DECISION DOCUMENT

Parkchester Crossing
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203079
September 2019

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

DECLARATION STATEMENT - DECISION DOCUMENT

Parkchester Crossing
Brownfield Cleanup Program
Bronx, Bronx County
Site No. C203079
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Statement of Purpose and Basis

This document presents the remedy for the Parkchester Crossing 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 Parkchester Crossing 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 all on-site soils on Lot 8 which exceed Track 1 Unrestricted Use Soil Cleanup Objectives (UUSCOs). If a Track 1 cleanup is achieved, a Cover System will not be a required element of the Lot 8 remedy. Additionally, all soils in the upper five feet on Lot 1 which exceed the Track 4 restricted residential SCOs and/or the Groundwater Protection SCOs for PCE will be excavated and transported off-site for disposal. These excavations are currently being implemented as an IRM as discussed in Section 6.2.

3. **Backfill**

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

4. **Cover System**

For Lots 1, 7, 17 and 23 (and Lot 8 in the event that Track 1 UUSCOs are not met), a site cover will be required to allow for restricted-residential use. Where a soil cover is to be used it will be a minimum of two feet of material placed over a demarcation 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. If a Track 1 unrestricted use cleanup is achieved for Lot 8, a Cover System will not be a required element of the remedy.

5. **In-Situ Groundwater Treatment**

In-situ chemical oxidation (ISCO) will be implemented in Lots 1, 7, 23, and 8, if necessary, to treat volatile contaminants in groundwater. A chemical oxidant will be introduced into the subsurface to destroy the contaminants across the site where PCE and related compounds were elevated in the groundwater. The method of injection will be determined during the remedial design.

Prior to implementation of this technology, laboratory studies will be conducted, as necessary, to more clearly define design parameters.

6. **Vapor Intrusion Evaluation**

As part of the Track 1 remedy for Lot 8, a soil vapor intrusion evaluation will be completed. The evaluation will include soil vapor intrusion sampling and a provision for implementing actions recommended to address exposures related to soil vapor intrusion for any buildings on Lot 8. The remaining lots (Lots 1, 7, 17 and 23) will be covered by the provisions discussed in Paragraph 9 below.

7. **Local Institutional Controls**

If no Environmental Easement or Site Management Plan is needed to achieve soil, groundwater, or soil vapor remedial action objectives for Lot 8, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOH code, which prohibits potable use of groundwater without prior approval.

8. **Institutional Controls**

Imposition of an institutional control in the form of an environmental easement for the controlled property (Lots 1, 7, 17 and 23, and Lot 8 in the event that Track 1 is not achieved) that:

- requires 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);
- allows the use and development of the controlled property for restricted residential use (or more restrictive uses) as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts 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
- requires compliance with the Department approved Site Management Plan.

9. **Site Management Plan**

A Site Management Plan is required for Lots 1, 7, 17 and 23 (and Lot 8 in the event that Track 1 is not achieved), 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 8 above.

Engineering Controls: The Cover System discussed in Paragraph 4 above and the ISCO Treatment System described in Paragraph 5.

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;
- o descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- o a provision for evaluation of the potential for soil vapor intrusion for any future buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- o provisions for the management and inspection of the identified engineering controls;
- o maintaining site access controls and Department notification; and
- o 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:

- o monitoring of groundwater to assess the performance and effectiveness of the remedy;
- o a schedule of monitoring and frequency of submittals to the Department;
- o monitoring for vapor intrusion for any future buildings developed 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.

September 18, 2019

Date

Gerard Burke, Director
Remedial Bureau B

DECISION DOCUMENT

Parkchester Crossing
Bronx, Bronx County
Site No. C203079
September 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 - Parkchester Branch
1985 Westchester Avenue
Bronx, NY 10462
Phone: 718-829-7830

Bronx Community Board No. 9
1967 Turnbull Avenue, Room 7
Bronx, NY 10473
Phone: 718-823-3034

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 in the Parkchester section of the Bronx. The site is an entire block which is bordered by East Tremont Avenue to the north, Guerlain Street to the south, White Plains Road to the west and Unionport Road to the east. Adjacent to the site are residential areas to the south, east and west, and commercial areas to the north and west. The site is approximately 1.49 acres in size.

Site Features: The site is currently fenced and the vacant buildings that formerly existed on each of the five lots (Lots 1, 7, 8, 17 and 23) that comprise the site have been demolished. The gas station which formerly occupied Lot 8 ceased operation on June 30, 2016.

