3.10 HAZARDOUS MATERIALS

INTRODUCTION

This chapter summarizes the potential impacts of development resulting from the proposed East 125th Street Development on existing hazardous materials in soil, soil vapor and groundwater resulting from previous and existing uses of the project site. The East 125th Street Development project site is located in northeast Manhattan near the Harlem River and consists of three parcels identified as Block 1791, Lots 1, 25, and 34 (Parcel A) , Block 1790, all lots (Parcel B), and Block 1789, Lot 46 (Parcel C). These parcels are located from just south of East 125th Street to East 127th Street between Second and Third Avenues in East Harlem (hereafter referred to as the "project site"). The site location is shown in Figure 3.10-1 and block and lot numbers for the project site are shown in Figure 3.10-2. The proposed action would replace surface parking and other uses present on the site with mixed-use development and an underground garage facility to replace the at-grade MTA bus storage lot. A separate off-site parcel located on the corner of Third Avenue and East 127th Street that is not part of the proposed development is to be rezoned to allow development with increased residential and community facility density. No development is currently proposed for this off-site parcel.

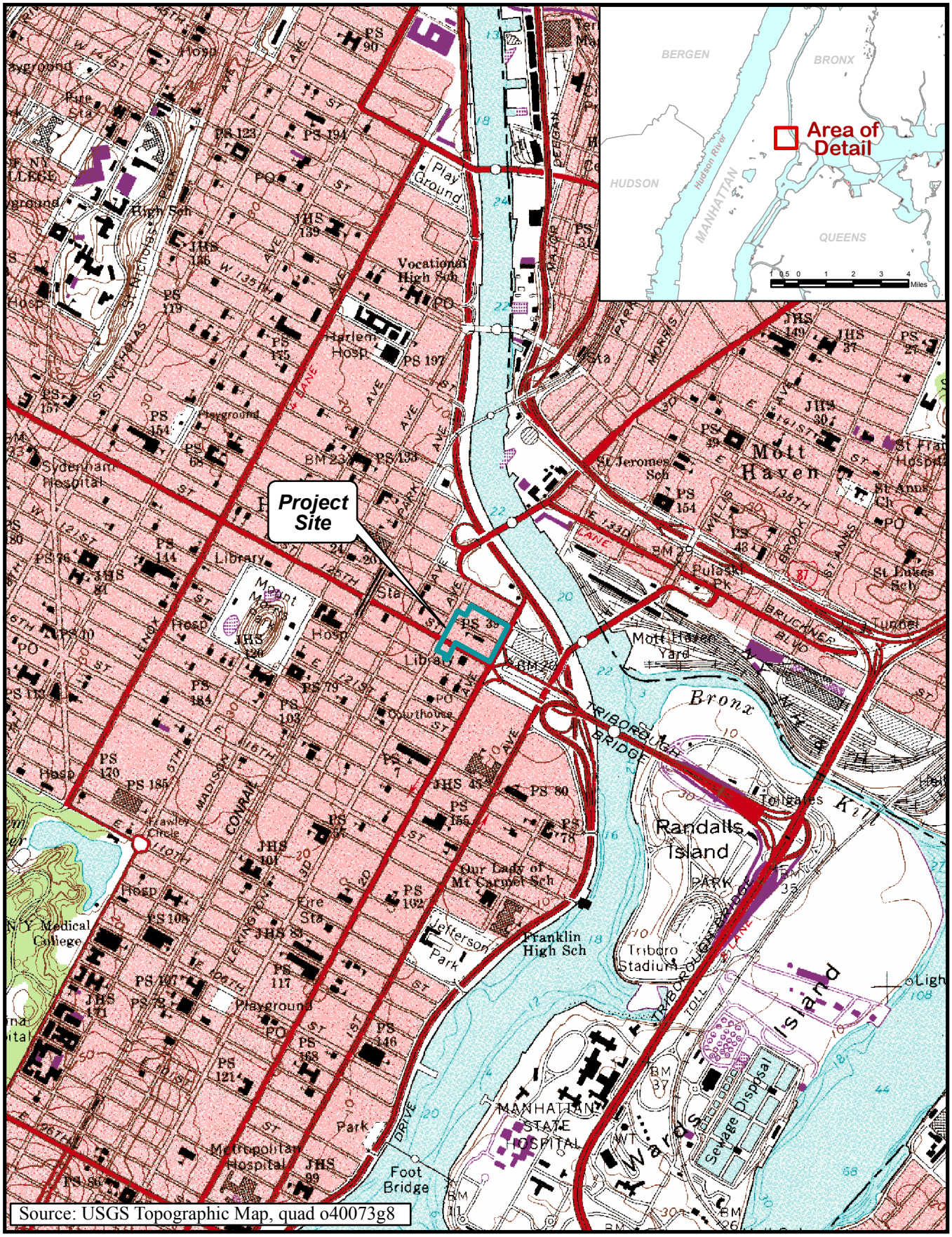
The *CEQR Technical Manual* calls for the evaluation of hazardous materials in order to determine whether a proposed action could lead to increased exposure of people or the environment to hazardous materials, and whether the increased exposure could potentially result in significant health impacts or environmental damage. A hazardous material is considered to be any substance that poses a threat to human health or the environment.

