DECISION DOCUMENT

207th Street/9th Avenue
Brownfield Cleanup Program
New York, New York County
Site No. C231102
May 2019

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

DECLARATION STATEMENT - DECISION DOCUMENT

207th Street/9th Avenue
Brownfield Cleanup Program
New York, New York County
Site No. C231102
May 2019

Statement of Purpose and Basis

This document presents the remedy for the 207th Street/9th Avenue 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 207th Street/9th Avenue 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(s) (i.e., parking attendant trailer) will be removed 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 on-site soils in the upper two feet below ground surface across the entire site and of contaminant source areas including:

- Any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination;
- 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; and
- Soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Approximately 6,300 cubic yards (CY) of contaminated soil will be removed from the site for remediation, including approximately 500 CY of soil from two "hot spot" remedial excavation locations.

3. Backfill

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

4. Cover System

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

Engineering and Institutional Controls

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 4 restricted residential cleanup and will include an environmental easement, and site management plan as described below.

5. 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.

6. Site Management Plan

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

i. 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 5 above.

Engineering Controls: The soil cover discussed in Paragraph 4 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- a provision should redevelopment occur to ensure no soil exceeding protection of groundwater concentrations will remain below storm water retention basin or infiltration structures;
- descriptions of the provisions of the environmental easement including any land use and/or groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation or building slab be removed in the

future, a cover system consistent with that described in 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.

ii. 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;
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

iii. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components (e.g., cover system) of the remedy. The plan includes, but is not limited to:

- procedures for inspecting and maintaining the site cover system;
- 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.

May 14, 2019

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

207th Street/9th Avenue
New York, New York County
Site No. C231102
January 2019

SECTION 1: SUMMARY AND PURPOSE

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

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

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

SECTION 2: CITIZEN PARTICIPATION

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

New York Public Library - Inwood Branch
4790 Broadway
New York, NY 10034
Phone: 212-942-2445

Manhattan Community Board #12
530 West 166th Street, 6th Floor
New York, NY 10032
Phone: 212-568-8500

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 located at 3875 9th Avenue within the Inwood section of the Borough of Manhattan, New York City. The Site is 71,575 square feet (1.64 acres) and encompasses an entire city block (Block 2188, Lot 1). The property is bounded by 9th Avenue to the west, West 207th Street/University Heights Bridge approach to the south, West 208th Street to the north, and Exterior Street to the east. West 208th Street and Exterior Street are both mapped streets that were never constructed (i.e., paper streets). Beyond the Site boundary to the east and to the north, the land is a natural wooded riparian area bounded by the Harlem River and North Cove, respectively.

Site Features: Currently, the entire Site is an asphalt-paved parking lot. There is a parking attendant trailer in the northwestern corner of the parking lot, and the parking lot is surrounded by a chain link fence.

Current Zoning and Land Use: The Site was rezoned from M1-1 (light manufacturing) 2018 to R8/R9 (residential) which designates high-density residential districts. The nearest residential properties are located approximately 500 feet northwest of the Site. Surrounding land uses located immediately adjacent to the property include a New York City Transit rail yard and office building, a gas station, a parking facility and a food and beverage commercial store. Other land uses within the Site vicinity include: light commercial facilities, places of worship, multi-family housing, and a school.

Past Use of the Site: The Site was historically used for auto repair and sales shop, auto wrecking, houseboat mooring, trailer parking, dumping and vacant land. Undocumented underground storage tanks may be present in the southwest section of the Site associated with the auto repair and auto wrecking shops that were present from 1930s to at least the 1950s. The eastern portion of the property was part of the Harlem River until filling activities occurred between 1951 and 1968. The fill material was of unknown origin.

Site Geology and Hydrogeology: The Site is generally characterized by historic fill from ground surface to a depth of approximately 12 feet below ground surface (bgs) consisting of anthropogenic materials such as brick, concrete, ash, plastic and wood with intermittent sandy and/or gravely silt and silty sand layers. Silty clay, clay and vegetative matter (peat) was observed in several borings at depths ranging between 10.5 to 12.5 feet bgs, consistent with the historical river and associated wetlands. The geology in the area of the Site consists primarily of metamorphic rock and bedrock

consists of Cambrian-Ordovician Inwood Marble (USGS). Groundwater in the vicinity of the Site flows in a northeasterly direction toward the Harlem River. However, based on gauging on-Site monitoring wells during the investigation, local groundwater flow at the site is towards the west. Groundwater elevation measured in the wells varied between approximately 5 to 11 feet bgs and is tidally influenced.

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 Volunteer does not have an obligation to address off-site contamination. The Department has determined that this site poses a significant threat to human health and the environment and there are off-site impacts that require remedial activities; accordingly, enforcement actions are necessary.

