

## PUBLIC SAFETY ANSWERING CENTER II CHAPTER 7: HAZARDOUS MATERIALS

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### A. INTRODUCTION

A hazardous material is any substance that poses a threat to human health or the environment. Substances that can be of concern include, but are not limited to, heavy metals, volatile and semi volatile organic compounds, methane, polychlorinated biphenyls, and hazardous wastes (defined as substances that are chemically reactive, ignitable, corrosive, or toxic). According to the *City Environmental Quality Review (CEQR) Technical Manual*, the potential for significant adverse impacts from hazardous materials can occur when: a) hazardous materials exist on a site and b) an action would increase pathways to their exposure; or c) an action would introduce new activities or processes using hazardous materials.

This chapter evaluates the potential for hazardous contaminants on the Project Site in soil and groundwater resulting from previous and existing uses to impact the proposed PSAC II development. The Project Site and surrounding area currently and historically have been used for commercial, at-grade parking, institutional, transportation-related, and automotive-related uses. Vacant undeveloped land, parking, and a private roadway currently occupy the Project Site. This chapter summarizes the investigations that have been undertaken to date with respect to hazardous materials, their conclusions, and the potential for significant adverse impacts under the City Environmental Quality Review (CEQR).

To identify the potential for the presence of hazardous materials and contaminated media on the Project Site, a Phase I Environmental Site Assessment (ESA) was prepared in September 2007 in accordance with the scope and limitations of ASTM Standard Practice E 1527-05 that included the following:<sup>1</sup>

- An evaluation of the land use history, using available historical fire insurance maps, topographic maps, and historical aerial photographs, as well as tenant searches;
- A review of land title records, environmental liens, and/or activity and use limitations;
- A review of existing data on geology and hydrology of the area;
- A visual inspection of the Project Site and a fence line visual inspection of adjacent properties;
- Interviews with persons knowledgeable about the Project Site; and
- A review of federal and state environmental regulatory agency databases regarding releases or spills of potentially hazardous materials, facilities that emit hazardous materials to the air or the sewer system, and facilities that generate, treat, or store hazardous wastes.

The Phase I ESA concluded that there is potential for encountering hazardous materials at the Project Site, and recommended conducting a Phase II Environmental Site Investigation (Phase II ESI) to determine whether identified *recognized environmental conditions* have impacted the environmental integrity of the Project Site. Subsequently, a Phase II ESI Work Plan was prepared in December 2007, which included the Phase II ESI Subsurface Testing Scope of Work and Health and Safety Plan (HASP)

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<sup>1</sup> Biene, Ltd., *Phase I Environmental Site Assessment- Public Safety Answering Center II*, September 28, 2007.

for the site.<sup>2</sup> Following the New York City Department of Environmental Protection's (NYCDEP's) review and approval of the Phase II ESI Work Plan and HASP, a Phase II Environmental Site Investigation (ESI) was prepared in March 2008 that assessed whether the identified *recognized environmental conditions* identified in the Phase I ESA have the potential to impact the proposed development.<sup>3</sup> The Phase II ESI summarizes the results of the field investigation work and reviews the analytical results compared to their applicable standards and guidance values to evaluate environmental impacts, if any, to the Project Site. Summaries of the Phase I ESA, Phase II ESI Work Plan, and Phase II ESI have been incorporated into the Existing Conditions section below.

## B. EXISTING CONDITIONS

### Project Site Location and Current Conditions

The Project Site is located in the northeastern Bronx near the southwest of the interchange for Pelham and the Hutchinson River Parkways, and to the east of the New York, New Haven and Hartford railroad right-of-way for Amtrak (see Figure 7-1). It consists of an irregular, bell-shaped property (Block 4226, Lot 75 and part of Lots 40 and 55) comprising approximately 8.75-acres in the northern portion of the Hutchinson Metro Center (HMC) office complex ("proposed development site"); and Industrial Street, a private unmapped street (Block 4226, part of Lots 30, 35, and 40) that extends north from Waters Place for approximately 0.63 miles to the southern boundary of the proposed development site. In its entirety, the Project Site encompasses approximately 13.08-acres. The Project Site does not support any existing buildings or structures.

The southern portion of the proposed development site is occupied by at-grade accessory parking for the adjacent HMC to the south, and the northern portion is occupied by vacant land that formerly accommodated two baseball fields, which are partially enclosed by chain-link fencing (refer to Figure 1-3 in Chapter 1, "Project Description"). An asphalt pedestrian walkway cuts through the center of the northern portion of the proposed development site providing a pedestrian connection between the Pelham Parkway and the HMC.