Current Zoning/Use: The site is zoned for residential (R6) with a commercial overlay (C1-2) with the exception of Lot 8 which is zoned for commercial (C8-1).

Past Use of the Site: Prior uses that appear to have led to site contamination include two dry cleaners on Lot 1 (one of which was operational from 1961 to 1971 and the second one which was operational from 2007 but later operated as a laundromat); a dry cleaner on Lot 23 which was operational from 1965 to 2012; and a possible unregistered fuel oil underground storage tank (UST) on Lot 23. In addition, Lot 8 was an active gas station with five 4,000-gallon USTs and one 550-gallon UST which had been operational since 1953. A petroleum spill was reported to the Department on May 20, 2015 (spill no. 15-01895). Additionally, there was a 1,500-gallon fuel oil aboveground storage tank (AST) in the basement of the building on Lot 17 and a 2,000-gallon AST in the basement of the building on Lot 7.

Site Geology and Hydrogeology: Fill material was identified throughout the upper 10 feet of soil across the Site. The fill material consists of fine to coarse sands, gravel, brick, concrete, asphalt, slag and cinders. A silt and fine sand layer with decomposed weathered rock fragments is present beneath the fill layer. Competent bedrock was identified at shallower depths around the northern, western and southern perimeter of the site. The variable nature of bedrock elevation at the site appears to influence the occurrence and flow of the shallow groundwater table, which was encountered at some boring locations at the top of competent bedrock. The groundwater table is present 0.99 and 16.84 feet below land surface. Groundwater flow generally follows the land surface topography and flows in a southerly direction. The Bronx River is located approximately 2/3 of a mile 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, 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) 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
- 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:

benzo(a)anthracene
lead
1,2,4-trimethylbenzene
xylene (mixed)
tetrachloroethene (PCE)

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.

The following IRM is being performed at this site based on conditions observed during the RI.

IRM - UST and AST Removal

1. Demolition of the remnants of the existing on-site buildings, including the former service station building and overhead canopies on Lot 8. Materials that cannot be beneficially re-used on-site will be taken off-site for proper disposal.

2. Installation of Support of Excavation (SOE) as required by New York City Department of Buildings (NYCDOB) to reach the proposed excavation depths.

3. Removal and off-site disposal of all on-site soils in Lot 8 which exceed UUSCOs, as defined by 6 NYCRR Part 375-6.8. The limits and approximate depth of excavation is shown on Figure 3. Approximately 3,980 cubic yards (cy) of contaminated soil is expected to be removed from Lot 8 for off-site disposal.

4. The removal and off-site disposal of all soils in the upper five feet in Lot 1 which exceed the Track 4 restricted-residential use SCOs and/or the Groundwater Protection SCO for tetrachloroethylene (PCE). The limits and approximate depths of excavation are shown on Figure 3. Approximately 635 cy yards of contaminated soil is expected to be removed from Lot 1 for disposal.

5. Excavation, cleaning and off-site disposal of: four 4,000-gallon gasoline underground storage tanks (USTs), one 4,000-gallon diesel UST, one 550-gallon wastewater UST, four service station pump islands and fuel dispensers and ancillary product piping between the tank field and pump islands on Lot 8; one 2,000-gallon fuel oil above-ground storage tank (AST) in the basement of the building on Lot 7; one 1,500-gallon fuel oil AST in the basement of the building on Lot 17; and one fuel oil UST within the basement of the building on Lot 23. Any associated soil which is contaminated will also be removed.

6. Handling of contaminated groundwater encountered during excavation in compliance with applicable local, State, and Federal regulations. Liquids discharged into the New York City sewer system will be addressed through approval by the New York City Department of Environmental Protection. Alternatively, fluids generated during dewatering of excavations will be treated to meet the Generic Effluent Criteria for Groundwater Discharges developed by the Department's Division of Water prior to discharge on-site.

7. Post-excavation sampling to document remaining contamination.

The completion of the IRM will be documented in the Final Engineering Report.