A Phase II Environmental Site Investigation (ESI) was completed for the East 125th Street Development project site in May 2007 by STV, Inc. in conjunction with this ~~EIS~~FEIS. The Phase II ESI included a geophysical survey, advancement of soil borings, and collection of soil, sub-surface soil vapor and groundwater samples for laboratory analysis. The Phase II ESI Report is summarized below and a copy is included as Appendix F of this FEIS~~EIS~~.

3.10.1 EXISTING CONDITIONS

Current Conditions

The East 125th Street Development project site is approximately 241,000 square feet (six acres) in size and consists of 15 vacant lots. Three of these lots are reported as vacant but are utilized for parking; and nine comprise mixed-use commercial/retail businesses. Of these, three have currently or formerly occupied loft apartments over the ground floor. Land uses include manufacturing, auto body repair, retail petroleum, and surface parking uses. The surrounding area is developed with residential homes, apartment buildings, retail stores, a public library, and a bus storage facility.



Legend

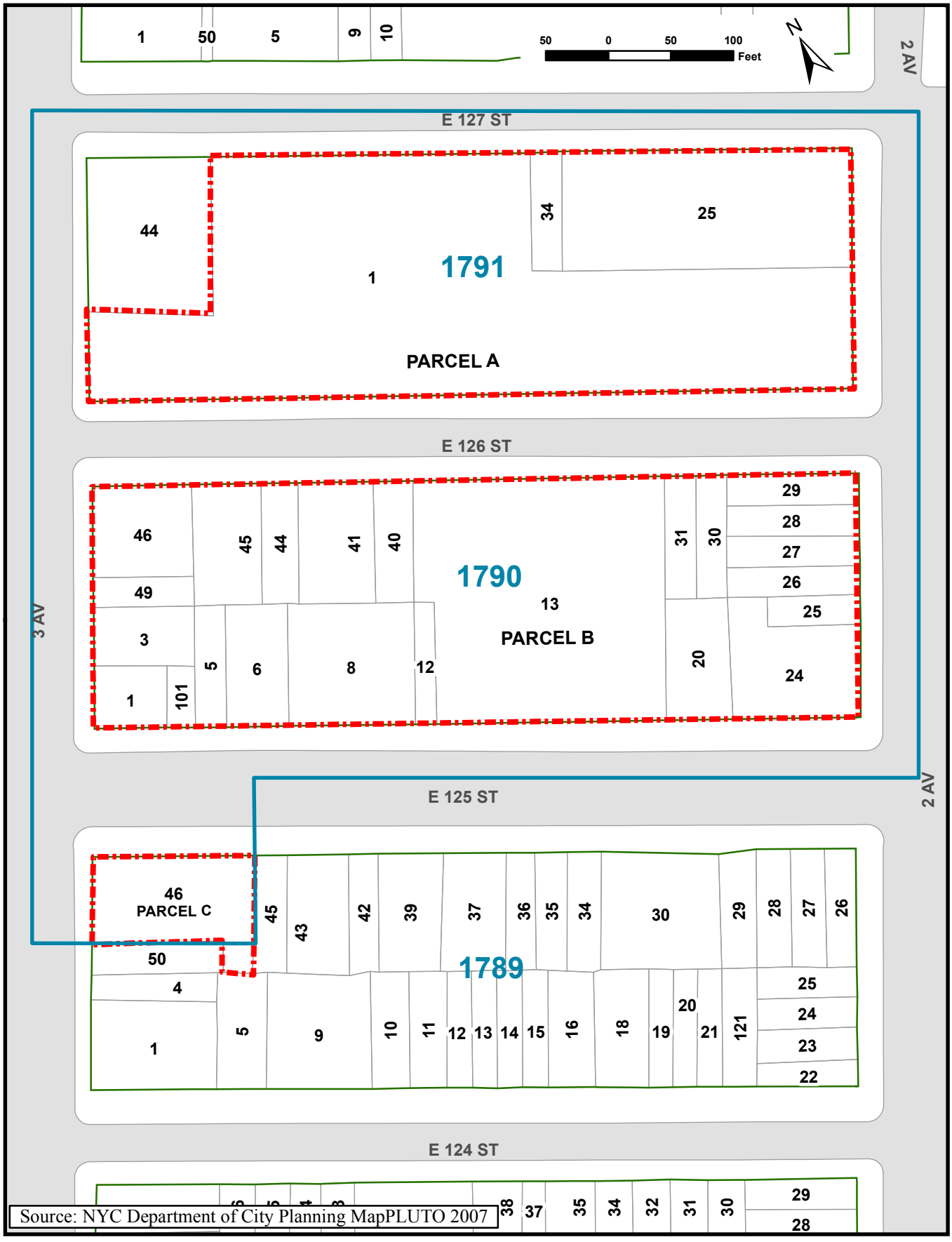
Project Site

N

Figure 3.10-1 - Project Site Existing Conditions

East 125th Street Development EIS

NYC Economic Development Corporation



Source: NYC Department of City Planning MapPLUTO 2007

Figure 3.10-2: Project Site Block and Lot Map

Legend

Project Site

Rezoning Area

1 Tax Lot

1789 Tax Block

East 125th Street Development EIS

NYC Economic Development Corporation

Topography

According to a review of the United States Geological Survey (USGS) 7.5-Minute Quadrangle Map, Central Park, New York, dated 1966, the elevation of the project site is approximately 15 feet above mean sea level. The topography within the immediate area is relatively flat with a slight slope to the east. A USGS topographic map of the project site and its environs is presented as Figure 3.10-1.

Geology

The project site, rezoning area and Manhattan as a whole are underlain by high-grade metamorphic bedrock consisting of a sequence of Cambrian and Ordovician age gneiss, schistose-gneiss, and marble. The bedrock is characterized by numerous faults and fractures, many of which are transmissive and contain groundwater. Unconsolidated sediments overlie the bedrock and consist of Pleistocene aged sand, gravel and silty clays, deposited by glacial-fluvial activity.

