DECISION DOCUMENT

4380 Bullard Avenue Site
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203126
July 2021

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

DECLARATION STATEMENT - DECISION DOCUMENT

4380 Bullard Avenue Site
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203126
July 2021

Statement of Purpose and Basis

This document presents the remedy for the 4380 Bullard 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 4380 Bullard 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

Excavation and off-site disposal of polychlorinated biphenyls (PCB)-contaminated soil across the site to a maximum depth of approximately 20 feet below grade. This was performed as an interim remedial measure (IRM) which was part of a United States Environmental Protection Agency (USEPA)-approved Self-Implementing Cleanup and Disposal (SIP) Plan. See Section 6.2 for further details.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace soil excavated during an interim remedial measure and establish the designed grades at the site.

4. Capping System

A site cover will be required to allow for commercial use of the site in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). The required capping system that is part of the USEPA-approved SIP will serve as the site cover. The capping system is compliant with 40 CFR §264.310(a) and 40 CFR §761.61(a)7 and will be implemented sitewide.

The capping system will consist of a minimum 6-inch thick concrete slab, underlain by a COLPHENE-based moisture and vapor barrier or equivalent, underlain by 6-inches minimum of 3/4" clean stone, densely graded aggregate (DGA), or approved equal.

In one area where the remaining total PCBs will be greater than 100 parts per million (ppm) and a low-occupancy restriction is required, an alternate capping system will be installed that includes an additional 1.5-feet thick clean fill buffer to be placed below the system described above.

The details of the capping system are shown on Figure 2.

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 soil. The USEPA-approved SIP discusses the SSDS and also requires: a vapor barrier under the basement; indoor air sampling of PCBs in the basement consisting of an initial baseline sampling event after building construction, as well as follow-up long-term sampling, if required; and seal coating of the basement floor in the event that indoor air results exceed site-specific actionable levels for PCBs. Indoor air sampling for volatile orgranic compounds (VOCs) will also be conducted (Paragraph 7b below).

6. 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 commercial cleanup.

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

- as part of the USEPA-approved SIP, restrict the basement area of the proposed building to a low-occupancy area;
- 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 commercial 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.

7. 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 6 above.

Engineering Controls: The capping system discussed in Paragraph 4 and the sub-slab depressurization 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;
- descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- a provision that should a building foundation or building slab be removed in the future, the capping system consistent with that described in Paragraph 4 above will be placed in any areas where the upper one foot 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;
- a schedule of monitoring and frequency of submittals to the Department; and

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

Declaration

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

July 19, 2021

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

4380 Bullard Avenue Site
Bronx, Bronx County
Site No. C203126
July 2021

SECTION 1: SUMMARY AND PURPOSE

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

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

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

SECTION 2: CITIZEN PARTICIPATION

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

Woodlawn Heights Library
4355 Katonah Avenue
Bronx, NY 10470
Phone: 718-519-9627

Bronx Community Board 12
4101 White Plains Road
Bronx, NY 10466
Phone: 718-944-3300

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C203126

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

Site Location: The site is a 0.367-acre parcel located in an industrial and commercial area of the Bronx and is bounded by Bullard Avenue to the northwest, Nereid Avenue to the northeast, and commercial properties to the southwest and southeast.

Site Features: Three former industrial buildings were demolished circa 2015, after which the site was paved. Due to a recently completed interim remedial measure and redevelopment-related excavation, the entire site is excavated to a maximum depth of approximately 28 feet below street grade.

Current Zoning and Land Use: The site is zoned M1-1, a manufacturing district. The surrounding properties are all commercial and industrial properties with the exception of a residential project under construction approximately 60 feet to the north of the site.

Past Use of the Site: The historically industrial property was utilized by an electronic capacitor manufacturer between 1916 to 1935. The capacitor equipment contained polychlorinated biphenyl (PCB) oils. The site was part of a larger industrial facility that included the adjacent parcel to the southeast. PCBs were known to be disposed of on the site. Capacitors were cleaned using solvents, which exited the facility through its built-in drainage system.

