

**A. INTRODUCTION**

This chapter addresses the potential for the presence of hazardous materials resulting from previous and existing uses both on-site and in the surrounding area, and potential risks related to the proposed project with respect to any such hazardous materials. The project site is currently a commercial center known as the Hylan Plaza Shopping Center. The proposed development would entail the demolition of existing structures and excavation for the foundation construction of the new retail structures, and would reconfigure and landscape the parking areas.

Hazardous materials are generally defined as any substance that poses a threat to human health or the environment. The term is often used interchangeably with “contaminated material,” but should not be confused with the term “hazardous waste,” which is a regulatory term.<sup>1</sup> The assessment methodology was consistent with Chapter 12, “Hazardous Materials” of the 2014 *City Environmental Quality Review (CEQR) Technical Manual*.

This assessment is based on: an April 2005 *Phase II (Subsurface) Investigation* prepared by Enviroscience Consultants based on a 1996 *Phase I ESA* completed by Warren & Panzer Engineers; an August 2013 *Dry Cleaning Inspection* conducted by Leggett, Brashears & Graham; a March 2014 *Phase II (Subsurface) Investigation* prepared by Soil Mechanics Corp; a March 2015 *Phase I ESA* prepared by ALC Group; and an August 2016 *Phase II Investigation Report* prepared by EAI, Inc. The August 2013 dry cleaning inspection included a visual inspection of the active on-site facility operations and verification of compliance. The 2015 Phase I ESA included the findings of a reconnaissance of the proposed project site, an evaluation of readily available historical information, and selected environmental databases and electronic records in accordance with American Society for Testing and Materials (ASTM) E1527-13. The Phase II investigations collectively comprised a geophysical investigation to search for a potential buried tank, and the collection and laboratory analysis of soil, sediment, soil vapor, and groundwater samples.

**PRINCIPAL CONCLUSIONS**

The hazardous materials assessment identified various potential sources of contamination on, or in close proximity to, the proposed project. Potential sources identified included: a former on-site underground storage tank (UST), past and current commercial/automotive repair uses, the past storage of hazardous waste on-site, and an on-site dry cleaning facility. Subsequent subsurface testing identified concentrations of organic compounds and metals in soil consistent

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<sup>1</sup> “Hazardous waste” is defined in both the U.S. Environmental Protection Agency (EPA) regulations (40 CFR Part 261) and New York State regulations (6 NYCRR Part 371) and refers to a subset of solid wastes that are either specific wastes listed in the regulations (listed wastes) or solid wastes possessing the characteristic of ignitability, reactivity, corrosivity, or toxicity (characteristic wastes).

with the presence of urban fill and/or natural background levels; however, no evidence of a significant release was detected. Groundwater testing analytical results did not detect significant contamination. Elevated concentrations of chlorinated-solvents were detected in soil vapor, likely from a combination of past on- and off-site dry cleaning and other commercial operations.

To reduce the potential for adverse impacts associated with new construction resulting from the proposed project, an E-Designation for hazardous materials (E-414) has been assigned to the project site that will be administered by the New York City Mayor's Office of Environmental Remediation (OER). The E-Designation will require that construction and remediation is conducted in accordance with an OER-approved Remedial Action Work Plan (RAWP) and associated Construction Health and Safety Plan (CHASP), and a post-construction Remedial Closure Report (RCR) documenting compliance with the RAWP/CHASP be submitted for OER for review and approval. The remedial actions would include requirements for engineering controls, as necessary, to prevent soil vapor migration into future on-site buildings.

Based on the age of the buildings there is a potential for hazardous materials in existing buildings [such as asbestos-containing materials (ACM), lead-based paint (LBP), and polychlorinated biphenyl (PCB)-containing equipment and lighting fixtures]. Regulatory requirements for management and disposal of such materials prior to or during demolition would continue to be followed.

With the implementation of the measures, the proposed project would not result in any significant adverse impacts with respect to hazardous materials.

## **B. EXISTING CONDITIONS**

### **SUBSURFACE CONDITIONS**

The proposed project site is approximately 18 feet above sea level. The Phase II borings encountered sand, silt, clay and rock fragments, underlain by sand and silt. No field evidence of potential contamination were detected during the investigations.

Groundwater was first encountered at between approximately 10 and 15 feet below grade and is assumed to flow in a southeasterly direction towards the New York Harbor/Lower Bay, approximately 0.75-mile east. However, actual groundwater depth and flow direction may be influenced by other factors. Groundwater in Staten Island is not used as a source of potable water.

### **PHASE I ESA**

The 2015 ESA identified evidence of potential "Recognized Environmental Conditions" (RECs), Historic Recognized Environmental Conditions (HRECs), and non-REC conditions, including the presence, or likely presence, of petroleum contamination to soil and groundwater from a closed-in-place UST, the presence of hazardous waste observed in containers inside the storage room of the Kmart on-site, and the potential release of chlorinated solvents from the dry cleaning facility operating at the Site. Historical Sanborn maps identified nearby commercial/automotive uses, including a drycleaner (southwest) and an auto repair garage (north).