Soils

The soils beneath the project site are classified as Urban Land Complex. Urban Land refers to soils that have been altered by human activities thus making them unidentifiable. Typically, these soils have been mixed with other materials, such as brick and concrete, and characteristics can only be determined by on-site investigation. Boring logs are presented in the Phase II ESI Report (see Appendix F).

Hydrology

Groundwater generally occurs within the unconsolidated sediments at average depths of 10 to 20 feet below ground surface. Groundwater also occurs in bedrock within secondary permeability zones such as fractures, faults and foliation planes. Regional groundwater flow direction is generally controlled by regional topography with groundwater flow from higher to lower elevations. According to the USGS Quadrangle map, groundwater is inferred to flow in an easterly direction towards the East River, which is located approximately ¼-mile to the east of the project site. Groundwater in the vicinity of the project site is not known to be used for human consumption, as potable water in Manhattan is derived from upstate reservoirs. Estimated groundwater levels and/or flow direction(s) may vary due to seasonal fluctuations in precipitation, local usage demands, geology, underground structures, or dewatering operations.

Background Environmental Study: Phase I Environmental Site Assessment

Recognized Environmental Conditions (RECs) were identified during the non-intrusive Phase I Environmental Site Assessment (ESA) prepared for the New York City Economic Development Corporation by Metcalf & Eddy, Inc. in November 2006. The Phase I ESA identified RECs pertaining to the potential presence of petroleum underground storage tanks identified at the project site through visual observations and historical records; two open New York State

Department of Environmental Conservation (NYSDEC) spill cases and off-site (adjacent) areas of concern including an adjacent service/gasoline station, several service/gasoline stations hydraulically upgradient and cross gradient to the project site, and an adjacent dry cleaning establishment (2315 Third Avenue, Block 1790, Lot 46). While no assessment was conducted of asbestos or lead based paint as part of the Phase 1 ESA, these are expected to be present in buildings on the project site.