From approximately 1949 and 1965, a paper products manufacturer operated on the site and the adjacent parcel. PCBs may have been used, as they historically were utilized in paper manufacturing in forms of dyes and printing machines and as an ink carrier on carbonless copy paper.

After building demolition in 2015, the site served as paved parking.

Site Geology and Hydrogeology: Previous subsurface investigations encountered three feet of coal ash immediately beneath the asphalt surface cover, which may have been generated by a former on-site burn plant. Additional historic fill was encountered to a depth of ten feet below surface grade. Historic fill predominately consists of gray to dark gray silt and sand with varying amounts of brick, concrete, gravel, and cinders. Native sand with varying amounts of silt, gravel,

and cobbles were observed beneath the historic fill. The depth of the groundwater at the site is approximately 30 feet below ground surface (bgs), and groundwater flows west toward the Bronx River which is approximately 0.10 miles west of 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, an alternative that restricts the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) was evaluated in addition to an alternative which would allow for unrestricted use of the site.

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

SECTION 5: ENFORCEMENT STATUS

The Applicant under the Brownfield Cleanup Agreement is a Volunteer. The Applicant does not have an obligation to address off-site contamination. 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) 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 contaminants of concern identified at this site are:

polychlorinated biphenyls (PCB)
copper
arsenic
benzene
toluene
ethylbenzene
xylene (mixed)
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
isopropylbenzene
naphthalene
n-propylbenzene
tetrachloroethene
trichloroethene
1,1,1-trichloroethane
vinyl chloride
carbon tetrachloride

The contaminants of concern exceed the applicable SCGs for:

- soil
- groundwater

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.

Remedial excavation

The IRM was performed as part of an United States Enivonrmental Protection Agency (USEPA) approved Self-Implementing Cleanup and Disposal (SIP) Plan for PCBs.

A support of excavation (SOE) was constructed along the site perimeter to facilitate the excavation of PCB-contaminated soil across the site to a maximum depth of approximately 20 feet below grade, per the USEPA-approved SIP. Approximately 10,200 cubic yards (yd^3) of contaminated soil was excavated and properly disposed of off-site. Approximately 3,200 yd^3 of soil were disposed of as hazardous waste and 7,000 yd^3 were disposed of as non-hazardous. End-point samples were collected and analyzed to document the effectiveness of the remedy.

One underground storage tank (UST) was emptied, removed and properly disposed of off-site. IRM activities will be documented in the the Final Engineering Report (FER).

In addition to the IRM excavation, the USEPA-approved SIP will include installation of an SSDS and capping system, as discussed in Section 7. The capping system and envinromental easement will be maintained and monitored under a Department-approved Site Managnemt Plan, per USEPA.

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:
Before the IRM, soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), and pesticides. Soil vapor was analyzed for VOCs. The primary contaminants of concern wee PCBs in soil, petroleum-related VOCs in groundwater, and VOCs in soil vapor.

Soil:
PCBs, specifically Aroclor 1254, were detected above the total PCB commercial use soil cleanup objective (CSCO) of 1 parts per million (ppm) across the site, up to a depth of 30 feet below ground surface (bgs). The highest PCB concentrations were found in the northern end of the site at a maximum of 3,680 ppm at approximately 4 feet bgs, which was removed as part of the IRM discussed in Section 6.2. Post-IRM excavation sampling collected at approximately 18-20' bgs detected PCBs remaining above CSCOs (ranging from non-detect up to 17 ppm). Additionally, PCB contamination from 20' bgs up to 30' bgs that was inaccessible for excavation will also remain (up to 209 ppm at 25.5' bgs in the northeastern portion of the site). The remaining contamination requires a capping system (discussed in Section 7, Paragraph 4) and was part of the USEPA-approved SIP.

