

# DECISION DOCUMENT

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Brookfield Commons Phase 3  
Brownfield Cleanup Program  
White Plains, Westchester County  
Site No. C360246  
July 2026



**Department of  
Environmental  
Conservation**

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

# DECLARATION STATEMENT - DECISION DOCUMENT

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## **Statement of Purpose and Basis**

This document presents the remedy for the Brookfield Commons Phase 3 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 (DEC) for the Brookfield Commons Phase 3 site and the public's input to the proposed remedy presented by DEC.

## **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, any future on-site buildings which are part of the remedy should be constructed, to the extent feasible, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWise(TM) (available in the Sustainable Remediation Forum [SURF] library) or similar DEC accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

## 2. Excavation

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

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(v);
- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- soil containing total SVOCs exceeding 500 ppm;
- 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

Excavation and off-site disposal of all on-site soils which exceed restricted-residential

SCOs, as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet. If a Track 2 restricted residential cleanup is achieved, a Cover System will not be a required element of the remedy. Approximately 4,300 cubic yards of contaminated soil will be removed from the site. Collection and analysis of confirmation and documentation samples at the remedial excavation depths will be used to verify that SCOs for the site have been achieved. If confirmation/documentation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify DEC, submit the sample results and, in consultation with DEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

In the event that all soil/fill exceeding the Track 2 SCOs cannot be practicably excavated up to a depth of 15 feet below grade surface (bgs), a contingent Track 4 remedy would be implemented in those areas. The Track 2 and/or contingent Track 4 remedy would include a contingency measure for the construction and operation of a soil vapor extraction system (SVES) to treat any residual CVOC source soil in the vadose zone.

To ensure proper handling and disposal of excavated material, waste characterization sampling will be completed for all identified contaminated site material. Waste characterization sampling will be performed exclusively for the purposes of off-site disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state and local laws, rules, and regulations and facility-specific permits.

Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination, if encountered.

### 3. Backfill

Backfill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil or complete the backfilling of the excavation and establish the designed grades at the site.

### 4. Groundwater Remedies

Monitoring will be required at the up-gradient and down-gradient site perimeter, and within the treatment zone. Monitoring will be conducted for contaminants of concern. Extracted water will be sampled to monitor changes in both volatile organic compounds (VOCs) and geochemical parameters. The treatment zone will be monitored for dissolved oxygen and oxidation/reduction potential.

- In-Situ Chemical Oxidation:

In-situ chemical oxidation (ISCO) will be implemented to treat volatile organic compounds (VOCs) in groundwater in saturated overburden soil. A chemical



oxidation reagent will be injected into the subsurface to destroy the contaminants in an approximately 33,500 square foot area located in the western, northern, and central portion of the site. Additionally, the target treatment area will include an approximately 100-foot radius at the southeast corner of the site.

Prior to the full implementation of this technology, laboratory and on-site pilot scale studies will be conducted to more clearly define design parameters. Between the pilot and the full-scale implementations, it is estimated that 53 overburden injection wells injection points will be installed. The method(s), the chemical(s), and the depth of injections will be determined during the remedial design, based upon data acquired during the Pre-Design Investigation (PDI).

- Bioremediation/reductive dichlorination:

In-situ enhanced biodegradation will be employed to treat volatile organic compounds (VOCs) in groundwater in bedrock in an approximately 33,500 square foot area located in the western, northern, and central portion of the site. The biological breakdown of contaminants through anaerobic reductive dichlorination will be enhanced by injection of a biological additive or zero-valent iron (ZVI) (with or without carbon) via injection wells.

Prior to the full implementation of this technology, laboratory and on-site pilot scale studies will be conducted to refine design parameters. Between the pilot and the full-scale implementations, it is estimated that 33 to 36 bedrock injection points will be installed. The method(s), the chemical(s), and the depth of injections will be determined during the remedial design, based upon data acquired during the PDI.

## 5. Vapor Intrusion Evaluation

As part of the Track 2 Restricted Residential use remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

## 6. 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 2 restricted residential cleanup at a minimum and will include imposition of a site cover (as a contingency if soil greater than 2 feet but less than 15 feet deep does not meet the restricted residential SCOs).

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 DEC 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 County DOH; and
- require compliance with the DEC approved Site Management Plan.

## 7. Site Management Plan

A Site Management Plan is required, which includes:

- 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 Remedy Element 6 above.
- Engineering Controls: Groundwater monitoring wells as required in Remedy Element 4 above, the contingent site cover discussed in Remedy Element 8, and the contingent soil vapor extraction system discussed in Remedy Element 9.

The Institutional and Engineering Control 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/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;
  - Provisions for the management and inspection of the identified engineering controls;
  - Maintaining site access controls and DEC 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 DEC; and

- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
- c. An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s) and contingent SVE system. The plan must include, but may not be limited to:
- procedures for operating and maintaining the system(s);
  - compliance monitoring of treatment systems, soil vapor extraction, and/or sub-slab depressurization systems to ensure proper O&M as well as providing the data for any necessary reporting;
  - maintaining site access controls and DEC notification; and
  - providing the DEC access to the site and O&M records.

#### Contingent Track 4 Elements

In the event that a Track 2 restricted residential use is not achieved, the following contingent remedial elements will also be required, and the remedy will achieve a Track 4 restricted residential cleanup:

#### 8. Cover System

A site cover will be required in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs), to allow for future restricted residential use of the site. Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for 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, sidewalks, building foundations and building slabs. The required thickness of hardscaped areas (including sub-base, if applicable) must otherwise meet the requirements of the New York State Uniform Fire Prevention and Building Code or local building code, whichever is applicable for the site.

#### 9. Soil Vapor Extraction (SVE)

The implementation of soil vapor extraction (SVE) is contingent upon post-excavation site conditions and endpoint sample results. If a volatile organic compound (VOC) source in soil or soil vapor remains, SVE will be implemented to remove VOC vapors from the subsurface and prevent off-site migration of contaminated vapor. VOCs will be physically removed from the subsurface by applying a vacuum to wells that have been installed into the vadose zone (the area below the ground but above the water table). The vacuum draws air through the soil matrix which carries the VOC vapors from the

soil to the SVE well. The air extracted from the SVE wells is then treated as necessary prior to being discharged to the atmosphere.

