Approximately 1,430 cubic yards of contaminated soil will be removed from the site.

3. Backfill

On-site soil which does not exceed the above SCOs or criteria may be used below the cover system described in remedy element 4 to backfill the excavation and establish the designed grades at 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. Cover System

A site cover will be required in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs), to allow for future restricted residential use of the site. Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a

component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

5. Vapor Mitigation

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

6. In- Situ Groundwater Treatment

In-situ chemical oxidation will be implemented to treat petroleum-related volatile organic compounds (VOCs) in the southwestern portion of the site. A chemical oxidant will be injected into the subsurface to destroy the contaminants in the southwestern portion of the property where gasoline related compounds were elevated in the groundwater.

Prior to the full implementation of this technology, a pilot study will be completed to determine design parameters including the specific treatment amendment to be used, and final number and locations of the injection points.

After the injections, monitoring will be required within, and downgradient of, the treatment zone to determine the effectiveness of the remedy. Monitoring will be conducted at a minimum upgradient and downgradient for the detected contaminants and their degradation by-products.

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 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 4, the Vapor Mitigation System(s) discussed in paragraph 5 above.

This plan includes, but may not be limited to:

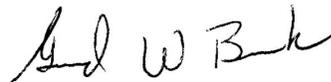
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
 - description of the provisions of the environmental easement including any land use, and groundwater use restrictions;
 - a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
 - 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; and
 - a schedule of monitoring and frequency of submittals to the Department.
 - monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
- c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
- procedures for operating and maintaining the remedy;
 - compliance monitoring of sub slab depressurization system(s) to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
 - maintaining site access controls and Department notification; and
 - providing the Department access to the site and O&M records.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

July 21, 2022

Date



Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

Seton Brilla Charter School
Bronx, Bronx County
Site No. C203152
July 2022

SECTION 1: SUMMARY AND PURPOSE

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

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

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

SECTION 2: CITIZEN PARTICIPATION

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

DECInfo Locator - Web Application
<https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C203152>

Bronx Library Center
310 E. Kingsbridge Road
Bronx, NY 10458
Phone: (718) 579-4244

Bronx Community Board 5
Bronx Community College
University Ave & West 181st St
Bronx, NY 104533
Phone: (718) 364-2030

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at <http://www.dec.ny.gov/chemical/61092.html>

SECTION 3: SITE DESCRIPTION AND HISTORY

Location - The 0.24 acres site is located at 1956 Jerome Avenue, Bronx, NY and is identified as Block 2853, Lot 22 on the New York City Tax Map. The site is bounded by East Tremont Avenue to the north, a retail hardware store to the east, several automobile repair facilities to the south, and Jerome Avenue and the elevated Metropolitan Transit Authority (MTA) subway tracks to the west.

Site Features -

All buildings on site were recently demolished and currently, the site is a vacant lot and fenced.

Current Zoning and Land Use - The site is currently zoned as C4-4D commercial district. The proposed use, a charter school, which is consistent with existing zoning for the site as part of the Jerome Avenue Neighborhood Plan, which seeks to create opportunities for new affordable housing and community facilities.

Past Use of the Site - Historical records identified an automobile repair facility with two 550-gallon gasoline USTs at the site as early as 1950. The site was also listed with the following uses between 1927 and 2017: steam equipment manufacturing, appliance manufacturing, and janitorial supplies sales. During site reconnaissance for the Phase I Environmental Site Assessment, a hydraulic lift was observed in the southern portion of the site and the former property owner indicated that two 275-gallon heating oil aboveground storage tanks (ASTs) were formerly located within the southeastern portion of the partial cellar at the site. The removal dates of the USTs and ASTs are unknown, evidence of a petroleum release in the western portion of the site was found during the RI (NYSDEC Spill No. 2103719)..

Site Geology and Hydrology - The elevation of the site is between approximately 44.86 and 50.69 feet above the North American Vertical Datum of 1988 (NAVD88), which approximates mean sea level. The site surface topography is relatively level, and the regional surface

topography generally slopes south-southwest towards the Harlem River. The stratigraphy of the site consists of approximately nine feet of historic fill from sidewalk grade across the site, characterized by brown and gray sand and silt with gravel, brick, concrete, and wood. The historic fill is generally underlain by native brown and gray silt, sand, and trace gravel to approximately 20 feet below grade surface (bgs), the terminus of the deepest borings. Bedrock was not encountered during the remedial investigation. Groundwater was encountered at depths ranging between 4.64 and 11.48 feet bgs and flows in a north-northwest direction beneath the site.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

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

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant under the Brownfield Cleanup Agreement is a Volunteer. The Applicant does not have an obligation to address off-site contamination. However, the Department has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings, or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and

sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- 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. 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:

benzene	benzo(b)fluoranthene
ethylbenzene	benzo(k)fluoranthene
n-propylbenzene	naphthalene
1,2,4-trimethylbenzene	phenol
1,3,5-Trimethylbenzene	tetrachloroethene (PCE)
tert-butyl methyl ether	trichloroethene (TCE)
toluene	indeno(1,2,3-c,d)pyrene
m, p-xylene	barium
benzo(a)pyrene	

The contaminant(s) of concern exceed the applicable SCGs for:

- soil
- groundwater
- soil vapor

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.