Phase II Environmental Site Investigation

A Phase II Environmental Site Investigation (ESI) was prepared by STV, Inc., for the East 125th Street Development project site in July 2007 to investigate areas of environmental concern identified in the Phase I ESA. A Phase II ESI Work Plan identified the methods for investigation in the Phase II ESI and characterization of site soils and groundwater, potential USTs, and subsurface soil vapor, and also described quality assurance/quality control (QA/QC) protocols to be followed during the investigation activities. The Work Plan was implemented in accordance with applicable NYSDEC and New York City Department of Environmental Protection (NYCDEP) guidance, NYCEDC requirements, and safety protocols as specified in a site-specific Construction Health and Safety Plan (CHASP). Note that the 2007 ESI served as an initial due diligence document and additional investigation may be required, depending on development details. A Memorandum of Understanding (MOU) between the NYC Economic Development Corporation and the NYC Department of Environment Protection was executed ~~will be signed before issuance of the Final EIS~~, committing the designated developer to perform additional investigation when and if necessary.

Three general areas of environmental concern were identified as a result of the Phase II ESI, dated July 6, 2007, as follows:

- Environmental impacts to the project site due to the known petroleum spill (NYSDEC Spill No. 9711337) associated with an active gasoline station at 255 East 125th Street (Block 1790, Lot 24);

- The presence of two former gasoline USTs at the northeast corner lot of Third Avenue and East 126th Street (southwest corner of Block 1791), which were detected during the ESI geophysical survey; and,

- The presence of soil vapor attributed in part to the dry cleaners at 2315 Third Avenue (Block 1790, Lot 46), the gasoline station at 255 East 125th Street, and any other similar off-site nearby potential sources.

Phase II ESI geophysical survey findings and laboratory analytical findings for soil, sub-surface soil vapor and groundwater are discussed below.

Geophysical Survey Findings

Findings from the geophysical survey performed on May 2, 2007 through May 8, 2007 identified the presence of two (2) anomalies which appeared to be consistent in size to 1,000 gallon underground storage tanks (USTs), located at the northeast corner lot at Third Avenue and East 126th Street. Additionally, multiple anomalies were identified throughout the project site and are likely the result of metal pipes/plates and former concrete/brick foundation walls. The geophysical survey report and figures are presented in the Phase II ESI Report (Appendix F).

Soil Results

Soil sample analytical results indicated concentrations of semi-volatile organic compounds (SVOCs) and metals in exceedance of both the New York State Department of Environmental Conservation (NYSDEC) Recommended Soil Cleanup Objectives (RSCOs) and NYSDEC Brownfields Cleanup Program (BCP) Track 1 Soil Cleanup Objectives (SCOs) and/or NYSDEC eastern background concentrations (metals only). SVOCs exceeding NYSDEC RSCOs and NYSDEC BCP Track 1 SCOs consisted of the following compounds: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene) and indeno(1,2,3-cd)pyrene. Metals exceeding NYSDEC RSCOs, NYSDEC BCP Track 1 SCOs and eastern background levels consisted of the following compounds: barium, calcium, chromium, copper, lead, magnesium, mercury, nickel and zinc. The elevated concentrations of these compounds are attributed to the historic fill material. Although one volatile organic compound (VOC), acetone, was detected in exceedance of the RSCO and BCP Track 1 values, this is attributed as a common laboratory contaminant. The laboratory reports and comparison of the detected values with regulatory levels are presented in the Phase II ESI Report (Appendix F).

Sub-Surface Soil Vapor Results

Sub-surface soil vapor sample analytical results indicated elevated concentrations of several VOCs including: tetrachloroethene (PCE) and trichloroethene (TCE) above the New York State Department of Health (NYSDOH) Air Guidance Values (AGVs) in sub-surface soil vapor. The source of these chlorinated VOCs is likely attributed to dry cleaner operations. In addition, petroleum related compounds including benzene, ethylbenzene, toluene, and xylene were detected at concentrations above expected background values published by NYSDOH. The source of these petroleum-related VOCs is likely attributed to nearby gasoline stations. The laboratory reports and comparison of the detected values with regulatory levels are presented in the Phase II ESI Report (Appendix F).

Groundwater Results

Groundwater sample analytical results indicated concentrations of several VOCs, SVOCS and metals on the project site in exceedance of NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Class GA Standards or Guidance Values, likely caused by current or former auto related uses, dry cleaners, and historic fill. The following compounds were in exceedance of TOGS: cis-1,2-dichloroethene, tetrachloroethene, benzene, ethylbenzene,

m/p-xylenes, isopropylbenzene, benz(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, aluminum (total), antimony (total), iron (total), lead (total) magnesium (total), manganese (total), mercury (total) and sodium (total), aluminum (dissolved), antimony (dissolved), iron (dissolved), lead (dissolved), magnesium (dissolved), manganese (dissolved), selenium (dissolved) and sodium (dissolved). No detectable concentrations of PCBs or pesticides were identified in the groundwater samples. The laboratory reports and comparison of the detected values with regulatory levels are presented in the Phase II ESI Report (Appendix F).