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

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

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

The RI is intended to identify the nature (or type) of contamination which may be present at a site

and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

benzo(a)anthracene
benzo(b)fluoranthene
benzo(a)pyrene
chrysene
arsenic
barium
cadmium
copper
lead
mercury
vinyl chloride
cis-1,2-dichloroethene
n-propylbenzene
tetrachloroethene (PCE)
trichloroethene (TCE)
zinc
benzene
isopropylbenzene
dibenz[a,h]anthracene
indeno(1,2,3-CD)pyrene

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

- groundwater
- soil

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Soil and groundwater have been analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, poly-chlorinated biphenyls (PCBs), and metals. Groundwater has additionally been analyzed for per- and polyfluoroalkyl substances (PFAS). Soil vapor has been analyzed for VOCs.

Soil: Twenty-seven soil samples were collected from thirteen soil boring locations at depths ranging from 0 to 12 feet below ground surface (ft-bgs). Petroleum related VOCs were detected in one soil sample at levels above Protection of Groundwater Soil Cleanup Objectives (SCOs) but below Restricted Residential SCOs. The primary contaminants found in site soils are SVOCs and metals typically found in historic fill, which is generally present in the top 10-12 feet bgs of the site. The SVOCs and metals were found at levels above the both the Restricted Residential SCOs and Protection of Groundwater SCOs. SVOCs were detected in soils down to 12 ft-bgs and include, but are not limited to, benzo(a)anthracene (max. 7.6 parts per million (ppm)), benzo(a)pyrene (max. 6.6 ppm), benzo(b)fluoranthene (max. 9.0 ppm), benzo(k)fluoranthene (max. 2.7 ppm), chrysene (max. 6.7 ppm), dibenzo(a,h)anthracene (max. 1.1 ppm), and indeno(1,2,3-cd)pyrene (max. 4.8 ppm). Metals were detected in soils down to 12 ft-bgs and include, but are not limited to, arsenic (max. 22.9 ppm), barium (max. 693 ppm), cadmium (max. 28.1 ppm), copper (max. 568 ppm), lead (max. 3,430 ppm), mercury (max. 2.72 ppm) and zinc (24,500 ppm). Chlorinated solvents were not detected in soil. Data does not indicate any off-site impacts in soil related to this site.

Groundwater: Five groundwater samples were collected and analyzed. VOCs were detected in groundwater above Ambient Water Quality Standards or Guidance Values, and include benzene up to 1.5 parts per billion (ppb) (standard 1 ppb), 1,2,4,5-tetramethylbenzene up to 22 ppb (standard 5 ppb), isopropylbenzene up to 9.5 ppb (standard 5 ppb), n-propylbenzene up to 20 ppb (standard 5 ppb), vinyl-chloride up to 42 ppb (standard 2 ppb), and cis-1,2-dichloroethene up to 67 ppb (standard 5 ppb). SVOCs were also detected above standards and include

benzo(a)anthracene up to 0.13 ppb (standard 0.002 ppb), benzo(a)pyrene up to 0.05 ppb, benzo(b)fluoranthene up to 0.07 ppb (standard 0.002 ppb), and chrysene up to 0.11 ppb (standard 0.002 ppb). Barium was detected up to 2,288 ppb (dissolved) (standard 1,000 ppb). Data does not indicate any off-site groundwater impacts related to this site.

Soil Vapor: Nine soil vapor samples were initially collected and analyzed. Several VOCs were detected in soil vapor samples throughout of the site. Chlorinated VOCs detected at elevated levels were tetrachloroethene (PCE) (max. 2,220 micrograms per cubic meter ($\mu g/m^3$)), trichloroethene (TCE) (max. 5,970 $\mu g/m^3$), and cis-1,2-Dichloroethene (max. 245 $\mu g/m^3$). Based on these results, three additional soil vapor samples were collected off-site in the sidewalk area adjacent to the existing soil vapor point with the highest concentration of chlorinated VOCs. All three of the additional points detected chlorinated VOCs, primarily PCE (max. 1,500($\mu g/m^3$)) and TCE (max. 408($\mu g/m^3$)), but levels were below those of the highest on-site point.

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 gated, and covered with asphalt, people will not come into contact with site-related soil and groundwater contamination unless they dig below the surface. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in soil vapor (air spaces within the soil) may move into overlying 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. Additional Investigation is needed to fully evaluate the potential for soil vapor intrusion 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.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- 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: Restricted use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as the Excavation and Cover System 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

The existing on-site building(s) (i.e., parking attendant trailer) will be removed 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 on-site soils in the upper two feet below ground surface across the entire site and of contaminant source areas including:

- Any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination;
- 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; and
- Soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Approximately 6,300 cubic yards (CY) of contaminated soil will be removed from the site for remediation, including approximately 500 CY of soil from two "hot spot" remedial excavation locations.

3. Backfill

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

4. Cover System

A site cover will be required to allow for restricted residential use of the site in areas where

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

Engineering and Institutional Controls

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 4 restricted residential cleanup and will include an environmental easement, and site management plan as described below.

5. 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.

6. Site Management Plan

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

i. 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 5 above.

Engineering Controls: The soil cover discussed in Paragraph 4 above.