Copper was the only metal detected above its respective CSCO; it was detected at 8,290 ppm in one location at 5 feet bgs (CSCO of 270 ppm) and removed as part of the IRM discussed in Section 6.2. VOCs, SVOCs, and pesticides were not detected above CSCOs.

The PFAS perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were detected in soil at concentrations below their respective commercial use guidance values of 500 parts per billion (ppb) and 440 ppb.

Data near the site boundary indicates the potential for off-site soil impacts.

Groundwater:
Petroleum-related VOCs were detected in groundwater at concentrations above their respective Class GA Ambient Water Quality Standards (AWQS) including benzene up to 350 ppb (AWQS is 1 ppb), ethylbenzene up to 1,600 ppb (AWQS is 5 ppb), toluene up to 310 ppb (AWQS is 5 ppb), total xylene up to 7,600 ppb (AWQS is 5 ppb), isopropylbenzene up to 140 ppb (AWQS is 5 ppb), naphthalene up to 580 ppb (AWQS is 10 ppb), n-propylbenzene up to 400 ppb (AWQS is 5 ppb), 1,3,5-trimethylbenzene 670 ppb (AWQS is 5 ppb) and 1,2,4-trimethylbenzene 2,800 ppb (AWQS is 5 ppb). No petroleum-related contamination was observed in on-site soil. The potential source of the petroleum-related VOC contamination in groundwater is from an upgradient gas station with a history of spills, near which a 2015 Phase II Environmental Site Assessment (ESA) found higher petroleum-related VOC concentrations than what was found on-site.

SVOCs, PCBs, pesticides, and dissolved metals were not detected above AWQS in site groundwater.

For PFAS, PFOA was reported at concentrations up to 49.6 parts per trillion (ppt), exceeding the Maximum Contaminant Level (MCL, e.g., the drinking water standard) of 10 ppt in groundwater. PFOS was not detected above its MCL of 10 ppt. There are no public water supply wells within a half a mile and there is a municipal prohibition for use of groundwater at the site.

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

Soil Vapor:

Six soil vapor samples were collected from approximately two feet below grade and analyzed for VOCs. Several petroleum-related VOCs were detected throughout the site. Chlorinated VOC detections include: tetrachloroethene (PCE) in all samples with a maximum concentration of 49.4 micrograms per cubic meter ($\mu g/m^3$), trichloroethene (TCE) in one location at 2.65 $\mu g/m^3$, 1,1,1-trichloroethane in one location at 105 $\mu g/m^3$, vinyl chloride in two locations (maximum 7.34 $\mu g/m^3$) and carbon tetrachloride in two locations (maximum 44 $\mu g/m^3$).

Site-related soil vapor impacts may be migrating off-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. However, persons who enter the site could contact contaminants in the soil by walking on the site, digging or otherwise disturbing the soil. People are not expected to come into direct contact with contaminated groundwater unless they dig below the ground surface. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in soil vapor (air spaces within the soil) may move into buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because there is no on-site building, inhalation of site contaminants in indoor air due to soil vapor intrusion does not represent a concern for the site in its current condition. However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site development. Furthermore, environmental sampling indicates soil vapor intrusion is a potential 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

- Remove the source of groundwater 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 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, Capping System and Vapor Mitigation 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

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3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace soil excavated during an interim remedial measure and establish the designed grades at the site.

4. Capping System

A site cover will be required to allow for commercial use of the site in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). The required capping system that is part of the USEPA-approved SIP will serve as the site cover. The capping system is compliant with 40 CFR §264.310(a) and 40 CFR §761.61(a)7 and will be implemented sitewide.

The capping system will consist of a minimum 6-inch thick concrete slab, underlain by a COLPHENE-based moisture and vapor barrier or equivalent, underlain by 6-inches minimum of 3/4" clean stone, densely graded aggregate (DGA), or approved equal.