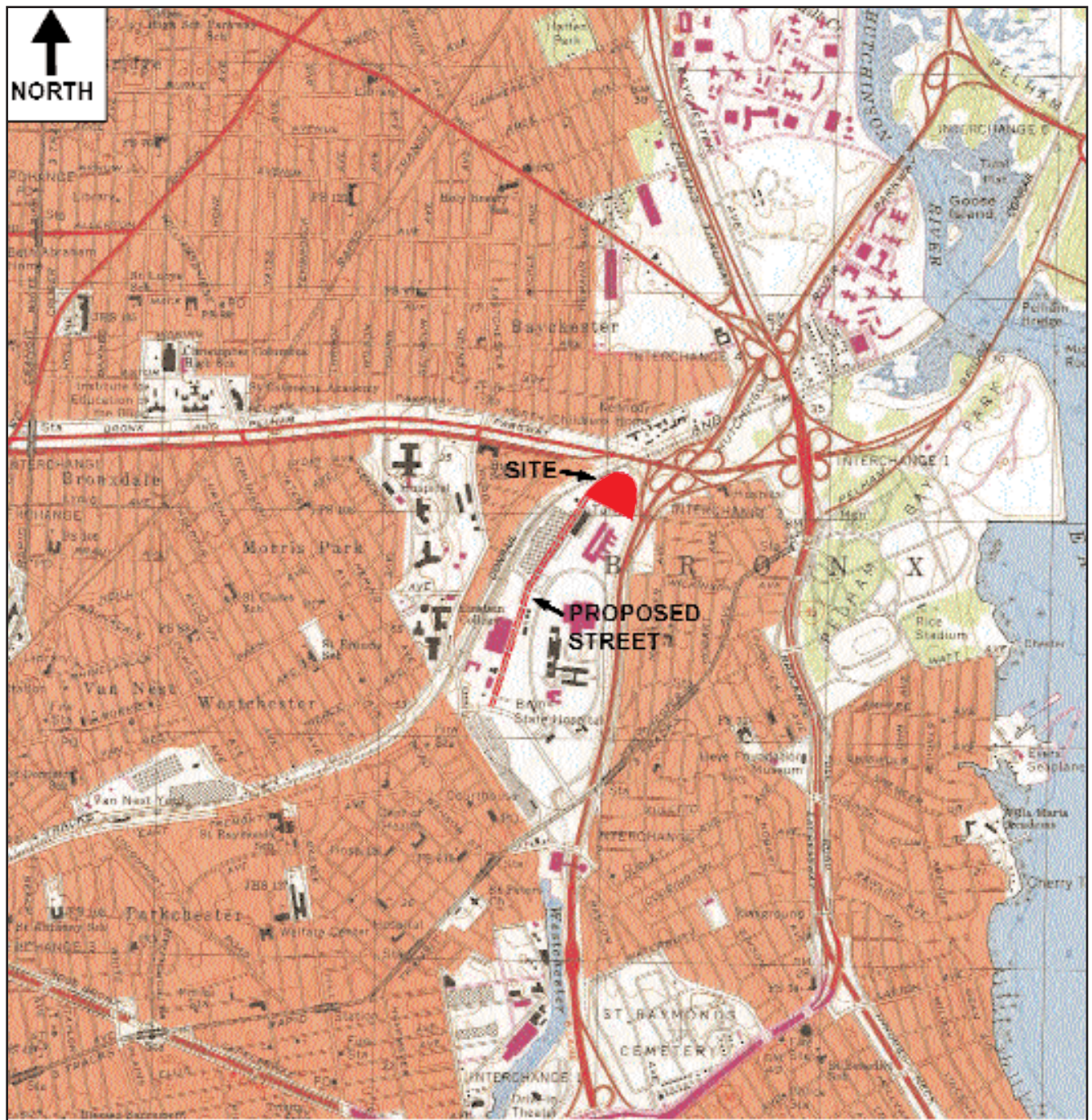
Industrial Street is a two-way private roadway that extends for approximately 0.63 miles from an attended gatehouse located on the north of side of Waters Place approximately 420 feet east of the intersection of Eastchester Road and Waters Place to the southern boundary of the proposed development site. The northern portion of Industrial Street is currently closed due to ongoing construction at the southwest corner of the HMC.

### Surrounding Area Description

The surrounding area consists of the HMC, which supports a mix of commercial and government offices, and large institutional uses, on campus-like settings. The HMC is located at 1200 and 1260 Waters Place and encompasses approximately 32 acres of land (Block 4226, Lots 35, 40, 55, 70 and 75) directly north of the New York State owned and operated mental health facilities ("Bronx Psychiatric Center") located at 1000, 1400 and 1500 Waters Place. The suburban-style office park campus currently features a large 4-story recently retrofitted office building (formerly the New York State-operated Bronx Development Center) and a single-story warehouse facility, which is leased by New York State, as well as at-grade

<sup>2</sup> Fleming Lee Shue, Inc., *Phase II ESI Work Plan- Public Safety Answering Center II*, December 2007.

<sup>3</sup> Louis Berger & Associates, PC, *Phase II ESI - Public Safety Answering Center II*, March 2008.



**LEGEND:**  
Proposed Development Site [Red Solid Box]  
Proposed Street - [Red Dashed Box]

SCALE: 1:24,000

USGS 7.5-Minute Quadrangle:  
Arthur Kill, NY 1966  
Photorevised 1981

Source: Fleming Lee-Shue Inc.

accessory parking. The southwest corner of the office complex is currently undergoing construction, and will be developed with two commercial towers and enclosed accessory parking by the Build year of 2012.

Other prevalent land uses in the area consist of open space, warehousing, light industrial, and transportation-related uses. Residential uses are located north of the Project Site across the Pelham Parkway and to the east of the Project Site across the Hutchinson River Parkway. There is also a small residential enclave located to the west of Stillwell Avenue across the Amtrak railroad right-of-way.

## **Project Site History**

Formerly the Project Site contained marshland and the Westchester Creek ran northwest to southeast through the southwestern portion of the proposed development site from 1898 to at least 1919, after which the creek was filled in with material of unknown origin.

A review of Sanborn Maps indicated that with the exception of a rail spur from the New York, New Haven and Hartford Railroad (Harlem River Branch) in the western portion of the Project Site, the Project Site has remained largely undeveloped from 1898 through at least 1996. Railroad tracks associated with the New York, New Haven and Hartford Railroad Company's Freight Yard once extended along present-day Industrial Street. Industrial Street was first noted on the 1929 Sanborn maps as a concrete driveway, which replaced the railroad tracks at its southern end near Waters Place. By 1966, Industrial Street appeared to be a paved roadway.

The proposed development site remained undeveloped, vegetated land until 1974 when the site was cleared. In 1984, the northern portion of the development site was developed with a baseball field and the southeast portion of the site was improved with an at-grade parking lot. A second baseball field was developed in the northern portion of the development site by 1994.

## **Geology and Hydrogeology**

The elevation of the proposed development site is approximately 5 feet above mean sea level (amsl) according to a review of the United States Geological Survey (USGS) 7.5-Minute Quadrangle Map Flushing, dated 2000. Based on field visual inspections during the Phase I and Phase II, the highest elevation on the proposed development site is located near the adjacent HMC building at the southeast corner of the site. The ground surface of the parking lot located in the southeastern portion of the proposed development site slopes upwards toward the adjacent HMC office building to the south, resulting in a approximate 10-foot terrace separating the southeastern and southwestern parking lots occupying the southern portion of the development site. There is also an approximate 10-foot dip at the northern portion of the development site where the two abandoned ball fields are located. In the northwestern portion of the proposed development site, there are a series of debris piles (soil, concrete, asphalt) each approximately 5 to 8 feet tall.

Industrial Street is relatively flat with no significant elevation change. The elevation of Industrial Street was observed to be approximately 10 to 15 feet lower than the proposed development site.