Upon system startup, SVE wells will be tested to confirm vacuum influence and effectiveness of the system.

**Declaration**

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

July 24, 2026

Date

*Sarah Saucier*

Sarah Saucier, Director  
Remedial Bureau C

# DECISION DOCUMENT

Brookfield Commons Phase 3  
White Plains, Westchester County  
Site No. C360246  
July 2026

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## SECTION 1: SUMMARY AND PURPOSE

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

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

DEC 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

DEC 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 DEC in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repository:

DECInfo Locator - Web Application  
<https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C360246>

White Plains Public Library  
Attn: Brian Kenney

100 Martine Avenue  
White Plains, NY 10601  
Phone:

### **Receive Site Citizen Participation Information By Email**

Please note that DEC'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 Brookfield Commons Phase 3 site is located on South Lexington Avenue, south of Quarropas Street in an urban area and is part of White Plains Tax Block 7, Section 125.83, part of Lot 1 in White Plains, Westchester County, New York. The site is part of a multi-story apartment building complex identified as Brookfield Commons or Winbrook. The Winbrook property is bounded by Quarropas Street and Fisher Court to the north, East Post Road to the south, MLK Blvd to the east, and South Lexington Avenue to the west. The site comprises 1.284-acres of the Winbrook property, and includes the nine-story apartment building, south-adjacent parking lot, and landscaping.

**Site Features:** The site is relatively flat and includes a vacant nine-story apartment building with a basement, an adjacent parking lot to the south used for parking for residents of the Winbrook property, and a vacant asphalt/concrete lot secured by a fence. The building is surrounded by lawns and asphalt-paved walkways.

**Current Zoning and Land Use:** The parking lot is the only active portion of the site. The site is located within the B3 and RM-0.35 Zoning Districts, and the Central Parking Area (CPA) of the City of White Plains. The Phase 3 portion of the campus is located entirely within the B-3 Zoning District. The surrounding parcels to the north of the site include residential uses, followed by institutional and government uses; to the south are retail uses with the White Plains Hospital farther to the south; residential uses to the east beyond which are commercial and institutional uses; and commercial and residential uses to the west. Overall, the surrounding area is generally built out with a mix of institutional/governmental, residential, community, and commercial uses. The site is located within a Disadvantaged Community. The site is located 156 feet north of White Plains Hospital and 1100 feet north of Lia's Day Care. The proposed project includes a 174-unit, 11-story, multi-family affordable housing building. As a multi-family building, the proposed project is a permitted principal use in the B-3 Zoning District requiring site plan approval from the Common Council.

Past Uses of the site: Historic Sanborn fire insurance maps indicated the property was vacant as early as 1900. Between 1900 and 1930, the property was developed with small residential buildings and associated garages, and multiple three to four-story apartment buildings. Prior on-site uses also included an upholsterer and an auto repair shop. All structures were demolished for construction of the existing apartment building and grounds, which were constructed in 1949-1950 as part of the Winbrook housing complex.

Site Geology and Hydrogeology: The site elevation ranges from 197 to 193 feet above sea level (NAVD 88). Site soil consists of historic fill (sand, gravel, silt, concrete, brick, glass, and asphalt) to a depth of approximately 16 feet below grade surface (bgs). The fill layer is underlain by apparent native soils (silt, peat, sand, clay and gravel) to approximately 8 to 25 feet bgs. Bedrock is present at depths ranging from 8 to 30.5 feet bgs. Geotechnical analysis suggest two dominant sets of transmissive fractures exist in bedrock beneath the site. One set steeply dips to the west/northwest at an angle of approximately 55 to 75 degrees, and the second set shallowly dips to the east/southeast at an angle of approximately 15 to 30 degrees.

Groundwater is present at approximately 0.2 to 7 feet bgs to 10 feet below grade and flows generally to the north across the site in the of the direction of the Bronx River, which is located approximately 1,600 feet away.

A site location map is attached as Figure 1.

#### **SECTION 4: LAND USE AND PHYSICAL SETTING**

DEC 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 that restrict 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 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. DEC and NYSDOH have 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, DEC will bring an enforcement action against any parties, other than the Applicant, known or suspected to be responsible for contamination.

#### **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. DEC 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:

|                        |                                |
|------------------------|--------------------------------|
| benzo(a)anthracene     | perfluorooctane sulfonic acid  |
| benzo(a)pyrene         | perfluorooctanoic acid         |
| benzo(b)fluoranthene   | benzene                        |
| benzo(k)fluoranthene   | chloroform                     |
| benzo(g,h,i)perylene   | cis-1,2-dichloroethene         |
| chrysene               | isopropylbenzene               |
| dibenz(a,h)anthracene  | n-propylbenzene                |
| indeno(1,2,3-cd)pyrene | sec-butylbenzene               |
| phenanthrene           | MTBE (methyl-tert-butyl ether) |
| barium                 | tetrachloroethene (PCE)        |
| chromium               | trichloroethene (TCE)          |
| lead                   | carbon tetrachloride           |
| mercury                | vinyl chloride                 |

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.

Nature and Extent of Contamination:

Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, metals, hexavalent chromium, cyanide, and the emerging contaminants per- and poly fluoroalkyl substances (PFAS) and 1,4-dioxane. Soil vapor samples were

analyzed for VOCs. Based on investigations conducted to date, the primary contaminant groups of concern include SVOCs and metals, in soil; VOCs in groundwater; and VOCs in soil vapor.

Soil - Soil samples were compared against the restricted residential use soil cleanup objectives (RRSCOs) and to the protection of groundwater soil cleanup objectives (PGSCOs) for those contaminants found in groundwater above applicable standards. SVOCs were detected including maximum concentrations benzo(a)anthracene of 29 parts per million (ppm) compared to the RRSCO of 1 ppm, benzo(a)pyrene at 28 ppm (RRSCO is 1 ppm), benzo(b)fluoranthene at 39 ppm (RRSCO is 1 ppm), benzo(k)fluoranthene at 14 ppm (RRSCO is 14 ppm), chrysene at 30 ppm (RRSCO is 3.9 ppm), dibenz(a,h)anthracene at 3.9 ppm (RRSCO is 0.33 ppm), indeno(1,2,3-c,d)pyrene at 17 ppm (RRSCO is 17 ppm). For metals, barium was detected at a maximum concentration of 2480 ppm compared to the RRSCO of 400 ppm, lead at 1080 ppm (RRSCO is 400 ppm and PGSCO is 450 ppm), mercury at 0.43 ppm (RRSCO is 0.30).