This plan includes, but may not be limited to:
o an Excavation Plan which details the provisions for management of future

excavations in areas of remaining contamination;

- a provision should redevelopment occur to ensure no soil exceeding protection of groundwater concentrations will remain below storm water retention basin or infiltration structures;
- descriptions of the provisions of the environmental easement including any land use and/or groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in 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.

ii. 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;
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

iii. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components (e.g., cover system) of the remedy. The plan includes, but is not limited to:

- procedures for inspecting and maintaining the site cover system;
- maintaining site access controls and Department notification; and
- providing the Department access to the site and O&M records.

N

0 80 160

Feet

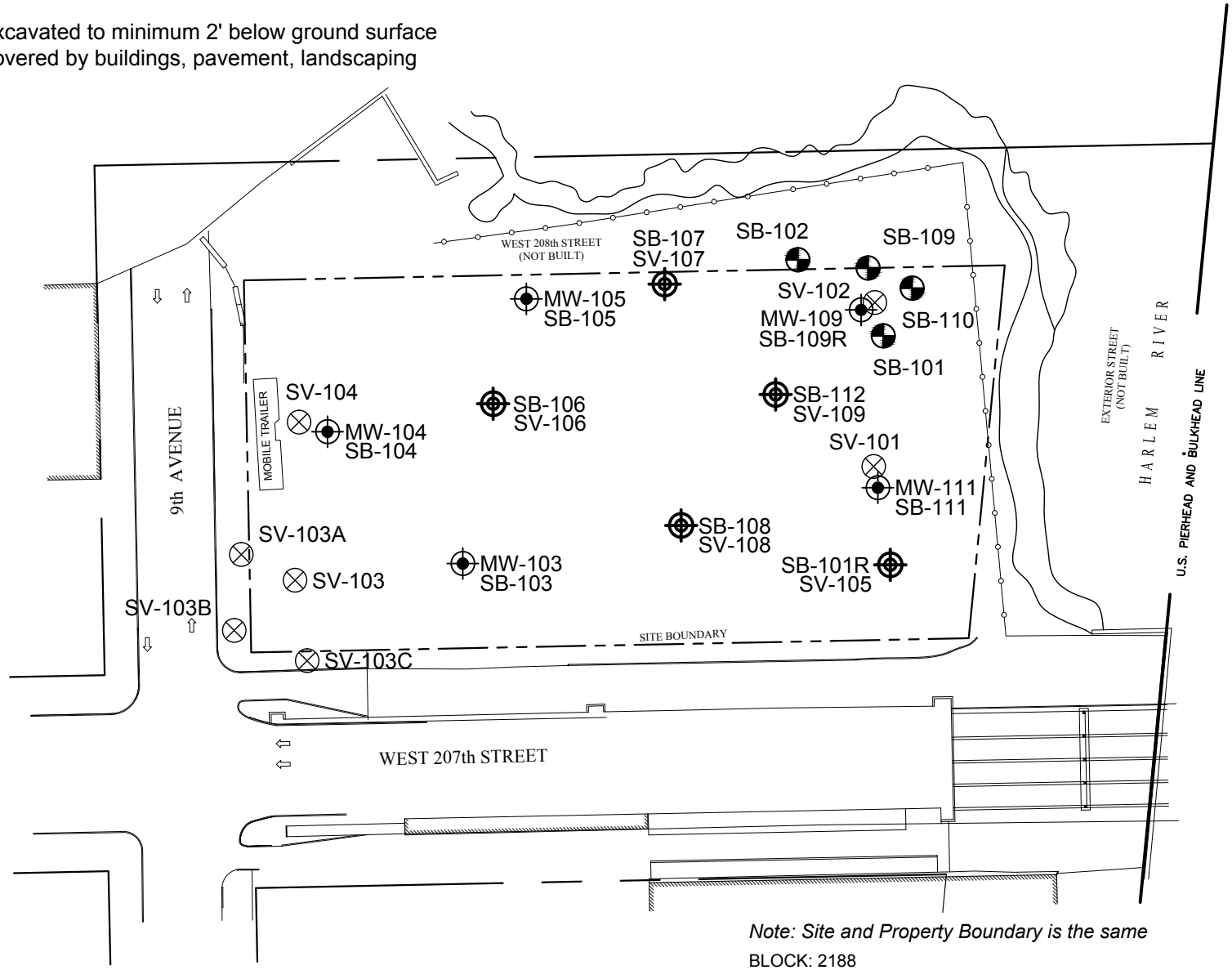
Note: Site and Property Boundary is the same

Figure 1
Site Map

207th Street / 9th Avenue
New York, NY
Site No. C231102

NEW YORK STATE OF OPPORTUNITY
Department of Environmental Conservation

- Site will be excavated to minimum 2' below ground surface
- Site will be covered by buildings, pavement, landscaping



Note: Site and Property Boundary is the same

BLOCK: 2188
LOT: 1

LEGEND

- SOIL BORING LOCATION
- SOIL BORING/ SOIL VAPOR LOCATION
- MONITORING WELL LOCATION / SOIL BORING
- SOIL VAPOR LOCATION

0 80 160

SCALE: 1" = 80'

Figure 2

207th Street / 9th Avenue
New York, NY
Site No. C231102