Bedrock at the Project Site was not encountered during the Phase II ESI, and is expected to consist of Manhattan Schist that is uncomfortably overlain by glacial ground moraine deposits (a dense glacial deposit typically consisting of sand, silt, gravel, cobbles, and boulders) that have been reworked by a network of streams and rivers, resulting in fluvial and march deposits. Soils encountered during the Phase II ESI were mainly composed of medium to fine sands, some silt, gravel and a layer or organic peat at the

proposed development site. Soil analyzed along Industrial Street were similar to those characterized at the development site with coarse to fine sands, some silt, gravel and an organic peat layer. Soil lithology followed a general pattern of sandy non-native fill existing from the top of each boring to approximately 5 to 15 feet below ground surface (ftbgs) depending on surface elevation. Fill was generally characterized by a yellowish-brown, medium to fine sand with little silt, little gravel and various construction debris interspersed throughout (brick, ceramics, wood fragments). Directly below the fill layer (between 16 and 24 ftbgs) interpreted native soil was observed, indicated by alluvial deposits and organic peat layers. Native alluvial deposits were generally characterized by medium to dark gray coarse sands with silt and trace gravel. The observed peat layer measured between 1 to 5.5 feet in thickness.

Groundwater in the vicinity of the Project Site is anticipated to occur in the fluvial and marsh deposits at a depth corresponding with the mean sea level (approximately 5 ftbgs in most portions of the Project Site). A review of historical fire insurance and topographic maps indicated that the Project Site was formerly marshland and the Westchester Creek ran through it. Based on a review of topography and locations of surface water bodies shown on the most recent topographic map (USGS 7.5-Minute Quadrangle Map, Flushing, NY, dated 2000), groundwater is anticipated to generally flow northeast toward the Hutchinson River. The estimated groundwater elevation and/or directional flow may vary due to seasonal fluctuations in precipitation, geology, underground structures, and ore dewatering operations (if present). It is also expected that the former stream, which ran through the Project Site, has been filled with urban fill material (potentially containing construction and demolition debris, gravel, brick, wood, concrete, and asphalt).

During the Phase II ESI, Groundwater in the vicinity of the proposed development site was observed to occur at the native soil layer or up to 6 feet above the native soil layer in non-native fill. Depths of the groundwater table at the proposed development site ranged from 8 to 18 ftbgs, and along Industrial Street, the depth of the water table ranged from 4 to 8 ftbgs.

There are no surface water bodies or wetlands located on the Project Site. The nearest surface water bodies to the Project Site are the Hutchinson River (located approximately 0.75 miles northeast of the Project Site) and the Westchester River (located approximately 1.1 miles south of the Project Site). A review of information presented in the GeoCheck section of the Environmental Data Resources, Inc. (EDR) Radius Map indicates that federally mapped wetlands are located southeast of the Project Site.

According to the Phase I, storm water infiltrates the vegetated northern portion of the proposed development site and flows to catch basins located within the parking lot in the southern portion of the development site, which are expected to be connected to the City's sewer system. Based on a review of Federal Emergency Management Agency (FEMA) flood data, the Phase I concluded that the western portion of the development site, along the New York, New Haven and Hartford railroad right-of-way for Amtrak, is located within the 100-year flood zone (Zone AE [EL 14]) (see Figure 8-2, in Chapter 8, "Waterfront Revitalization Program"). Additionally, portions of the western and southeastern areas of the Project Site, including the proposed street, are located within Zone X.

A review of radon data maintained by the New York State Department of Health (NYSDOH) indicates that average indoor radon concentrations in the vicinity of the Project Site are below the United States Environmental Protection Agency (USEPA) action level of 4.0 pCi/L. Therefore, it is unlikely that elevated levels of radon gas are present at the Project Site.

### **Recognized Environmental Conditions**

The Phase I revealed no evidence of *recognized environmental conditions* in connection with the Project Site, except for the following:

- The review of historical maps indicated that the Project Site was formerly marshland and that Westchester Creek ran through it from north to south. Sometime between 1897 and 1947, the Project Site was filled-in with material of an unknown origin and character. The fill material may contain hazardous materials and/or petroleum products.
- The placement of fill over organic-rich sediments in Westchester Creek may result in the presence of elevated concentrations of methane in soil gas.
- During the site reconnaissance, the northwest part of the proposed development site contained a series of debris mounds (e.g., soil, concrete, asphalt), which are of unknown origin and character.
- Railroad tracks were located on the Project Site from 1898 through at least 1996. Industrial Street was historically developed with a rail yard. These uses may have resulted in releases of petroleum, metals, PCBs, and applications of pesticides or herbicides.
- The review of aerial photographs indicated that the proposed development site was undeveloped, vegetated land until 1974, when it was cleared. No fences were noted around the site's perimeter prior to the 1984 photograph and unpaved roads appeared to provide access to the site from neighboring properties in the 1966 photograph. Due to the absence of site controls, hazardous materials and/or petroleum products may have been disposed of on-the Project Site.
- The northern portion of the proposed development site is presently overgrown; however, pesticides or herbicides may have been historically applied to the baseball fields.
- The properties along Industrial Street were historically developed with a motor repair shop (1919 map), three repair shops (1919 maps), coal yards (1929 and 1950 maps), Western Electric and N.Y. Telephone yards (1929 maps), gasoline tanks (1950 maps), a wood finishing company (1950 maps), a truck repair shop (1977 through 1996 maps), a power house with oil tanks (1966 through 1996 maps), and manufacturing operations (1954 through 1996 maps). Undocumented releases of hazardous materials and/or petroleum products at these facilities have the potential to impact soil and groundwater at the Project Site.
- Approximately 150 feet south of where Industrial Street intersects the proposed development site (at the northwest corner of the Bronx Psychiatric Center Transportation Building [1-story warehouse]), a filling station was noted and at least one underground storage tank (UST) was present. The station appeared in disrepair and at least four (4) groundwater monitoring wells were noted in its vicinity. An inspection of one of the monitoring wells indicated that groundwater is approximately 2 to 3 feet below ground surface in that area. Based on a review of the Leaking Underground Storage Tanks (LTANKS) database, a 3,000-gallon diesel UST located at the Bronx Developmental Center (1200 Waters Place) failed a tightness test in 1988 and spill case 8807432 was assigned. The spill case was closed on October 16, 1997; however, there is no indication that any petroleum-contaminated soil or groundwater associated with this release was remediated.
- Along Industrial Street, approximately 1,500 feet north of Waters Place, two (2) approximately 20-foot diameter aboveground storage tanks (ASTs) were observed to be in

poor condition. The ASTs were located within a concrete secondary containment structure that was overgrown. A review of New York State Department of Environmental Conservation (NYSDEC) records indicated that these ASTs were associated with the Bronx Psychiatric Center located at 1500 Waters Place (PBS No. 2-600750). These 183,120-gallon ASTs were installed in 1959, formerly contained No. 6 fuel oil, and were reportedly in contact with soil. Undocumented releases of petroleum from the storage tanks may have impacted soil and groundwater beneath the roadway of Industrial Street.