Pesticides, PCBs, hexavalent chromium, cyanide, and the emerging contaminants were not detected above RRSCOs on-site.

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

Groundwater – Groundwater samples were compared to New York State Ambient Water Quality Standards and Guidance Values (AWQSGVs). VOCs were found in groundwater generally sitewide. A chlorinated VOC source area was identified primarily in the northern portion of the site, and a petroleum-related source area was identified primarily in the south and east portions of the site.

Overburden Groundwater:

Chlorinated VOCs exceeding AWQSGVs included maximum concentrations of PCE at 430 parts per billion (ppb) compared to the AWQSGV of 5 ppb, TCE at 19 ppb (AWQSGV is 5 ppb), cis-1,2-dichloroethylene at 75 ppb (AWQSGV is 5 ppb), and vinyl chloride at 10 ppb (AWQSGV is 2 ppb). Petroleum-related VOCs exceeding AWQSGVs included maximum concentrations of benzene at 1.5 ppb compared to the AWQSGV of 1 ppb, chloroform at 16 ppb (AWQSGV is 7 ppb), isopropylbenzene at 22 ppb, n-propylbenzene at 29 ppb, and sec-butylbenzene at 5.7 (AWQSGVs is 5 ppb each). For metals, lead was detected at a maximum concentration of 291 ppb compared to the AWQSGV of 25 ppb.

PFOA was detected at a maximum concentration of 54.3 parts per trillion (ppt) (AWQSGV is 6.7 ppt), and PFOS at 110 ppt (AWQSGV is 2.7 ppt). PFAS detected on-site appears to be from an upgradient source based on the northward groundwater flow direction and the highest PFAS concentrations being detected at the southern extent of the site.

## Bedrock Groundwater:

Chlorinated VOCs exceeding AWQSGVs included maximum concentrations of PCE at 3800 ppb compared to the AWQSGV of 5 ppb, TCE at 98 ppb (AWQSGV is 5 ppb), cis-1,2-dichloroethylene at 96 ppb (AWQSGV is 5 ppb), and vinyl chloride at 2.9 ppb (AWQSGV is 2 ppb). Petroleum-related VOCs exceeding AWQSGVs included maximum concentrations of benzene at 1.4 ppb compared to the AWQSGV of 1 ppb, chloroform at 14 ppb (AWQSGV is 7 ppb), toluene at 5.5 ppb (AWQSGV is 5 ppb), and MTBE at 47 ppb (AWQSGV is 10 ppb).

SVOCs, pesticides, PCBs, total chromium, cyanide, and 1,4-dioxane were not detected in groundwater. Although iron, magnesium, sodium, and manganese were also detected above AWQSGV, they are typically naturally occurring or related to road salt application. Based on the on-site groundwater investigation conducted during the remedial investigation, data indicates a potential for groundwater contamination, particularly chlorinated VOCs to migrate off-site to the north.

Soil Vapor - PCE was detected in soil vapor at a maximum concentration of 42 micrograms per cubic meter (ug/m<sup>3</sup>), TCE at 15 ug/m<sup>3</sup>, 1,2,4-trimethylbenzene at 190 ug/m<sup>3</sup>, 1,2,5-trimethylbenzene at 81 ug/m<sup>3</sup>, and xylenes at 170 ug/m<sup>3</sup>. Carbon tetrachloride was detected at 13,000 ug/m<sup>3</sup> in one sample which could not be reproduced, and the next highest concentration was detected at 40 ug/m<sup>3</sup>.

No indoor air sampling was conducted during the RI as the existing building will be demolished prior to redevelopment of the site. A sub-slab sample was collected under the existing slab of the building. Off-site data collected during the remedial investigation indicates off-site impacts in soil vapor.

### **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 will not come into contact with contaminated soil or groundwater unless they dig below 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 the groundwater and 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 potential exists for people to inhale site contaminants in indoor air due to soil vapor intrusion in any future on-site building development and occupancy. Sampling indicates soil vapor intrusion is a potential concern for off-site buildings. Evaluation of off-site exposures via soil vapor intrusion is ongoing.

## **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.

Remedial action objectives (RAOs) chosen for this site include:

### **Groundwater**

#### **RAOs for Public Health Protection:**

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards; and
- 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; and
- Remove the source of groundwater contamination,

### **Soil**

#### **RAOs for Public Health Protection:**

- Prevent ingestion/direct contact with contaminated soil; and
- Prevent inhalation exposure to contaminants volatilizing from 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 2: Restricted residential use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as Excavation with ISCO and Enhanced Bioremediation for Groundwater Treatment. The contingent Track 4 remedy is referred to as Track 4 Restricted Residential Cleanup with a Cover System and SVE.

The elements of the selected remedy, as shown in Figures 3a and 3b, and the elements of the contingent Track 4 remedy, as shown in Figure 3c, 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, any future on-site buildings which are part of the remedy should be constructed, to the extent feasible, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWise(TM) (available in the Sustainable Remediation Forum [SURF] library) or similar DEC accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable

remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

## 2. Excavation

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

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(v);
- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- soil containing total SVOCs exceeding 500 ppm;
- 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

Excavation and off-site disposal of all on-site soils which exceed restricted-residential SCOs, as defined by 6 NYCRR Part 375-6.8 in the upper 15 feet. If a Track 2 restricted residential cleanup is achieved, a Cover System will not be a required element of the remedy. Approximately 4,300 cubic yards of contaminated soil will be removed from the site. Collection and analysis of confirmation and documentation samples at the remedial excavation depths will be used to verify that SCOs for the site have been achieved. If confirmation/documentation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify DEC, submit the sample results and, in consultation with DEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

In the event that all soil/fill exceeding the Track 2 SCOs cannot be practicably excavated up to a depth of 15 feet below grade surface (bgs), a contingent Track 4 remedy would be implemented in those areas. The Track 2 and/or contingent Track 4 remedy would include a contingency measure for the construction and operation of a soil vapor extraction system (SVES) to treat any residual CVOC source soil in the vadose zone.