## PHASE II INVESTIGATIONS

Phase II activities were conducted in 2005 by Enviroscience Consultants, in 2014 by Soil Mechanics and in August 2016 by EAI, Inc. During the 2005 investigation, one sediment sample from a storm drain and four groundwater samples were collected for laboratory analysis of volatile organic compounds (VOCs), and a geophysical survey was conducted to investigate the potential for buried tanks at the site. The groundwater analytical results indicated that no compounds were above the New York State Department of Environmental Conservation (NYSDEC) Class GA Groundwater Quality Standards (drinking water standards). Results of analysis of the sediment sample from a storm drain indicated that no VOCs were detected above the NYSDEC Recommended Soil Cleanup Objective standards (the relevant standards at the time of the investigation). No anomalies consistent with the presence of a buried tank were identified by the geophysical survey.

During the 2014 investigation, 14 soil samples were collected from 7 geotechnical borings and analyzed for VOCs, semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), herbicides, and Target Analyte Metals (TAL) list. The results were compared to 6 NYCRR Part 375 Soil Cleanup Objectives for Unrestricted Use (UUSCOs), Residential Use (RSCOs) and Commercial Use (CSCOs). The USCOs assume long-term exposure to soil by both human and ecological receptors, which do not currently occur and would not occur with the proposed project. The RSCOs were developed for multifamily residences with some potential for contact with the current site soils; again, an overly conservative scenario for both the current and proposed use of the Site. The CSCOs were developed for sites with commercial use only. No VOCs, SVOCs, herbicides or pesticides were detected above the RSCOs. No PCBs were detected in any of the samples. Certain metals did exceed the RSCOs standards but the detections were below the CSCOs except for one sample where nickel was detected above the CSCOs. Nonetheless, the detected metals levels were consistent with results typically found when testing fill materials and were not indicative of a release.

The scope of work for the 2016 investigation was based on the NYCDEP-approved Phase II Site Investigation Work Plan and included the collection of one sediment, 20 soil, and 9 groundwater samples for laboratory analysis of VOCs, SVOCs, pesticides, PCBs and TAL metals. Additionally, 10 soil vapor and 1 ambient air sample were also collected and analyzed for VOCs. The soil sample results were compared to the UUSCOs, CSCOs, and Protection of Groundwater (PGW) standards. The groundwater sample results were compared to the Class GA Standards. The soil vapor samples were compared to New York State Department of Health (NYSDOH) October 2006 *Vapor Intrusion Air Guideline Values (AGVs)* and Health Effects Institute November 2005 *Relationships of Indoor, Outdoor and Personal Air (RIOPA)* data. No VOCs, SVOCs, pesticides, PCBs or metals were detected above the CSCOs in the soil samples with the exception of one metal, arsenic, which was detected above its CSCO in the sediment sample from a storm drain. No VOCs, SVOCs, or PCBs were detected above the Class GA standards in the groundwater samples. Low levels of certain pesticides were identified in the groundwater samples and certain metals exceeded their respective Class GA standards; however, groundwater is not used as a source of potable water in Staten Island. Furthermore, the metals are reflective of natural background conditions. Elevated concentrations of chlorinated solvents tetrachloroethylene (PCE) and trichloroethylene (TCE) were detected in the soil vapor samples collected adjacent to the dry cleaning facility.

### **C. THE FUTURE WITHOUT THE PROPOSED PROJECT (NO ACTION CONDITION)**

In the No Action condition, the development site would remain a commercial center; no specific hazardous materials conditions requiring action would be anticipated.

### **D. PROBABLE IMPACTS OF THE PROPOSED PROJECT (WITH ACTION CONDITION)**

The proposed project would entail demolition of existing building structures and excavation for the new construction. Although this could increase pathways for human exposure, impacts would be avoided by performing the following:

- The proposed development has been assigned an E-Designation (E-414) for hazardous materials and is therefore subjected to OER oversight and approval of remedial activities conducted as part of construction to satisfy the E-Designation requirements. Specifically, a Remedial Action Work Plan (RAWP) and associated Construction Health and Safety Plan (CHASP) would be prepared and implemented during the subsurface disturbance associated with the proposed project. The RAWP and CHASP, which would be prepared based on the results of the Phase I ESA and Phase II Investigation, would address requirements for items such as: soil management, stockpiling and disposal; dust control; and contingency measures should unforeseen petroleum tanks or soil contamination be encountered. The RAWP would also include any necessary measures required to be incorporated into the new building to protect human health and the environment. OER approval of the RAWP would be required in order for the DOB to issue excavation/foundation permits.
- The text of the E-Designation for Block 3969, Lots 1, 6, 31, and 35 would be as follows:

*A proposed remedial action plan must be submitted to DEP or OER for review and approval. The Applicant must complete such remediation as determined necessary by OER. The Applicant should then provide proper documentation that the work has been satisfactorily completed. An OER-approved construction health and safety plan would be implemented during excavation and construction and activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and approval prior to implementation.*

With these measures, the proposed development would not result in significant adverse impacts related to hazardous materials. \*