6.3: Summary of Environmental Assessment

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

Nature and Extent of Contamination: Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) including polycyclic aromatic hydrocarbons (PAHs), metals, polychlorinated biphenyls (PCBs), and pesticides. Groundwater was also analyzed for emerging contaminants per- and polyfluorinated alkyl substances (PFAS) and 1,4-dioxane. Soil vapor was analyzed for VOCs. Based on the investigations conducted to date, the primary contaminants of concern include tetrachloroethylene (PCE); 1,2,4-trimethylbenzene (1,2,4-TMB); xylenes; lead; and PAHs, including benzo(a)anthracene.

Soil - PCE was found in soil below the basement slab, primarily in the western portion of the site (Lot 1) in the vicinity of the former dry cleaners. 1,2,4-TMB, xylenes and lead were found in soil below the pavement, primarily in the northwestern portion of the site (Lot 8) in the vicinity of former gasoline filling station and associated underground storage tanks (USTs). Benzo(a)anthracene was found in soil below the basement slab in the northern portion of the site (Lot 7) in the vicinity of the former dental office and in the western portion of the site in the vicinity of the former dry cleaners. The maximum concentration of PCE found on-site was 20 parts per million (ppm) in the 2-foot interval below the basement slab, which slightly exceeds the soil cleanup objectives (SCOs) for restricted-residential use (19 ppm) and groundwater protection (1.3 ppm). The maximum concentration of 1,2,4-TMB found on-site was 130 ppm in the 10- to 12-foot depth interval below the pavement, which exceeds the SCOs for restricted-residential use (52 ppm) and groundwater protection (3.6 ppm). The maximum concentration of xylenes found on-site was 230 ppm in the 10- to 12-foot depth interval below the pavement which exceeds the SCOs for restricted-residential use (100 ppm) and groundwater protection (1.6 ppm). The maximum concentration of lead found on-site was 581 ppm in the 2-foot interval below the existing pavement which exceeds the SCOs for restricted-residential use (400 ppm) and groundwater protection (450 ppm). The maximum concentration of benzo(a)anthracene found on-site was 3.7 ppm in the 2-foot depth interval below the basement slab in the western portion of the site which exceeds the SCOs for restricted-residential use and groundwater protection (1 ppm).

Groundwater - PCE and its associated degradation products are also found in groundwater in the western and southeastern portions of the site, exceeding the groundwater standard (5 parts per billion, or ppb), with a maximum concentration of 330 ppb. Benzo(a)anthracene was also found in groundwater in the southern portion of the site, exceeding the groundwater standard (0.002 ppb), with a maximum concentration of 0.61 ppb. The data indicates off-site impacts, primarily for PCE, in groundwater related to the site.

Soil Vapor - PCE was detected in all ten on-site soil vapor samples. Concentrations of PCE ranged from 1.01 micrograms per cubic meter ($\mu g/m^3$) to 5,500 $\mu g/m^3$. PCE was also detected in all three off-site soil vapor samples with concentrations ranging from 1 $\mu g/m^3$ to 5,600 $\mu g/m^3$.

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 are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Access to the site is restricted by a fence. However, people who enter the site may come into contact with site-related soil and groundwater contamination if they dig below the surface. Volatile organic compounds in the groundwater and/or soil may move into the soil vapor (air spaces within the soil), which in turn 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. The site is vacant so inhalation of site contaminants in indoor air via soil 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. Further evaluation is needed to determine whether soil vapor intrusion is 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 groundwater aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of groundwater 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 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 the 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 Multiple Cleanup Tracks remedy.

The selected remedy is referred to as the Excavation and Groundwater Treatment remedy.

The elements of the selected remedy, as shown in 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;
   - 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 all on-site soils on Lot 8 which exceed Track 1 UUSCOs. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the Lot 8 remedy. Additionally, all soils in the upper five feet on Lot 1 which exceed the Track 4 restricted residential SCOs and/or the Groundwater Protection SCOs for PCE will be excavated and transported off-site for disposal. These excavations are currently being implemented as an IRM as discussed in Section 6.2.

3. **Backfill**

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

4. **Cover System**

For Lots 1, 7, 17 and 23 (and Lot 8 in the event that Track 1 UUSCOs are not met), a site cover will be required to allow for restricted-residential use. Where a soil cover is to be used it will be a minimum of two feet of material placed over a demarcation 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. If a Track 1 unrestricted use cleanup is achieved for Lot 8, a Cover System will not be a required element of the remedy.

5. **In-Situ Groundwater Treatment**

In-situ chemical oxidation (ISCO) will be implemented in Lots 1, 7, 23, and 8, if necessary, to treat volatile contaminants in groundwater. A chemical oxidant will be introduced into the subsurface to destroy the contaminants across the site where PCE and related compounds were elevated in the groundwater. The method of injection will be determined during the remedial design.