To ensure proper handling and disposal of excavated material, waste characterization

sampling will be completed for all identified contaminated site material. Waste characterization sampling will be performed exclusively for the purposes of off-site disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state and local laws, rules, and regulations and facility-specific permits.

Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination, if encountered.

### 3. Backfill

Backfill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil or complete the backfilling of the excavation and establish the designed grades at the site.

### 4. Groundwater Remedies

Monitoring will be required at the up-gradient and down-gradient site perimeter, and within the treatment zone. Monitoring will be conducted for contaminants of concern. Extracted water will be sampled to monitor changes in both volatile organic compounds (VOCs) and geochemical parameters. The treatment zone will be monitored for dissolved oxygen and oxidation/reduction potential.

- In-Situ Chemical Oxidation:

In-situ chemical oxidation (ISCO) will be implemented to treat volatile organic compounds (VOCs) in groundwater in saturated overburden soil. A chemical oxidation reagent will be injected into the subsurface to destroy the contaminants in an approximately 33,500 square foot area located in the western, northern, and central portion of the site. Additionally, the target treatment area will include an approximately 100-foot radius at the southeast corner of the site.

Prior to the full implementation of this technology, laboratory and on-site pilot scale studies will be conducted to more clearly define design parameters. Between the pilot and the full-scale implementations, it is estimated that 53 overburden injection wells injection points will be installed. The method(s), the chemical(s), and the depth of injections will be determined during the remedial design, based upon data acquired during the Pre-Design Investigation (PDI).

- Bioremediation/reductive dichlorination:

In-situ enhanced biodegradation will be employed to treat volatile organic compounds (VOCs) in groundwater in bedrock in an approximately 33,500 square foot area located in the western, northern, and central portion of the site. The biological breakdown of contaminants through anaerobic reductive dichlorination will be enhanced by injection of a biological additive or zero-valent iron (ZVI) (with or

without carbon) via injection wells.

Prior to the full implementation of this technology, laboratory and on-site pilot scale studies will be conducted to refine design parameters. Between the pilot and the full-scale implementations, it is estimated that 33 to 36 bedrock injection points will be installed. The method(s), the chemical(s), and the depth of injections will be determined during the remedial design, based upon data acquired during the PDI.

## 5. Vapor Intrusion Evaluation

As part of the Track 2 Restricted Residential use remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

## 6. 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 2 restricted residential cleanup at a minimum and will include imposition of a site cover (as a contingency if soil greater than 2 feet but less than 15 feet deep does not meet the restricted residential SCOs).

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 DEC 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 County DOH; and
- require compliance with the DEC approved Site Management Plan.

## 7. Site Management Plan

A Site Management Plan is required, which includes:

- d. 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 Remedy Element 6 above.



- Engineering Controls: Groundwater monitoring wells as required in Remedy Element 4 above, the contingent site cover discussed in Remedy Element 8, and the contingent soil vapor extraction system discussed in Remedy Element 9.

The Institutional and Engineering Control 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/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;
  - Provisions for the management and inspection of the identified engineering controls;
  - Maintaining site access controls and DEC notification; and
  - The steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- e. 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 DEC; and
  - monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
- f. An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s) and contingent SVE system. The plan must include, but may not be limited to:
- procedures for operating and maintaining the system(s);
  - compliance monitoring of treatment systems, soil vapor extraction, and/or sub-slab depressurization systems to ensure proper O&M as well as providing the data for any necessary reporting;
  - maintaining site access controls and DEC notification; and
  - providing the DEC access to the site and O&M records.

## Contingent Track 4 Elements

In the event that a Track 2 restricted residential use is not achieved, the following contingent remedial elements will also be required, and the remedy will achieve a Track 4 restricted residential cleanup:

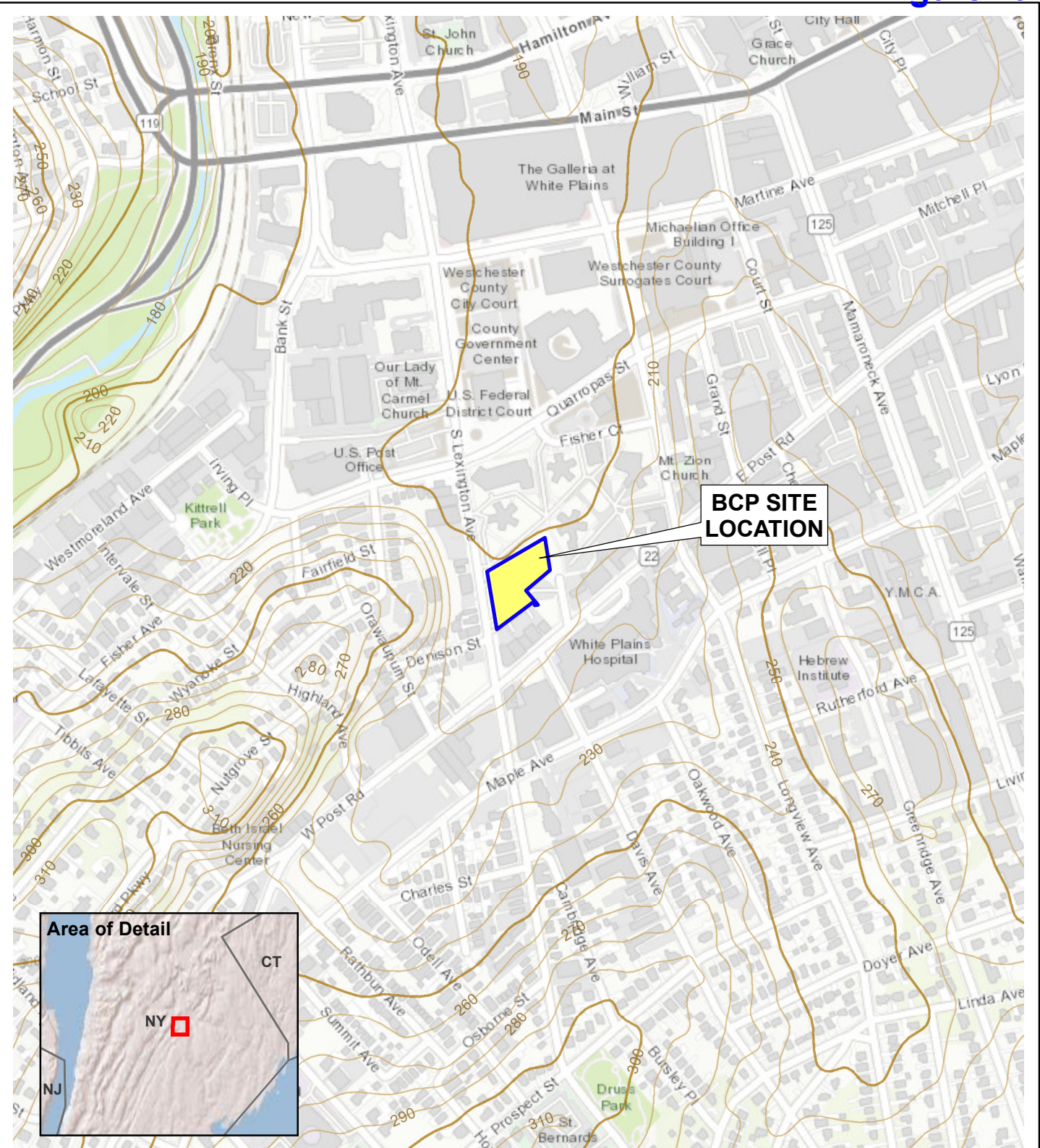
## 8. Cover System

A site cover will be required in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs), to allow for future restricted residential use of the site. Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for 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, sidewalks, building foundations and building slabs. The required thickness of hardscaped areas (including sub-base, if applicable) must otherwise meet the requirements of the New York State Uniform Fire Prevention and Building Code or local building code, whichever is applicable for the site.

## 9. Soil Vapor Extraction (SVE)

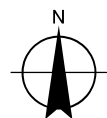
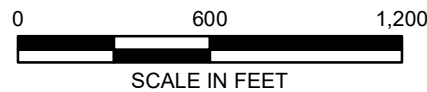
The implementation of soil vapor extraction (SVE) is contingent upon post-excavation site conditions and endpoint sample results. If a volatile organic compound (VOC) source in soil or soil vapor remains, SVE will be implemented to remove VOC vapors from the subsurface and prevent off-site migration of contaminated vapor. VOCs will be physically removed from the subsurface by applying a vacuum to wells that have been installed into the vadose zone (the area below the ground but above the water table). The vacuum draws air through the soil matrix which carries the VOC vapors from the soil to the SVE well. The air extracted from the SVE wells is then treated as necessary prior to being discharged to the atmosphere.

Upon system startup, SVE wells will be tested to confirm vacuum influence and effectiveness of the system.



Service Layer Credits: USGS The National Map: 3d Elevation Program, Data Refreshed July, 2021

Service Layer Credits: USGS The National Map: 3d Elevation Program 2019  
Map Source: World Topo map service from ESRI



**akrf**

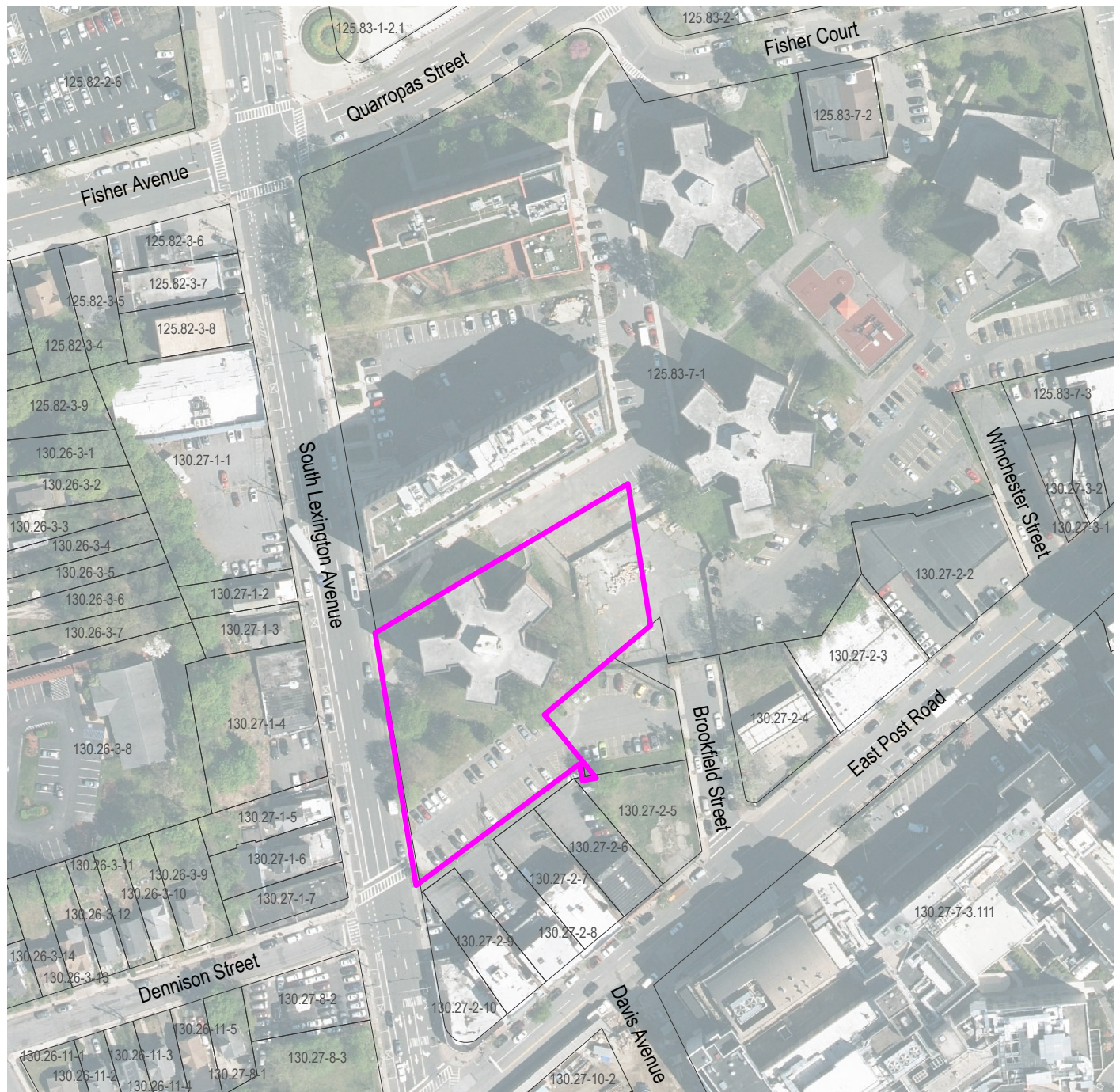
34 South Broadway, Suite 300  
White Plains, NY 10601