Nature and Extent of Contamination:

A site wide investigation was conducted to delineate contamination in soil, groundwater, and soil vapor. Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), pesticides, the emerging contaminants per-and polyfluoroalkyl substances (PFAS) and 1,4 dioxane. Soil vapor was analyzed for VOCs. Based on the results of the investigation, the primary contaminants of concern at the site are metals, petroleum related VOCs and SVOCs in soil, petroleum-related VOCs in groundwater, and petroleum related VOCs and chlorinated VOCs in soil vapor. Results are summarized below:

Soil – Contaminants were compared against the restricted residential soil cleanup objectives (RRSCOs) and/or the protection of groundwater SCOs (PGSCOs) for those compounds found in on-site groundwater. Several petroleum related VOCs were detected at concentrations that exceed their applicable PGSCOs including: 1,2,4-trimethylbenzene up to 59 parts per million (ppm) (PGSCO is 3.6 ppm), 1,3,5-trimethylbenzene up to 38 ppm (PGSCO is 8.4 ppm), benzene up to 100 ppm (PGSCO is 0.06 ppm), ethylbenzene up to 46 ppm (PGSCO is 1 ppm), n-propyl benzene up to 130 ppm (PGSCO is 3.9 ppm) and xylene up to 63 ppm (PGSCO is 1.6 ppm). For SVOCs indeno(1,2,3-c,d)pyrene was detected up to 0.58 ppm (RRSCO is 0.5 ppm). For metals barium was detected up to 635 ppm (RRSCO is 400 ppm).

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

Groundwater - Several petroleum related VOCs were detected in on-site groundwater at levels exceeding their respective ambient water quality standards (AWQS), including: 1,2,4-trimethylbenzene up to 120 parts per billion (ppb) (AWQS is 5.1 ppb), 1,3,5-trimethylbenzene up to 55 ppb (AWQS is 5 ppb), benzene up to 1,600 ppb (AWQS is 1ppb), ethylbenzene up to

220 ppb (AWQS is 5 ppb), m,p-xylenes up to 410 ppb (AWQS is 5 ppb), n-propylbenzene 120 ppb (AWQS is 5 ppb), Toluene up to 390 ppb (AWQS is 5 ppb) and tert-butyl methyl ether up to 20 ppb (AQWS is 10 ppb). SVOCs such as benzo(a)anthracene was detected in on-site groundwater at a maximum concentration of 0.02 ppb (AWQS is 0.002 ppb), benzo(b)fluoranthene up to 0.02 ppb (AWQS is 0.002 ppb), benzo(k)fluoranthene up to 0.02 ppb (AWQS is 0.002 ppb), naphthalene up to 80 ppb (AWQS is 10 ppb) and phenol up to 7.7 ppb (AWQS is 1 ppb).

Perfluorooctanoic Acid (PFOA) was detected in groundwater samples at a maximum concentration of 54.8 parts per trillion (ppt) compared to the maximum contaminant level (MCL) (drinking water standard) of 10 ppt and perfluorooctanesulfonic acid (PFOS) was detected in groundwater samples at a maximum concentration of 85.1 ppt (MCL is 10 ppt). 1,4 -dioxane was not detected in groundwater samples.

Data does not indicate any offsite impacts in groundwater related to the site.

Soil Vapor - Tetrachloroethane (PCE) was detected in all sub-slab soil vapor samples with a maximum concentration of 397 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and trichloroethene (TCE) was detected in six soil vapor samples with a maximum concentration of 4.2 $\mu\text{g}/\text{m}^3$. Petroleum-related VOCs such as benzene, toluene, ethylbenzene, and xylenes (BTEX) were also detected in soil vapor with concentrations ranging from 54.1 $\mu\text{g}/\text{m}^3$ to 9,175 $\mu\text{g}/\text{m}^3$.