Prior to implementation of this technology, laboratory studies will be conducted, as necessary, to more clearly define design parameters.

6. **Vapor Intrusion Evaluation**

As part of the Track 1 remedy for Lot 8, a soil vapor intrusion evaluation will be completed. The evaluation will include soil vapor intrusion sampling and a provision for

implementing actions recommended to address exposures related to soil vapor intrusion for any buildings on Lot 8. The remaining lots (Lots 1, 7, 17 and 23) will be covered by the provisions discussed in Paragraph 9 below.

7. **Local Institutional Controls**

If no Environmental Easement or Site Management Plan is needed to achieve soil, groundwater, or soil vapor remedial action objectives for Lot 8, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Article 141 of the NYCDOH code, which prohibits potable use of groundwater without prior approval.

8. **Institutional Controls**

Imposition of an institutional control in the form of an environmental easement for the controlled property (Lots 1, 7, 17 and 23, and Lot 8 in the event that Track 1 is not achieved) that:

- requires 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);
- allows the use and development of the controlled property for restricted residential use (or more restrictive uses) as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts 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
- requires compliance with the Department approved Site Management Plan.

9. **Site Management Plan**

A Site Management Plan is required for Lots 1,7,17 and 23 (and Lot 8 in the event that Track 1 is not achieved), 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 8 above.

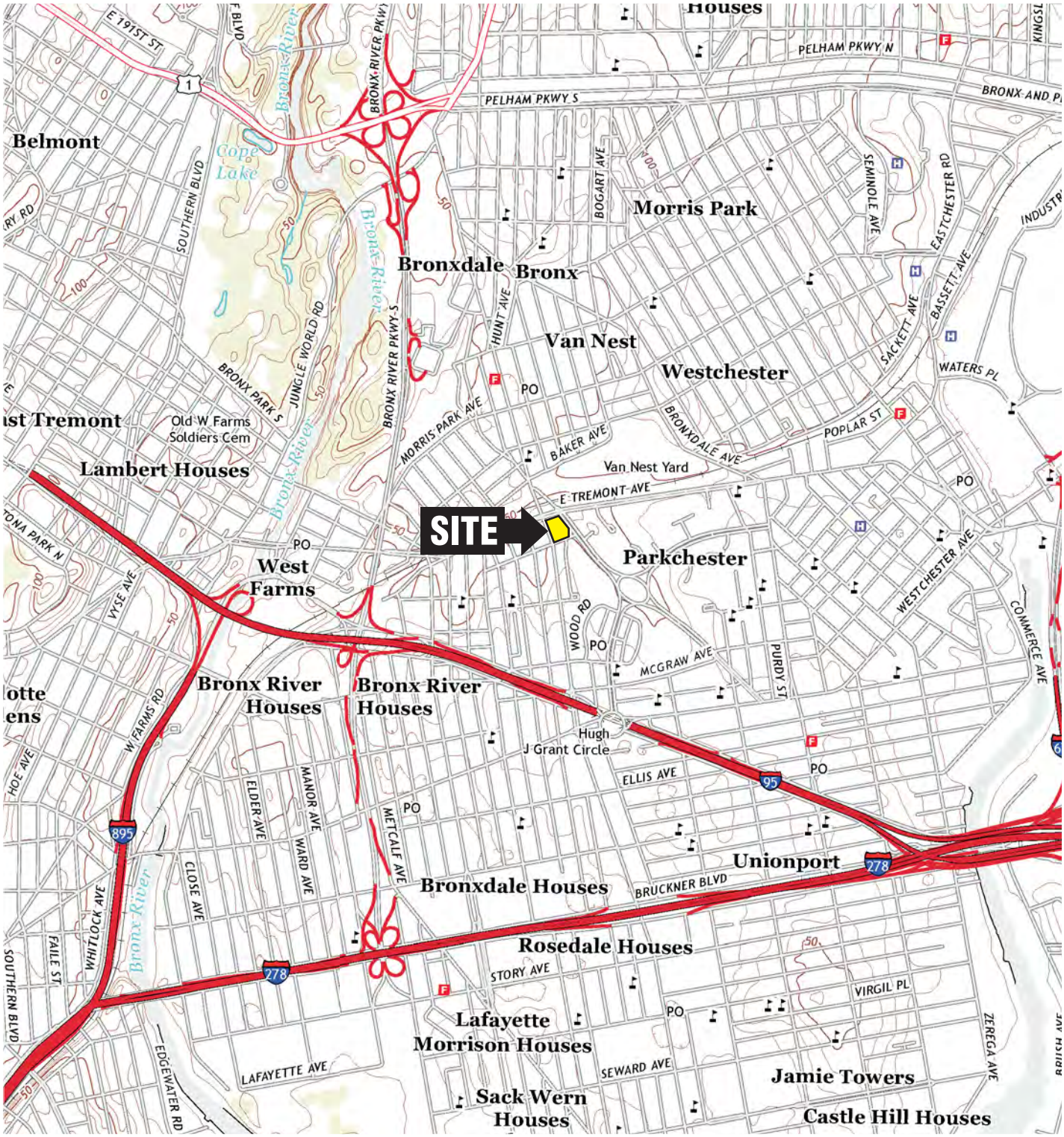
Engineering Controls: The Cover System discussed in Paragraph 4 above and the ISCO Treatment System described in Paragraph 5.