**Brookfield Commons Phase 3**  
White Plains, New York

**BCP SITE LOCATION**

|             |                  |
|-------------|------------------|
| DATE        | <b>3/11/2026</b> |
| PROJECT NO. | <b>210122</b>    |
| FIGURE      | <b>1</b>         |





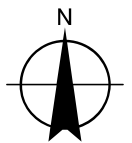
## LEGEND



SITE BOUNDARY



LOT BOUNDARY AND PRINT KEY (BLOCK AND LOT)



0 150 300



SCALE IN FEET

Map Source:  
giswww.westchestergov.com (GIS database)

Aerial Source:  
2025 New York State ITS GIS Orthoimagery

**akrf**

440 Park Avenue South, New York, NY 10016

**Brookfield Commons Phase 3**  
White Plains, New York

**TAX MAP AND SURROUNDING PROPERTIES**

DATE

**6/15/2026**

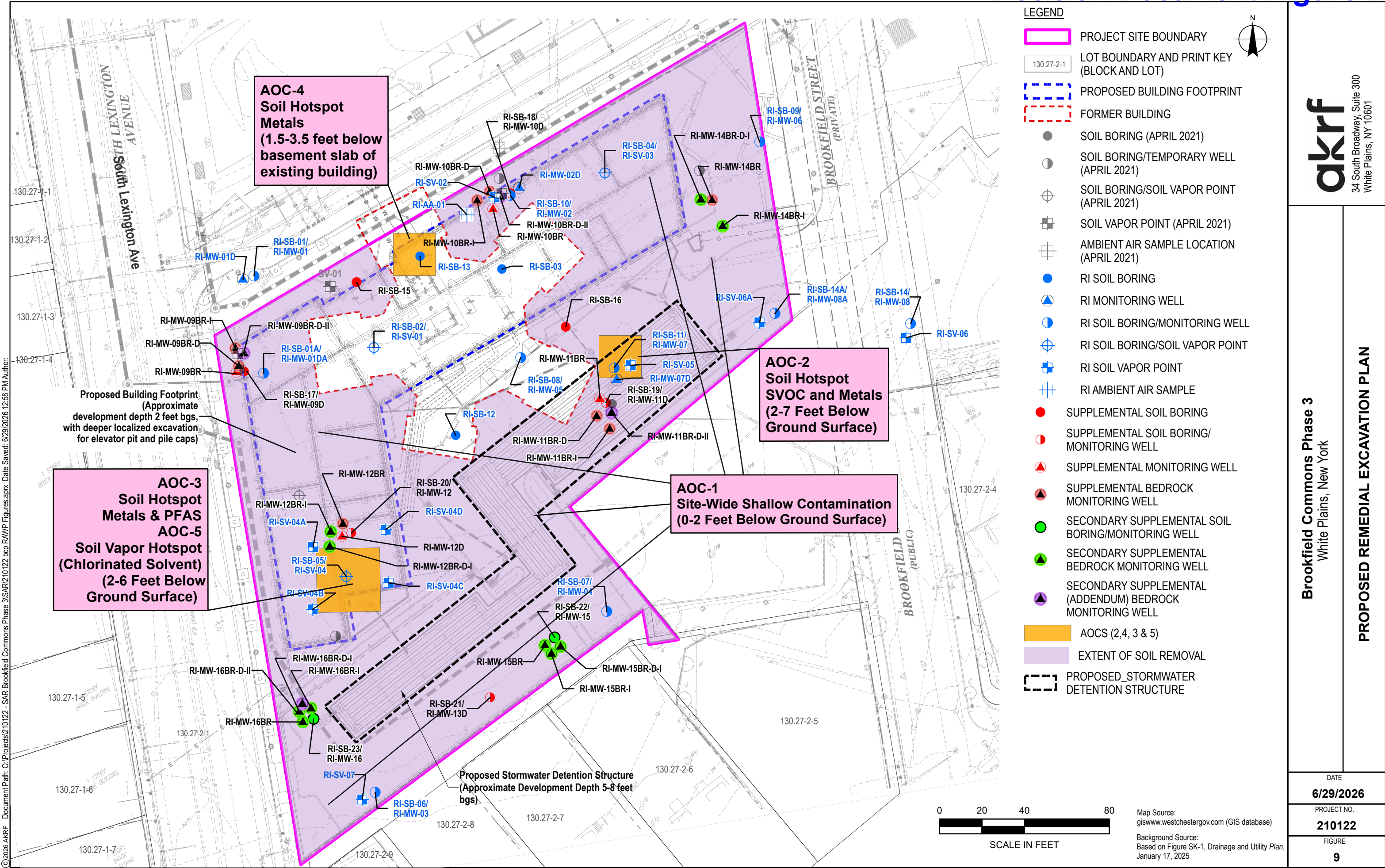
PROJECT NO.