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

6.4: Summary of Human Exposure Pathways

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

People who dig below the ground surface may come into contact with contaminants in soil. People are not drinking site-related contaminants in the groundwater since the area is served by a public water supply not affected by this contamination. Volatile organic compounds in soil vapor (air spaces within the soil) may move into buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The site is vacant so inhalation of site contaminants in indoor air via vapor intrusion is not a current concern. However, the potential exists for inhalation of site contaminants due to soil vapor intrusion for any future on-site development or occupancy. In addition, 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 Track 4 remedy.

The selected remedy is referred to as the Excavation, Groundwater Treatment, Vapor Mitigation, Backfill remedy.

The elements of the selected remedy, as shown in Figure 2 and 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;
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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 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

The existing on-site building will be demolished and materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u); and
- soils which exceed the protection of groundwater soil cleanup objectives (PGSCOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standards; and
- any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

All soils in the upper two feet which exceed the restricted residential soil cleanup objectives (RRSCOs) will be excavated and transported off-site for disposal. In addition, petroleum source material associated with NYSDEC Spill No. 2103719 in the western portion of the site down to approximately 2 feet below the water table, where petroleum-related VOCs exceeded PGSCOs and/or RRSCOs will be excavated and taken off-site for proper disposal.

Approximately 1,430 cubic yards of contaminated soil will be removed from the site.

3. Backfill

On-site soil which does not exceed the above excavation criteria may be used below the cover system described in remedy element 4 to backfill the excavation and establish the designed grades at 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. Cover System

A site cover will be required in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs), to allow for restricted residential use of the site. Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

5. Vapor Mitigation

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

6. In- Situ Groundwater Treatment

In-situ chemical oxidation will be implemented to treat petroleum related volatile organic compounds (VOCs) in the southwestern portion of the site. A chemical oxidant will be injected into the subsurface to destroy the contaminants in the southwestern portion of the property where gasoline related compounds were elevated in the groundwater.

Prior to the full implementation of this technology, a pilot study will be completed to determine design parameters including the specific treatment amendment to be used, and final number and locations of the injection points.

After the injections, monitoring will be required within, and downgradient of, the treatment zone to determine the effectiveness of the remedy. Monitoring will be conducted at a minimum upgradient and downgradient for the detected contaminants and their degradation by-products.

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 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 4, the Vapor Mitigation System discussed in paragraph 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;
- description of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 4 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs)
- 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; and
 - a schedule of monitoring and frequency of submittals to the Department.
 - monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
- c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
- procedures for operating and maintaining the remedy;
 - compliance monitoring of sub slab depressurization system to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
 - maintaining site access controls and Department notification; and
 - providing the Department access to the site and O&M records.



Service Layer Credits: USGS The National Map: 3d Elevation Program, Data Refreshed July, 2020



© 2021 AKRF W:\AP\projects\210024 - 1956 JEROME AVENUE\Technical\GIS and Graphics\SAR\210024 Fig 1 Site loc.mxd/20/2021 9:55:09 AM iszallus