- Adjacent and nearby properties with the potential to impact soil and groundwater conditions at the proposed development site and beneath the roadway of Industrial Street were identified on the Resource Conservation and Recovery Information System Generators/Transporters (RCRIS Gen/Trans), the New York State Solid Waste Management Facilities (SWMF), the New York State Leaking Storage Tank (LTANKS), the New York State Petroleum Bulk Storage Tanks (PBS) Underground Storage Tanks (UST) and Above Ground Storage Tanks (AST), and the Chemical Bulk Storage (CBS) AST databases.

### **Hazardous Building Materials**

No asbestos-containing materials (ACM) or PCB-containing equipment was noted at the Project Site. The fence structures associated with the former baseball fields may have been painted with lead-based paint (LBP).

### **Subsequent Environmental Studies**

#### ***Phase II Environmental Site Investigation Work Plan***

A Phase II Environmental Site Investigation (ESI) Work Plan was prepared in December 2007 to assess whether *recognized environmental conditions* (e.g., hazardous materials and/or petroleum product contamination) identified in the Phase I ESA have the potential to impact the proposed development. All activities conducted at the Project Site will follow the New York City Department of Environmental Protection (NYCDEP) protocols presented in the *CEQR Technical Manual*.

The Work Plan called for two (2) test pits, thirty-two (32) soil borings, eighteen (18) temporary well points (TWPs), and twenty (20) temporary soil gas probes to be installed at the Project Site. The soil boring locations would be concentrated within the general area of the proposed building footprints and along the proposed public street segment as well as along the emergency access pathway to the north of the proposed site. The two test pits and 18 soil borings would be advanced within the proposed development site to assess the presence of hazardous materials and/or petroleum product contamination at the site. The test pits would be advanced to a depth of approximately 10 feet below ground surface to assess the characteristics of the fill historically placed on the Project Site. Soil borings located within the general area of the footprint of the proposed PSAC II building would be advanced to a depth of approximately 25 ftbgs, and the soil borings located within the footprint of the proposed accessory garage would be advanced to the depth of groundwater (approximately 5 ftbgs). The remaining soil borings would be advanced in the vicinity of the *recognized environmental conditions* identified adjacent to Industrial Street and to the north of the proposed development site. The soil borings located in Industrial Street and to the north of the proposed PSAC II building would be advanced to a depth of approximately 12 ftbgs.

Soil from each test pit/soil boring location would be screened for volatile organic compounds (VOCs) along the vertical length of the soil column using a photoionization detector (PID). One surface soil sample would be collected from the two-foot interval immediately below ground surface. A second soil sample would be collected from the depth interval exhibiting the highest VOC reading, or from the depth of the interval directly above the groundwater table (i.e., if no elevated PID readings are present). In addition, three composite soil samples would be collected from the debris mounds in the northwestern portion of the proposed development site.

Eighteen of the soil borings would be converted into temporary well points to permit groundwater samples including 6 of the soil borings advanced within the proposed development site, as well as in all 12 soil borings advanced along Industrial Street. Groundwater samples would be collected at 5 ftbgs the water table from each of the temporary well points and analyzed. A soil gas survey would be conducted at 20 locations within the vicinity of the footprints of the proposed buildings to evaluate methane levels generated by an organic layer beneath the urban fill.

The soil and groundwater samples would be submitted to a New York State Department of Health (NYSDOH) approved Environmental Laboratory Approval Program (ELAP) laboratory. The soil and groundwater samples would be analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) by USEPA Method 8260, TCL semi-volatile organic compounds (SVOCs) by USEPA Method 8270, Target Analyte List (TAL) metals by USEPA Method 6010, polychlorinated biphenyls (PCBs) by USEPA Method 8081, and pesticides by USEPA Method 8082. The laboratory results of the soil samples would be compared to the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) Recommended Soil Cleanup Objectives (RSCOs). The laboratory results of the groundwater samples would be compared to the NYSDEC Ambient Water Quality Standards and Guidance values (AWQSGVs).

A site-specific Health and Safety Plan (HASP) has also been prepared in accordance with Occupational Safety and Health Administration's (OSHA's) Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120 and 1926.65) and other OSHA requirements for job safety and health protection. The HASP would be implemented by the designated Site Health and Safety Officer (SHSO) during work activities at the site, including soil boring, soil sampling, monitoring well installation, ground water sampling, geophysical survey, soil gas activities, and other environmental assessment activities, and other environmental activities related to the redevelopment of the site, to provide for worker safety, including a construction HASP and any other plans (e.g., Remedial Action Plan) as requested by NYCDEP.

NYCDEP has reviewed and determined that the Phase II ESI Work Plan and HASP are acceptable. Subsequently, a Phase II ESI was conducted to characterize the physical and chemical characteristics of the soil, groundwater, and soil gas within the Project Site following the parameters established in the Phase II EIS Work Plan and HASP.