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 for evaluation of the potential for soil vapor intrusion for any future buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- 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 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 future buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.



QUADRANGLE LOCATION

SOURCE:
USGS; Flushing, NY (2013) and
Central Park, NY-NJ (2013)
7.5 Minute Topographic Quadrangles

N

0 2000'

Title:

SITE LOCATION

1590 WHITE PLAINS ROAD
BRONX, NEW YORK

Prepared for:

ZP REALTY, LLC

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: F.C.	Date: 30JAN15	FIGURE
Prepared by: B.H.C.	Scale: AS SHOWN	1
Project Mgr.: F.C.	Project No.: 2530.0001Y000	
File: 2530.0001Y102.01.CDR		

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N

LEGEND

- LOTS WITHIN SITE
- SITE BOUNDARY

SOURCE

1. DEPARTMENT OF CITY PLANNING, INFORMATION TECHNOLOGY DIVISION

50 0 50'

Title:

SITE PLAN

PARKCHESTER CROSSING
1590 WHITE PLAINS ROAD, BRONX, NEW YORK

Prepared for:

ZP REALTY, LLC

ROUX

Compiled by: R.H.	Date: 05/22/19	FIGURE
Prepared by: M.S.R.	Scale: AS SHOWN	2
Project Mgr: R.H.	Project: 2530.0001Y000	
File: 2530.0001Y122.1.mxd		