440 Park Avenue South, New York, NY 10016

1956 Jerome Avenue
Bronx, New York

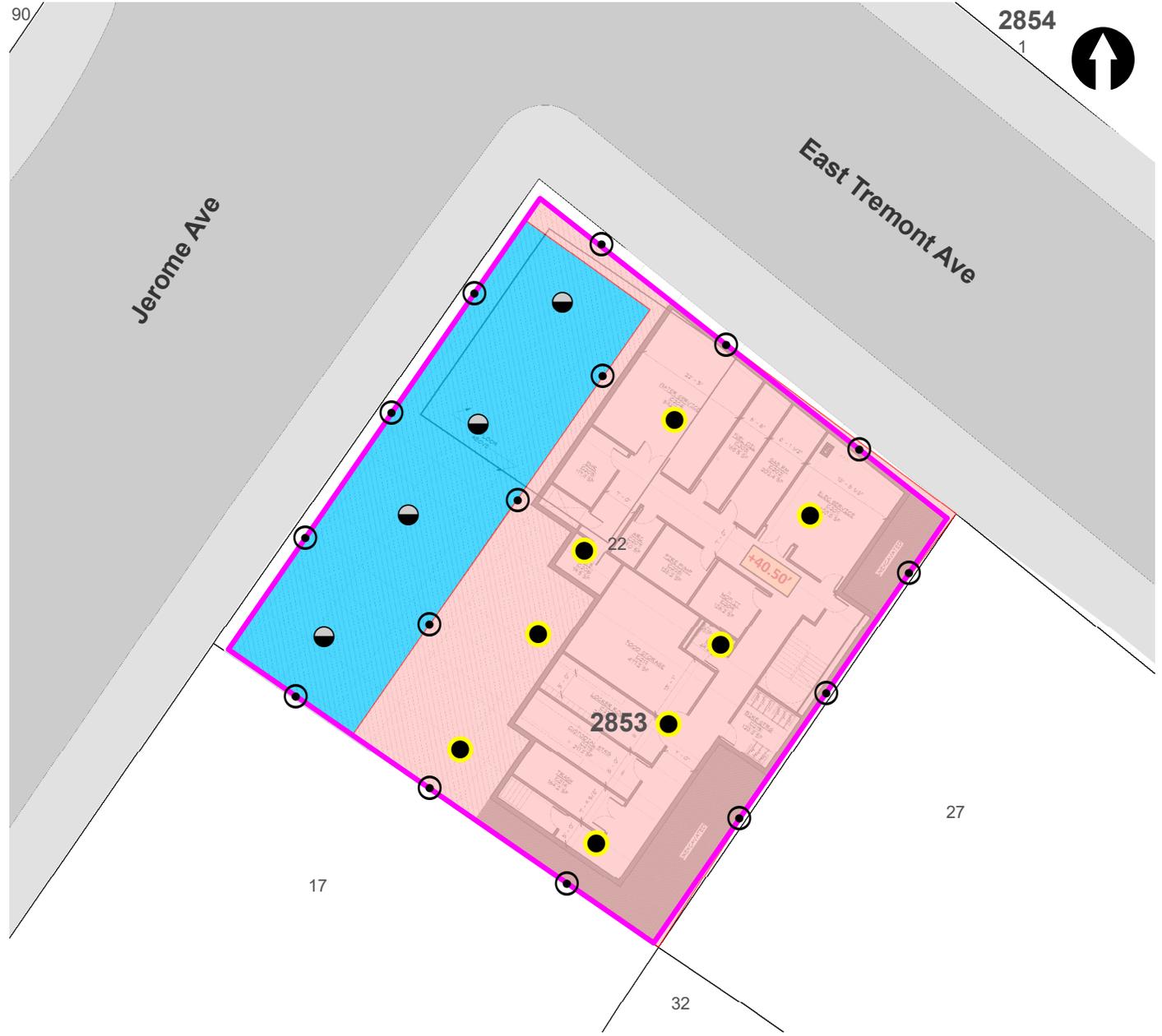
SITE LOCATION

DATE
9/20/2021

PROJECT NO.
210024

FIGURE
1

© 2021 AKRF. W:\Projects\210024 - 1956 JEROME AVENUE\Technical\GIS and Graphics\AR\RAWP\210024 Figure 9 Proposed Remedial Excavation and Documentation Sample Location Plan.mxd 10/25/2021 2:03:38 PM iszalus



LEGEND

-  PROJECT SITE BOUNDARY
-  LOT BOUNDARY AND TAX LOT NUMBER
- 2853** BLOCK NUMBER
-  REMEDIAL EXCAVATION TO APPROXIMATELY TWO FEET BELOW EXISTING GRADE
-  REMEDIAL EXCAVATION TO GROUNDWATER (SOURCE AREA)

-  CONFIRMATION DOCUMENTATION BOTTOM SAMPLE
-  SOURCE AREA DOCUMENTATION BOTTOM SAMPLE
-  DOCUMENTATION SIDEWALL SAMPLE

NOTE
 REMEDIAL EXCAVATION WILL INCLUDE REMOVAL OF APPROXIMATELY 1,280 TONS (850 CUBIC YARDS) OF SOURCE MATERIAL ASSOCIATED WITH NYSDEC SPILL NO. 2103719 AND APPROXIMATELY 860 TONS (570 CUBIC YARDS) OF SOIL/FILL FROM THE UPPER 2 FEET SITE-WIDE.