In one area where the remaining total PCBs will be greater than 100 parts per million (ppm) and a low-occupancy restriction is required, an alternate capping system will be installed that includes an additional 1.5-feet thick clean fill buffer to be placed below the system described above.

The details of the capping system are shown on Figure 2.

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 soil. The USEPA-approved SIP discusses the SSDS and also requires: a vapor barrier under the basement; indoor air sampling of PCBs in the basement consisting of an initial baseline sampling event after building construction, as well as follow-up long-term sampling, if required; and seal coating of the basement floor in the event that indoor air results exceed site-specific actionable levels for PCBs. Indoor air sampling for volatile orgranic compounds (VOCs) will also be conducted (Paragraph 7b below).

6. 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 commercial cleanup.

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

- as part of the USEPA-approved SIP, restrict the basement area of the proposed building to a low-occupancy area;
- 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 commercial 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.

7. 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 6 above.

Engineering Controls: The capping system discussed in Paragraph 4 and the sub-slab depressurization 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;
- descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- a provision that should a building foundation or building slab be removed in the future, the capping system consistent with that described in Paragraph 4 above will be placed in any areas where the upper one foot 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;

- a schedule of monitoring and frequency of submittals to the Department; and
- monitoring for vapor intrusion of PCBs and VOCs for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