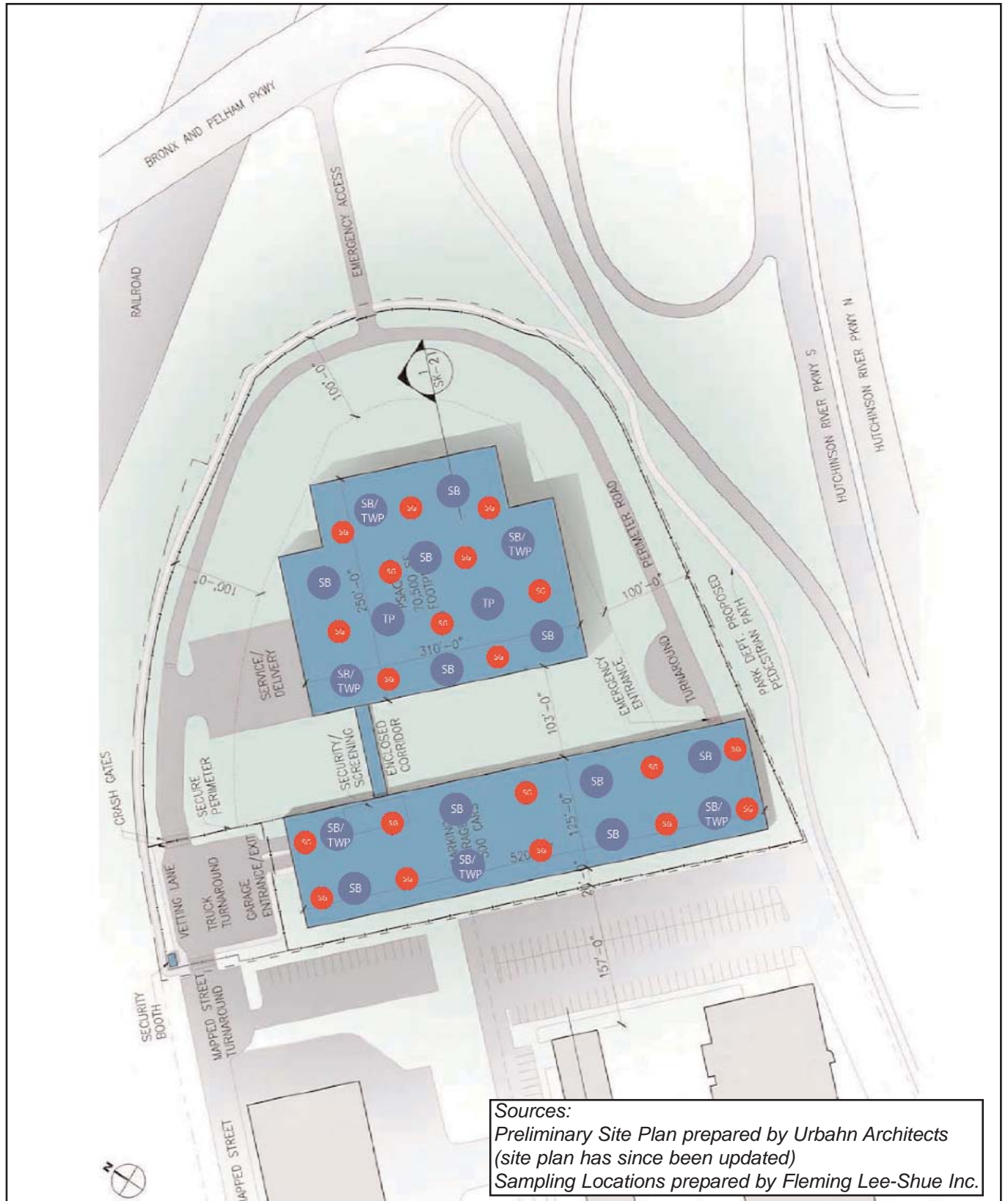
### ***Phase II Environmental Site Investigation***

Based on the results of a geophysical survey conducted in the field, less than ten (10) of the proposed soil borings, test pits and soil gas survey point locations identified in the Phase II Work Plan were shifted 1 to 2 feet based on subsurface anomalies. Figures 7-2 and 7-3 identify the locations of all test pits, soil borings, debris pile composite samples, and temporary well points.

Thirty-two (32) soil borings were advanced at varying depths using a Geoprobe direct push drill rig across the entire Project Site (maximum depth 25 ftbgs; depth and location based on locations of proposed buildings and expected depth of utilities within proposed street). Two test pits were also



Sample Location Plan for the Proposed Development Site



Sources:  
 Preliminary Site Plan prepared by Urbahn Architects  
 (site plan has since been updated)  
 Sampling Locations prepared by Fleming Lee-Shue Inc.

**LEGEND**

- Temporary Soil Gas Probe Location
- SB Soil Boring Location
- SB/TWP Soil Boring / Temporary Well Point Location
- TP Test Pit Location

excavated within the vicinity of the proposed PSAC II building footprint using a backhoe to depth of 10 ftbgs.

Field screening consisted of visual and olfactory indicators of impacts, as well as screening with a photoionization detector (PID). In addition, all soil was classified in the field by soil type and color based on the modified Burmister soil classification system. A total of 68 soil samples were collected from soil borings and test pits throughout the proposed development site and Industrial Street. Two soil samples were collected from each of the 31 soil borings and two test pits, including a sample that assessed surface and near surface conditions and a second sample based on visual and olfactory observations and/or elevated PID readings or the deepest sample directly above the water table.<sup>4</sup>

In total, 17 temporary well points (TWPs) were installed in completed soil borings for groundwater sampling (including 3 within the vicinity of the proposed PSAC II building footprint, 3 near the proposed accessory garage footprint, and eleven within Industrial Street).<sup>5</sup> Three (3) composite soil samples were collected from the debris piles in the northwestern portion of the proposed development site that exhibited grass growth and vegetation (i.e., older piles unrelated to the current construction debris piles that exist near the western portion of the site). A total of 20 temporary soil gas probes were performed in the vicinity of the proposed building footprints to determine if the placement of fill over organic-rich sediments may result in the presence of elevated concentrations of methane in soil gas. Soil gas readings were collected at depths of 3 ftbgs at all locations using GEM 2000 Landfill Gas Monitor.

All soil samples collected from soil borings, test pits, and composite debris piles, as well as the groundwater samples collected from temporary well points were analyzed for the presence of TCL VOCs, TCL SVOCs (base neutrals and acid extracts), pesticides/ PCBs, and TAL metals. Groundwater samples were analyzed for both filtered and unfiltered TAL metals. Soil and groundwater samples were analyzed by NYSDOH-ELAP certified, Hampton-Clark/Veritech (HCV) Laboratory. Quality Assurance/Quality Control (QA/QC) samples were analyzed as per NYSDEC Division of Remediation (DER)-10 guidance.

### Soil Quality Investigation

Visual/olfactory signs and/or elevated PID reading indicative of petroleum contamination were observed during the soil boring advancement efforts at SB34, which is located in the northeastern portion of the proposed development site. A faint petroleum odor was observed where the PID measured 15 ppm at 14 ftbgs and a soil sample was collected (SB34B). At 23-24 ftbgs, a strong hydrogen sulfide odor was observed and PID measurement of 551 ppm was taken. A supplemental sample was collected (SB34C) at this interval due to elevated PIS measurement and no exceedences were found for VOCs. In every soil boring where a peat layer was encountered, a strong hydrogen sulfide odor was observed and elevated PID reading encountered at the depth of the peat layer. It is expected that organic peat would exhibit these qualities due to naturally occurring bacteriological activities and these observations should not be a concern.