3.10.2 FUTURE WITHOUT THE PROPOSED ACTION

In the future without the proposed action, it is assumed that there would be minimal changes in the use of the project site. In the absence of the proposed action, no cleanup of contaminants on the project site would be expected. There would be a low potential for disturbance of hazardous materials. However, unlike conditions in the Future With the Proposed Action where remediation would be performed under health and safety plans, there would be little or no remediation of hazardous materials. Development in the surrounding area, consisting of Reasonable Worst Case Development Scenario sites as part of the New York City Department of City Planning's 125th Street Corridor Rezoning and Related Actions, a 300-unit affordable housing development located between Park Avenue and the Harlem River Drive between East 131st Street and East 132nd Street, ~~and~~ HPD planned development south and east of the project site, and other developments expected to occur by ~~2012~~2016, would be expected to occur in accordance with applicable regulations and guidelines related to hazardous materials.

3.10.3 FUTURE WITH THE PROPOSED ACTION

Under conditions with the proposed East 125th Street Development, the developer would be obliged to prepare and submit plans for site remediation, for NYCDEP approval. Along with these plans, a Site Management Plan (SMP) and a CHASP would be required, in accordance with standard industry practice. In addition, it is expected that the selected developer would apply for inclusion in the NYSDEC Brownfields Cleanup Program (BCP), and would also be required to prepare the documentation required by NYSDEC to support that application. The New York State Department of Environmental Conservation would provide oversight for spill remediation. Requirements for vapor mitigation would follow NYSDOH Final "Guidance Evaluating Soil Vapor Intrusion in the State of New York," dated October 2006.

Potential redevelopment of the off-site parcel located at Third Avenue and East 127th Street that is to be rezoned only would be expected to occur in accordance with applicable regulations and guidelines related to hazardous materials. No development is currently proposed for that separate parcel. The proposed rezoning would be expected to increase the amount of potential floor area that could be developed on that site, which now contains the two-story United Moravian Church.

It is expected that the project development efforts required for the East 125th Street Development project site would include removal of existing buildings and foundations, and excavation for site development, to depths that would accommodate ~~the proposed underground MTA bus garage on~~both Parcel A and ~~the vehicle garage on~~ Parcel B. Basement foundations for Parcel A are estimated to be about 25 feet below grade and the basement for Parcel B is estimated to be 15 or 30 feet deep, depending on the number of parking levels. For future site development (projected for the year 2012), the following actions would be undertaken:

- Additional soil and groundwater investigations, followed by remediation of the gasoline station property area located at 255 East 125th Street (Block 1790, Lot 24);

- Removal of the former gasoline USTs at the northeast corner lot of Third Avenue and 126th Street (southwest corner of Block 1791) in accordance with NYSDEC requirements;

- Inspection of existing buildings by a licensed asbestos inspector to ensure that Asbestos ~~Contaminated~~ Containing Materials (ACMs) are identified and removed prior to demolition in accordance with applicable federal, State, and local requirements; and,

- In a similar vein, prior to demolition, the existing buildings would be inspected for the presence of lead-based paint (LBP), to be removed and disposed of as required by the Occupational Safety and Health Administration (OSHA).

Additionally, in accordance with industry practice, the following is recommended:

- Incorporation of engineering controls such as soil vapor barriers or other vapor mitigation procedures in new buildings, in accordance with the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006, to address residual elevated concentrations of volatile organic compounds attributed to the existing dry cleaning and automotive establishments;

- If shallow soils at the site are excavated during renovations or construction activities, it is recommended that the soils be characterized to identify material handling and/or waste disposal requirements and, for material reuse, handling requirements; and that they be managed in accordance with federal, state and local regulations;

- As at-grade landscaped areas may be incorporated into the development of the project site, at least two-foot thick certified clean fill cap should be placed over on-site soils in these areas;

- If dewatering is required for construction activities, then groundwater at the locations of dewatering should be sampled and the need for pretreatment assessed prior to discharge to the NYC sewer; and,

- Adherence to a Site Management Plan (SMP) and a CHASP.