Map Source:
 NYCDPC (NYC Dept. of City Planning) GIS database



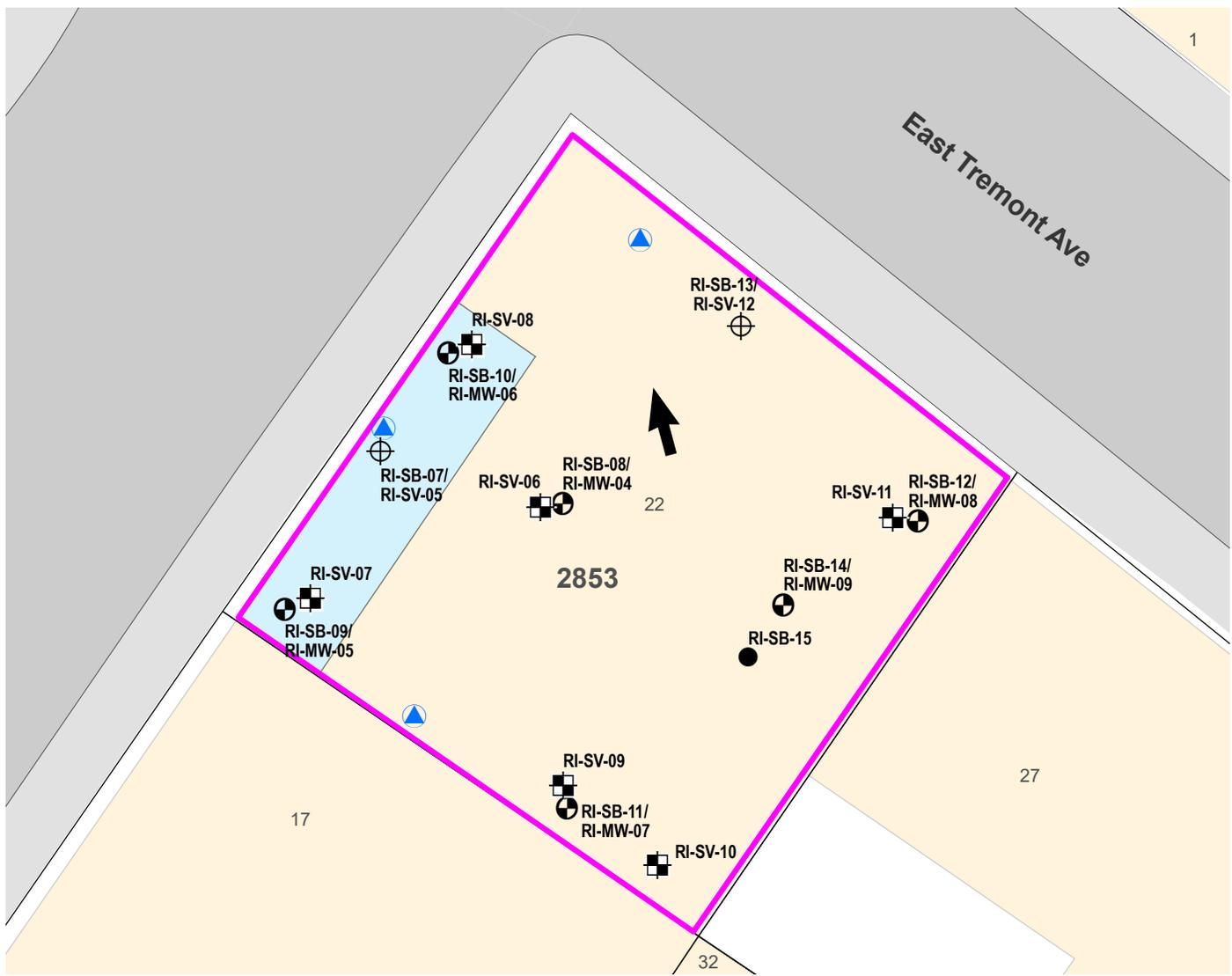
440 Park Avenue South, New York, NY 10016

1956 Jerome Avenue
 Bronx, New York

**TRACK 4 CLEANUP AND DOCUMENTATION
 SAMPLE LOCATION PLAN**

DATE	04/29/2022
PROJECT NO.	210024
FIGURE	2

© 2022 AKRF W:\AP\projects\210024 - 1956 JEROME AVENUE\Technical\GIS and Graphics\SAR\FRAMP\210024 Figure 12 Groundwater Treatment Area.mxd/28/2022 2:27:26 PM iszalus



LEGEND

-  PROJECT SITE BOUNDARY
-  LOT BOUNDARY AND TAX LOT NUMBER
- 2853** BLOCK NUMBER
-  RI SOIL BORING (JULY 2021)
-  RI SOIL BORING/MONITORING WELL (JULY 2021)
-  RI SOIL BORING/SOIL VAPOR POINT (JULY 2021)
-  RI SOIL VAPOR POINT (JULY 2021)
-  APPROXIMATE EXTENT OF GROUNDWATER TREATMENT AREA (NYSDEC SPILL NO. 210379)
-  PROPOSED GROUNDWATER MONITORING WELL LOCATIONS
-  APPROXIMATE GROUNDWATER FLOW DIRECTION



Map Source:
NYCDP (NYC Dept. of City Planning) GIS database



440 Park Avenue South, New York, NY 10016

1956 Jerome Avenue
Bronx, New York

GROUNDWATER TREATMENT AREA

DATE
4/28/2022

PROJECT NO.
210024

FIGURE
3