TCL VOCs were detected in soil above regulatory standards at 8 samples (SB03A, SB04B, SB11B, SB34B, SB34C, SB35B, SB39B, TP1B). Acetone was the only compound detected at elevated concentrations above Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs) and Technical and Administrative Guidance Memorandum #4046 (TAGM) Recommended Soil Cleanup Objectives (RSCOs), and is attributed to laboratory contamination.

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<sup>4</sup> A third sample was collected at SB34 due to a second distinct area on the core that exhibited elevated PID readings. Only one soil sample was collected from SB01 due to the lack of recovery from 2 to 5 ftbgs.

<sup>5</sup> An 18<sup>th</sup> TWP was attempted at the southern end of Industrial Street near Waters Place (SB01) but could not be installed due to refusal at 5 ftbgs, a depth that was above the water table.

TCL SVOCs were detected in the soil above regulatory standards at samples collected throughout the proposed development site and along Industrial Street. The compounds of TCL SVOCs detected at elevated concentrations above NYSDEC's Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs), Toxicity Characteristic Leaching Procedure (TCLP) Alternative Guidance Values (AGVs) and Technical and Administrative Guidance Memorandum #4046 (TAGM) Recommended Soil Cleanup Objectives (RSCOs) include: acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene.

TAL Metals were detected above applicable standards in each of the 32 borings, two test pits and three composited debris pile samples. All samples contained metals at concentrations exceeding TAGM RSCOs and Eastern USA Soil Background concentrations. The TAL metals detected above applicable standards include arsenic, beryllium, calcium, chromium, copper, iron, magnesium, mercury, nickel, selenium and zinc. Nine soil samples (SB05A, SB05B, SB06A, SB07A, SB08A, SB10A, SB11A, SB11B, and SB42A) contained lead concentrations exceeding 20 times the US EPA's Resource Conservation and Recover Act (RCAC) Hazardous Water Level, and therefore, the soil may be considered hazardous for lead.

The pesticides 4,4-DDD, 4,4-DDE, 4,4-DDT, chlordane, and dieldrin were detected above Track SCOs within two feet of the ground surface at 16 soil samples and just above the groundwater table at six additional soil samples dispersed throughout the site. One of the soil samples (SB26A), taken from a soil boring located in the southern portion of the proposed development site, contained a concentration of chlordane above TAGM RSCOs.

PCBs were not detected or measured at levels below regulatory standards in groundwater samples collected at TWP throughout the proposed development site and along Industrial Street.

### Groundwater Quality Investigation

TCL VOCs were detected in groundwater above NYSDEC Class GA Groundwater Standards at three TWPs (TWP10, TWP11 and TWP31). TWP10 and TWP11, each located at the northern portion of Industrial Street, exhibited elevated levels of 1,1-dichloroethane, cis-1,2-dichloroethane and vinyl chloride. TWP31, located in the parking lot at southwestern portion of the proposed development site, exhibited elevated levels of benzene, toluene and xylene (total).

TCL SVOCs were detected in groundwater above applicable regulatory standards at two TWPs (TWP05 and TWP34). The compounds detected above NYSDEC Class GA Groundwater Standards include benzo(a)anthracene, benzo(b)fluoranthene, and chrysene. It should be noted that all of these elevated levels were detected below the laboratory's quantitation limit.

TAL Metals were detected above applicable standards in each of the 17 groundwater samples collected at TWPs. The metals detected at elevated concentrations above NYSDEC Class GA Groundwater Standards include aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, copper, iron, lead, magnesium, manganese, mercury, nickel, sodium, vanadium, and zinc. Unfiltered groundwater samples exhibited numerous exceedences, which is expected given the increased turbidity of this water during typical sampling procedures and the leaching of constituents from fill soil particles due to added acid preservative. The number of exceedences for filtered groundwater samples was lower, with elevated levels of barium, calcium, magnesium, manganese, potassium and sodium.

Pesticides were either not detected or measured at levels below regulatory standards in the 17 groundwater samples collected at TWPs through the site proposed development site and along Industrial Street, and PCBs were not detected in any of the groundwater samples.

### Soil Vapor Investigation

All 20 temporary soil gas probes performed resulted in non-detectable (ND) levels of methane.

#### **C. FUTURE WITHOUT THE PROPOSED ACTION (NO-BUILD CONDITIONS)**

In the future without the Proposed Action, it is assumed that there would be minimal changes in the use of the Project Site. As described in Chapter 2, "Land Use, Zoning, and Public Policy," the HMC will be expanded with the addition of two new adjoining commercial buildings (Tower One and Tower Two) with enclosed accessory garages at its southwest corner (southern portions of Lots 55 and 40 on Block 4226). Tower One was recently completed and the construction of Tower Two is anticipated to commence shortly. Once the construction of the two commercial buildings is completed, it is anticipated that the northern portion of Industrial Street would be paved with asphalt and reopened to vehicular traffic, and would provide access to one or both of the enclosed parking garages of Towers One and Two.

In the absence of the Proposed Action, there is not anticipated to be any in-ground disturbance or excavation of the Project Site. Historic fill material is not likely to be exposed, and therefore, no remedial activities would likely be required at the site. Because the Project Site will continue in its current condition, there will be no exposure pathways for hazardous materials.

#### **D. FUTURE WITH THE PROPOSED ACTION (BUILD CONDITIONS)**

The potential for significant adverse impacts in the future with the Proposed Action is determined by a number of factors including the types and locations of hazardous materials and wastes, the proposed uses of the Project Site, and the potential for human and environmental exposure to site contaminants at each location where present. To determine if a significant adverse impact would result relative to human exposure, exposure pathways must be evaluated. According to NYSDEC guidance, "An exposure pathway has five elements: (1) a contaminant source; (2) contaminant release and transport mechanisms; (3) a point of exposure; (4) route of exposure; and (5) a receptor population. An exposure pathway is complete when all five elements are documented. A potential exposure pathway exists when any one or more of the five elements comprising an exposure pathway is not documented. An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway has not existed in the past, does not exist in the present, and will never exist in the future."<sup>6</sup>

Human exposure considers construction workers, those persons on-site at present and future times (occupants and visitors), as well as persons off-site (neighborhood population). Potential and complete human exposure pathways must be evaluated for the construction phase, and after redevelopment is complete for all persons that may be exposed to site contaminants.