**210122**

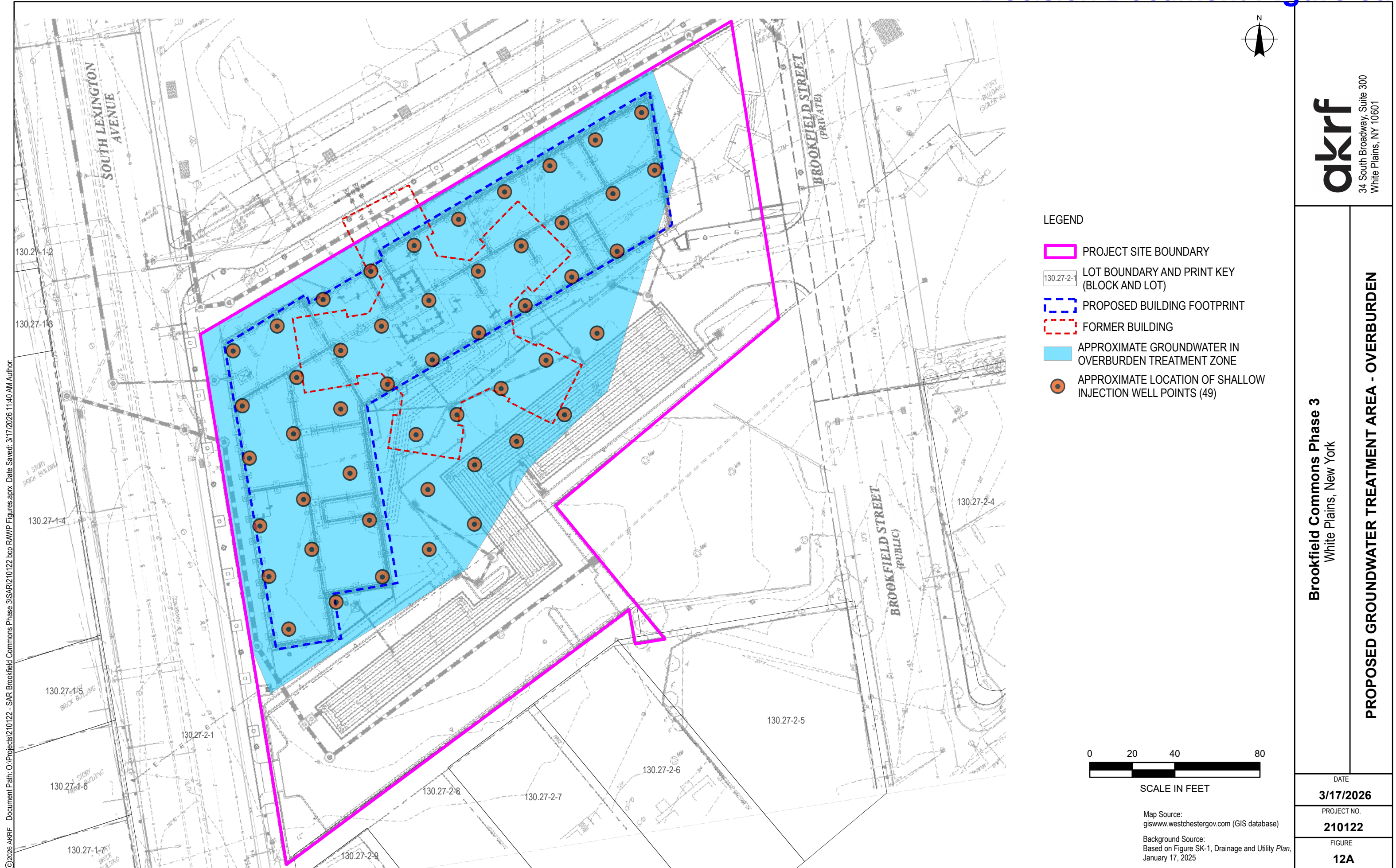
FIGURE

**2**

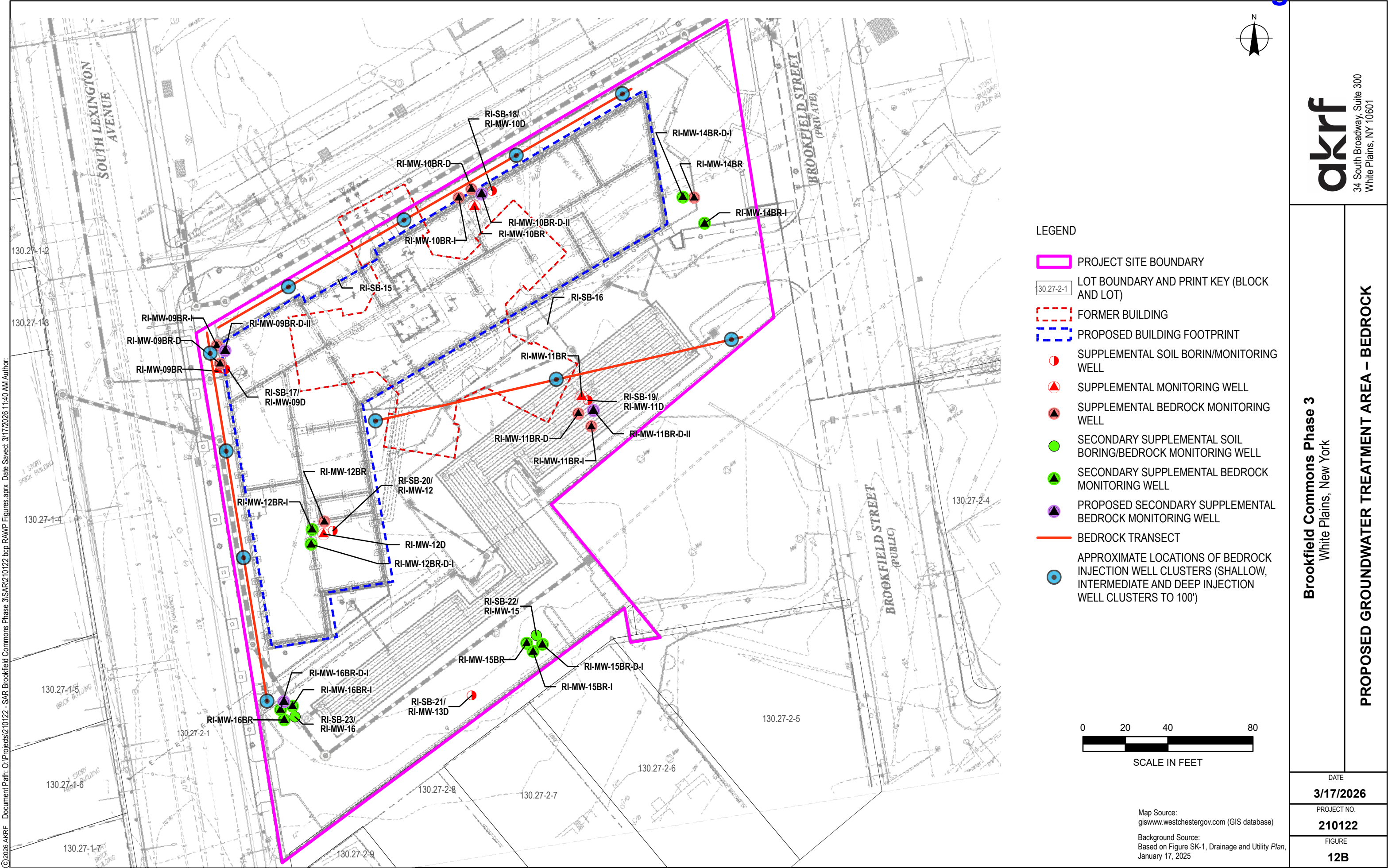














© 2024 AKRF Q:\Projects\210122 - SAR BROOKFIELD COMMONS PHASE 3\Technical\GIS and Graphics\SAR\broc RAWP\210122 Fig 12 Site Cover Plan.mxd 11/22/2024 1:34:59 PM mveilleux (CG PDF 11/22/2024)



LEGEND

- PROJECT SITE BOUNDARY
- LOT BOUNDARY AND PRINT KEY (BLOCK AND LOT)
- 6-INCH CONCRETE BUILDING SLAB
- SITE COVER ASPHALT/CONCRETE
- SITE COVER LANDSCAPE - MINIMUM 2-FOOT CLEAN SOIL COVER