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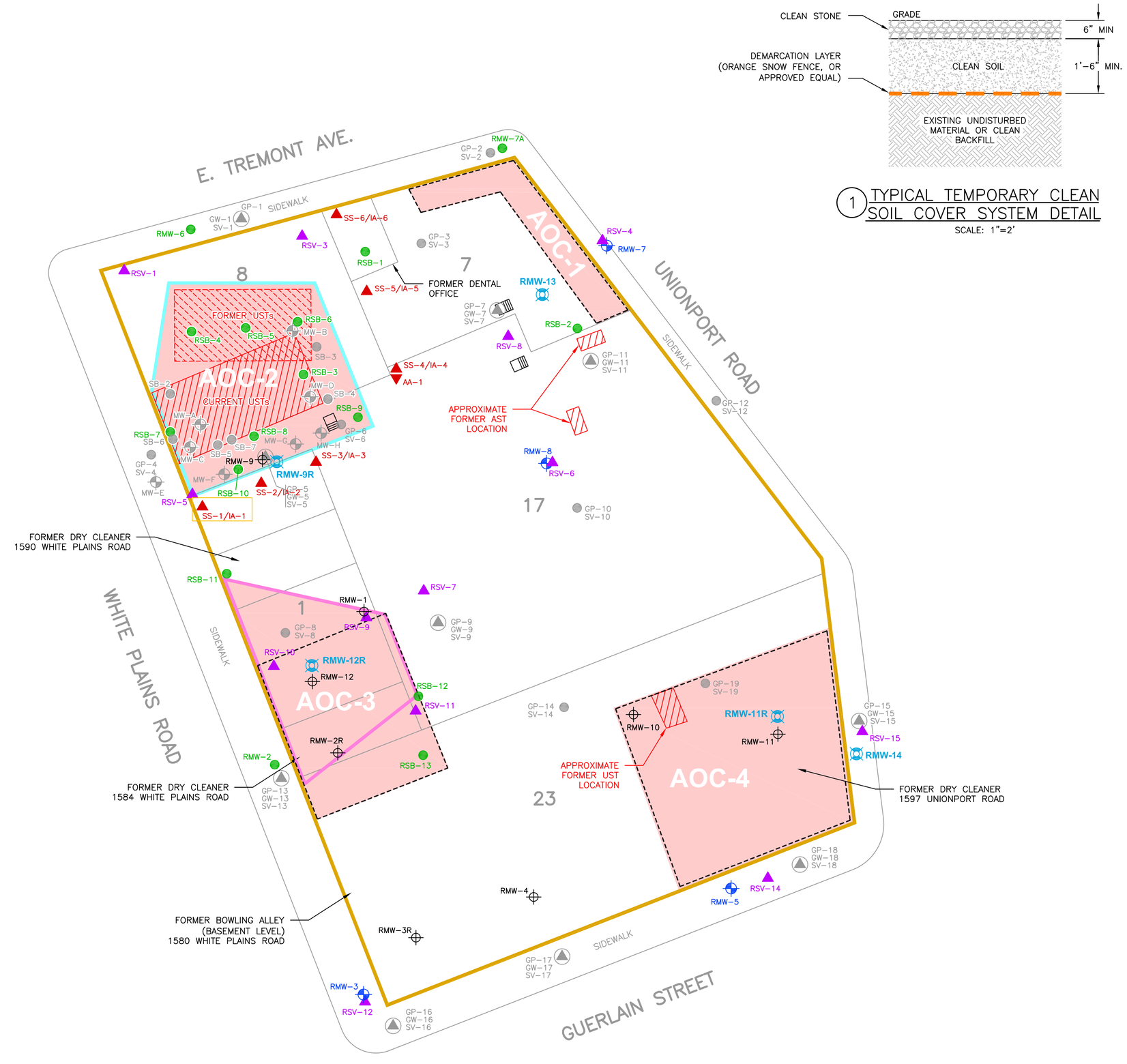

1 TYPICAL TEMPORARY CLEAN SOIL COVER SYSTEM DETAIL

SCALE: 1"=2'

LEGEND

- SITE BOUNDARY
- PERMANENT MONITORING WELL AND SOIL BORING LOCATION
- TEMPORARY MONITORING WELL AND SOIL BORING LOCATION
- PROPOSED POST-REMEDIAL MONITORING WELL LOCATION
- SOIL VAPOR SAMPLING LOCATION
- SUB-SLAB VAPOR SAMPLING LOCATION
- AMBIENT AIR SAMPLING LOCATION
- SOIL BORING LOCATION
- APPROXIMATE EXISTING SOIL BORING/SOIL VAPOR SAMPLING LOCATION
- APPROXIMATE EXISTING MONITORING WELL LOCATION
- APPROXIMATE SOIL BORING/GROUNDWATER/SOIL VAPOR SAMPLING LOCATION
- TAX LOT BOUNDARY
- 17 TAX LOT NUMBER
- CATCH BASIN
- AOC AREA OF CONCERN
- AST ABOVEGROUND STORAGE TANK
- UST UNDERGROUND STORAGE TANK
- AREA OF CONCERN BASED ON REMEDIAL INVESTIGATION RESULTS
- PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 2 FEET BELOW GRADE SURFACE
- PROPOSED LIMITS OF EXCAVATION TO APPROXIMATELY 23 FEET BELOW GRADE SURFACE
- PROPOSED LIMITS OF IN SITU GROUNDWATER REMEDIATION

N

30' 0 30'

Title:

SELECTED REMEDY

COMBINED TRACK 1 UNRESTRICTED USE CLEANUP/ TRACK 4 RESTRICTED RESIDENTIAL CLEANUP

REMEDIAL INVESTIGATION REPORT / REMEDIAL ACTION WORK PLAN
PARKCHESTER CROSSING
1590 WHITE PLAINS ROAD, BRONX, NEW YORK

Prepared for:

ZP REALTY, LLC

ROUX

Compiled by: R.H.	Date: 16APR19	FIGURE
Prepared by: B.H.C.	Scale: AS SHOWN	3
Project Mgr: R.H.	Project: 2530.0001Y000	
File: 2530.0001Y122.03.DWG		

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