The Proposed Action would facilitate the construction of a second emergency communications 911 call and dispatch center (Public Safety Answering Center II [PSAC II]) in the northeastern Bronx that would be a parallel operation to the existing PSAC I in Brooklyn. The proposed facility would consist of a new approximately 640,000 gsf building and a 500-space above-grade accessory garage on an approximately

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<sup>6</sup> DER-10 Technical Guidance for Site Investigation and Remediation, Appendix 3B, (December 2002).

8.75-acre largely unimproved privately owned site (“proposed development”). As the proposed development site does not have any linear frontage on a public street, the Proposed Action also involves the mapping of an approximately 0.63 mile long public street (“Marconi Street”) to provide vehicular access and utility services to the proposed development along a public right-of-way.

The Proposed Action would involve below-grade disturbance with soil excavation as necessary to construct building foundations, establish a new public street, and install subsurface utilities on the proposed development site and within the proposed public street, as well as to the north of the proposed development within the public right-of-way of Pelham Parkway. The foundation for the proposed office building is expected to extend approximately 25 ftbgs and the foundation for the accessory garage would be approximately 5 ftbgs. The proposed public street (Marconi Street) would generally follow an existing private roadway, Industrial Street, which extends north of Waters Place from a point located approximately 420 feet east of the intersection of Eastchester Road and Waters Place to the southern boundary of the proposed development site.

There is a potential for adverse impacts during construction activities resulting from the presence of possible subsurface contamination due to historic and existing uses at the Project Site. The Phase I ESA prepared for the Project Site identified *recognized environmental conditions* (e.g., hazardous materials and/or petroleum product contamination) that could have the potential to impact the proposed development. Excavation and construction activities at the Project Site could disturb potential hazardous materials and increase pathways for human exposure. However, it is anticipated that impacts would be avoided by performing construction activities in accordance with all applicable regulations related to the removal of contaminated soil. Prior to any excavation or construction activity at the Project Site, a Construction Health and Safety Plan (CHASP) would be prepared that will meet the requirement set forth by the Occupational, Safety and Health Administration (OSHA), NYSDOH, NYCDEP, and any other applicable regulations. The CHASP would identify the possible locations and risks associated with the potential contaminants that may be encountered, and the administrative and engineering controls that would be utilized to mitigate concerns.

## **Recognized Environmental Conditions**

### ***Soil Contamination***

The proposed PSAC II development would involve the construction of two new buildings, infrastructure, and utilities – all of which will involve intrusive activities such as excavation. It is likely that contaminated soil will be encountered during construction, exposing workers and potentially occupants and neighboring population to contaminants. The complete human exposure pathway resulting from intrusive activities would be considered a significant adverse impact, but can readily be mitigated.

In order to evaluate the subsurface soil and soil from debris piles, laboratory analytical results and field measurements were compared with the United States Environmental Protection Agency (EPA) and NYSDEC regulatory standards identified in:

- NYSDEC: Spill Technology and Remediation Series (STARS) Memo #1 establishes statewide criteria for re-use of petroleum-contaminated soil, provides guidance for specific petroleum-related VOCs and SVOCs, odors, and other nuisance factors, and provides Toxicity Characteristic leaching Procedure (TCLP) Alternative Guidance Values (AGVs) for waste characterization purposes;

- USEPA: Maximum Concentration of Contaminants for the Toxicity Characteristic (Resource Conservation and Recovery Act [RCRA] Regulatory Limits for TCLP), published in 40 Code of Federal Regulations (CFR) 261.24, provides solid waste toxicity standards for compounds using the TCLP procedure, Test Method 1311, to determine if the material tested can be considered hazardous (1993);
- NYSDEC: Identification and Listing of Hazardous Wastes regulation, Toxicity Characteristic section as per 6 New York Codes, Rules and Regulations (NYCRR) Subpart 371 (3)(e), stipulates the same requirements as dictated in the federal standard 40 CFR 261.24 listed above (2006);
- NYSDEC: Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs), as per 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives, represent the concentration of a contaminant in soil which, when achieved at a site will require no use restrictions on the site for the protection of public health, groundwater and ecological resources due to the presence of contaminants in soil (2006);<sup>7</sup>
- NYCDEC: Technical and Administrative Guidance Memorandum #4046 (TAGM) Recommended Soil Cleanup Objectives (RSCOs) provide guidance for remedial actions at NYSDEC Inactive Hazardous Waste and Spill sites, based on health-related concerns and available clean-up technologies (1994).

The Phase II ESI results indicated that fill soil throughout the Project Site has elevated levels of polycyclic aromatic hydrocarbons (PAHs) and TAL Metals, which are characteristic of urban fill. TCL SVOCs were detected in the soil above Track 1 SCOs and TAGM RSCOs regulatory standards at samples collected throughout the proposed development site and along Industrial Street within the fill layer of the site. The elevated concentrations of SVOCs are common constituents of urban fill material. TAL Metals (including arsenic, beryllium, calcium, chromium, copper, iron, magnesium, mercury, nickel, selenium and zinc) were detected above applicable TAGM RSCOs regulatory standards in all soil samples. Nine soil samples also contained lead concentrations exceeding 20 times the RCRA Hazardous Waste Level and therefore, the soil may be considered hazardous for lead. Elevated metal levels are mainly attributed to contaminants in urban fill material and may be partially attributed to native background conditions.

As the northern portion of the proposed development site formerly accommodated two ball fields and athletic fields are located to the east of Industrial Street, there is concern that pesticides and herbicides may have historically been applied. Twenty-two samples contained pesticide (including 4,4-DDD, 4,4-DDE, 4,4-DDT, chlordane, and dieldrin) levels above Track 1 SCOs either within two feet of the ground surface or just above the groundwater table, and one of these samples contained the pesticide chlordane above TAGM RSCOs. The low level detections of pesticides in shallow soil and at various depths above the groundwater table can likely be attributed to historic pesticide use at the site and on adjacent properties.

PCBs were either not detected or measured at levels below regulatory standards in soil samples collected throughout the site. Very low-level PCB detections were found at a few scattered samples in the 0 to 2 ftbgs interval. The source of these detections is unknown, however, a common cause of surficial detections of PCBs in unpaved areas is historical application of waste oil for weed and dust control.

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<sup>7</sup> Pursuant to a comment by the NYCDEP, the results of the Phase II Environmental Site Investigation Report will be reevaluated utilizing a more appropriate end use scenario than Unrestricted Use, as the proposed PSAC II development is generally commercial in nature.