Map Source:  
giswww.westchestergov.com (GIS database)  
Aerial Source:  
2023 New York Statewide Digital Orthoimagery



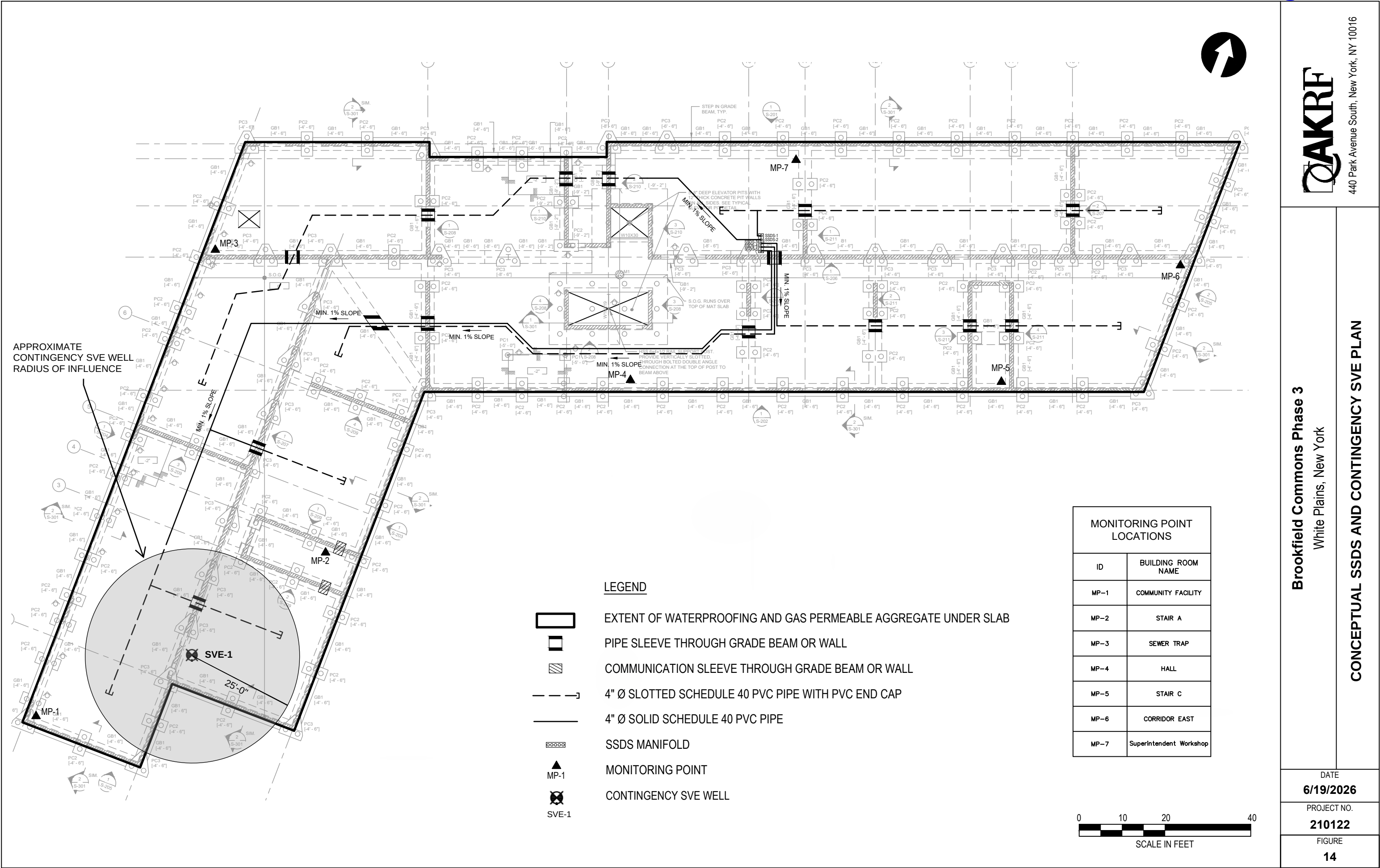
34 South Broadway #401  
White Plains, NY 10601

Brookfield Commons Phase 3  
White Plains, New York

TRACK 4 CONTINGENCY SITE COVER PLAN

|             |
|-------------|
| DATE        |
| 11/22/2024  |
| PROJECT NO. |
| 210122      |
| FIGURE      |
| 13          |





440 Park Avenue South, New York, NY 10016