N

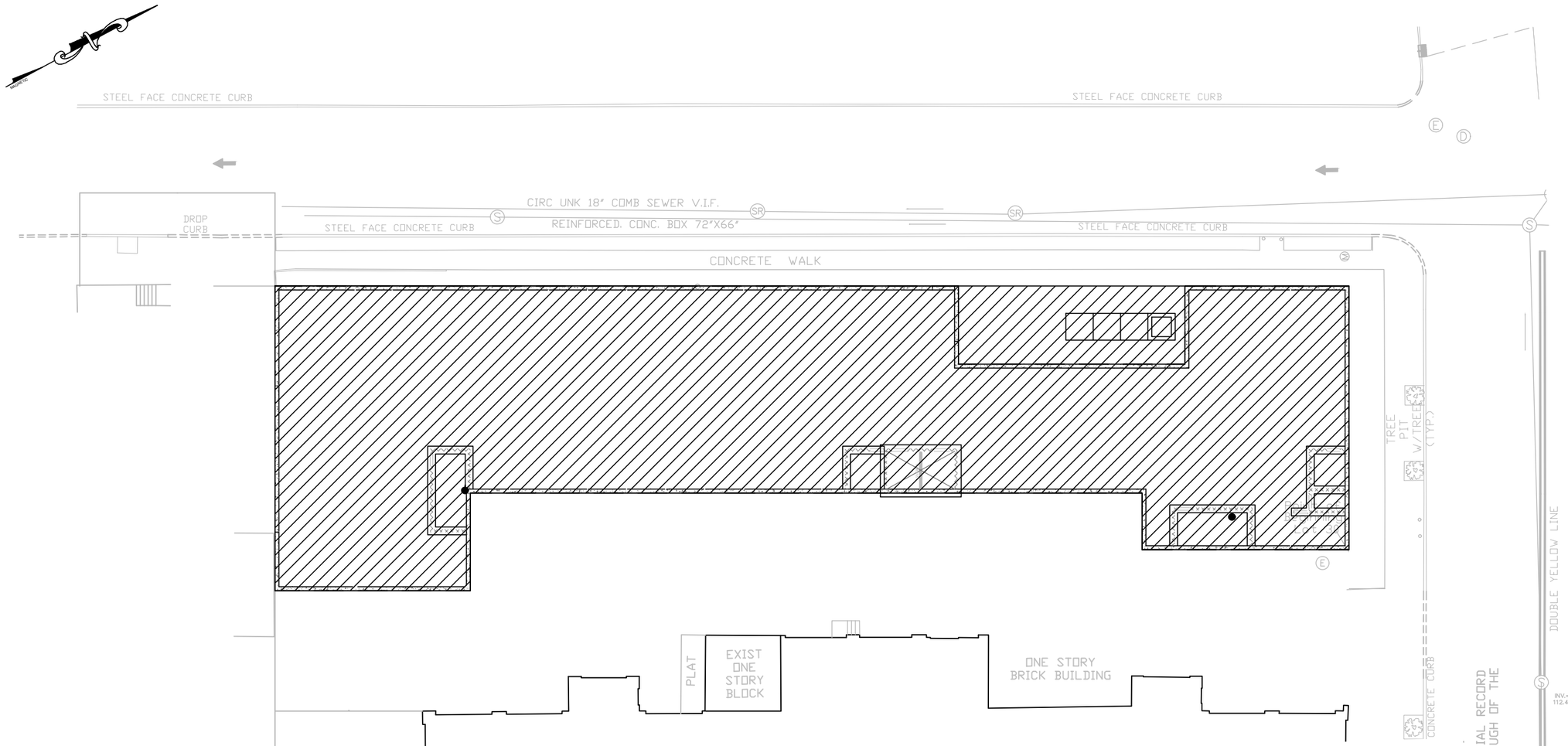
0 75 150

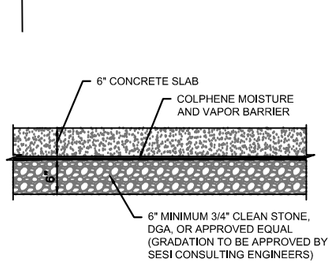
Feet

Figure 1
Site Map

4380 Bullard Avenue Site
Bronx, NY
Site No. C203126

NEW YORK STATE OF OPPORTUNITY
Department of Environmental Conservation

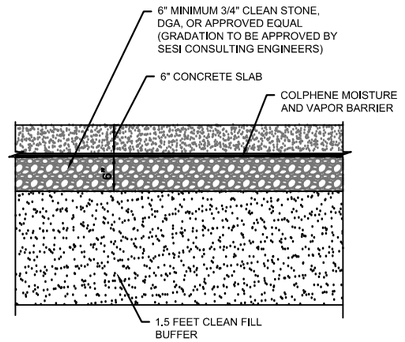




HIGH AND LOW OCCUPANCY CAP

SCALE: 1" = 1'

NOTE: THIS CAPPING SECTION WILL BE USED IN ALL AREAS WHERE SOILS REMAIN IN PLACE CONTAINING PCB'S AT CONCENTRATIONS UP TO 100 PPM



ALTERNATE LOW OCCUPANCY CAP

SCALE: 1" = 1'

NOTE: THIS CAPPING SECTION WILL BE USED IN ALL AREAS WHERE SOILS REMAIN IN PLACE CONTAINING PCB'S AT CONCENTRATIONS GREATER THAN 100 PPM

LEGEND

- PROPOSED CAP

NOTES

1. SITE WIDE EXCAVATION WAS COMPLETED TO DEPTHS OF UP TO 20 FEET BELOW GRADE DURING IRM.
2. A VAPOR MITIGATION SYSTEM IS BEING INSTALLED BENEATH THE ENTIRE BUILDING WHICH IS DEPICTED ON FIGURE 9.

SCALE: 1"=40'

0 40 80

REFERENCE

1. EXIST CONDITIONS & BOUNDARY ARE TAKEN FROM "ALTA/ACSM LAND TITLE SURVEY" PREPARED BY MONMOUTH DESIGN ASSOCIATES, INC. DATED DEC. 2, 2002, REV. 1/3/03

dwg by: yy
chk by: JP
scale: AS NOTED
date: 06/09/2021

SESI CONSULTING ENGINEERS
SOILS / FOUNDATIONS
SITE DESIGN
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4380 BULLARD AVENUE
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drawing title: CAPPING PLAN

Figure 2