Human exposure can be reduced or eliminated using proven remedial technologies and/or institutional and engineering controls discussed in Chapter 18, "Mitigation." Impacted soils in the area of proposed excavation should be removed and disposed of in accordance with all applicable local, state and federal laws. Unpaved or landscaped surfaces should be covered with at least two feet of certified, clean fill and vegetative topsoil. Due to the presence of VOC, SVOC and metal concentrations above applicable standards at several sampling locations, dust control procedures are recommended during excavation activities to minimize the creation and dispersion of fugitive airborne dust. A Community Air Monitoring Plan (CAMP) should be developed in accordance with NYSDEC DER-10 Regulations. The CAMP requires real-time monitoring for VOCs and particulates (i.e., dust).

### ***Groundwater Contamination***

The applicable groundwater standards in New York are the Ambient Water Quality Standards and Guidance Values in 6 NYCRR Part 703. The groundwater standards are not based on land use categories as are the December 2006 soil cleanup objectives, but rather pertain to specific classes of fresh and saline waters for the protection of "best uses" assigned to each class. The groundwater is classified as GA- a source of drinking water even though groundwater is not currently used as a potable water supply.

The Phase II ESI results also indicated elevated levels of PAHs and TAL Metals in the groundwater, which can be attributed to the fill and the turbid nature of the groundwater samples that were collected. One of the temporary well points (TWP31), located in the parking lot at the western middle of the proposed development site, exhibited elevated levels of benzene, toluene, and xylene (total), which is indicative of a localized, historic release of gasoline. This contamination may be attributed to the petroleum spill (LTANKS), which occurred at the Bronx Development Center (1200 Waters Place), located southwest of the temporary well point. However, another temporary well point (TWP 22), which is located between the document spill and TWP31, and is in line with the anticipated groundwater flow, did not exhibit elevated levels of these compounds. Therefore, it is more likely that the groundwater was impacted by an isolated spill near TWP31. Two other temporary well points (TWP10 and TWP11), located at the northern portion of Industrial Street, exhibited elevated levels of 1,1-dichloroethane, cis-1,2-dichloroethene, and vinyl chloride, which are indicative of a low-level chlorinated solvent plume in the area of these borings (located approximately 300 feet apart). The low-level solvent plume was detected directly east of the Farberware Plant, located at 1500 Bassett Avenue, where there is documented solvent contamination. As documented in the Phase I ESA, a spill occurred at the Farberware Plant where gasoline and solvent contamination were present (spill case: 9511706).

Pesticides were either not detected or measured at levels below regulatory standards in the 17 groundwater samples collected at TWPs through the proposed development site and along Industrial Street, and PCBs were not detected in any of the groundwater samples.

At areas of the Project Site where contaminants are found in excess of groundwater quality standards, the groundwater must be addressed prior to or during redevelopment. Human exposure pathways can be reduced or eliminated during construction and for the future with the Proposed Action by the use of engineering controls and by prohibiting groundwater use for potable purposes in the future; however, at areas with significant concentrations of contaminants in groundwater, remediation may be required prior to construction. The time required to effectively remediate groundwater could impact development plans. Groundwater contaminated with volatile organic compounds is also a source of contaminated soil vapor.

If water would be discharged to a NYCDEP combined sanitary and storm sewer, the water must be sampled for NYCDEP sewer discharge parameters. A comparison of the results of TCL VOC, PCB, and TAL metal analyses to the NYCDEP sewer discharge limits, indicates only one sample exceedence (TWP05 exceeds the NYCDEP sewer discharge limit for lead in unfiltered metals). Based on this finding, a NYCDEP sewer discharge permit may be required, and prior to discharge into sanitary and combined

sewers, sampling, laboratory analysis, and pretreatment of water from this location would be required. A NYSDEC State Pollutant Discharge Elimination System (SPDES) permit may also be required to discharge into a storm sewer.

### ***Soil Vapor Contamination***

To evaluate methane levels generated by an organic layer beneath the urban fill, a soil gas survey was conducted within the vicinity of the footprints of the proposed buildings. Contaminated soil vapor entering the proposed buildings would result in complete human exposure pathway to these contaminants – a significant adverse impact if the concentrations are high enough. The 20 temporary soil gas sample points that were performed for the Phase II ESI within the vicinity of the proposed building's footprints resulted in non-detectable levels of methane. Therefore, methane does not appear to pose an issue to the proposed construction site and therefore, no human exposure would result.

## **Introduction of Hazardous Materials from Proposed PSAC II Development**

The proposed PSAC II development may introduce hazardous materials to the site; specifically, storage of petroleum products for on-site generators that could result in future spills that could impact soil and groundwater. Preventative measures required by various environmental regulations include, but are not limited to, secondary containment for storage tanks; preparation of spill and emergency response plans; proper labeling, storage and manifesting of hazardous wastes, and proper training of personnel that handle hazardous materials and wastes. Each of these preventative measures help to reduce the likelihood of future hazardous materials incidents on the proposed development site. The proposed PSAC II development is not expected to introduce new hazardous materials such that significant adverse impacts would result.

## **E. CONCLUSION**

The Phase II subsurface investigation involved the collection of 32 soil borings, two test pits, 17 temporary well points, 20 temporary soil gas probes and three composite soil samples from the debris mounds.

The Phase II ESI results indicated that fill soil throughout the Project Site has elevated levels of PAHs and TAL Metals, which are characteristic of urban fill. The Phase II ESI results also indicated elevated levels of PAHs and TAL Metals in the groundwater, which can be attributed to the fill and the turbid nature of the groundwater samples that were collected. The low level detections of pesticides in shallow soil and at various depths above the groundwater table can likely be attributed to historic pesticide use at the site and on adjacent properties. Human exposure can be reduced or eliminated using proven remedial technologies and/or institutional and engineering controls discussed in Chapter 18, "Mitigation." Measures for addressing areas of identified contamination are outlined in Chapter 18. All remediation measures would be undertaken pursuant to a remediation plan approved by the NYCDEP. Prior to any excavation or construction activity at the Project Site, a Construction Health and Safety Plan (CHASP) would be prepared that will meet the requirements set forth by the Occupational, Safety and Health Administration (OSHA), NYSDOH, NYCDEP, and any other applicable regulations. The CHASP would identify the possible locations and risks associated with the potential contaminants that may be encountered, and the administrative and engineering controls that would be utilized to mitigate concerns.

These measures would ensure that no significant adverse impact related to hazardous materials would occur.