A. INTRODUCTION

This chapter assesses the potential for the presence of hazardous materials in soil and/or groundwater at the Development Site (~~western portion of current~~ Block 3600, Lots 4, 10, 15, 20, 30, 40, and 50). 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 organic compounds (VOCs), semi-volatile organic compounds (SVOCs), methane, polychlorinated biphenyls (PCBs), pesticides, dioxins, and hazardous wastes (i.e., substances that are chemically reactive, ignitable, corrosive, or toxic).

As described in the ~~2014~~2020 *City Environmental Quality Review* (CEQR) *Technical Manual*, the goal of a hazardous materials assessment is to determine whether a proposed action would increase the exposure of people or the environment to hazardous materials, and if so, whether the increased exposure would lead to significant public health or environmental effects. As described in Chapter 1, "Project Description," the Proposed Actions consist of discretionary actions that would facilitate development of six new buildings in the western and southern portions of the Project Area (the "Development Site"). The new development would result in an incremental (net) increase compared to No-Action conditions of approximately 735 affordable dwelling units (DUs), including 621 income-restricted housing units and 114 affordable independent residences for seniors ("AIRS"), 33,995 gsf of community facility uses, approximately 1.94 acres of publicly accessible open space, and a net decrease of 104 accessory parking spaces (the "Proposed Project"). The Proposed Project would entail excavation for the proposed new buildings, foundations, and utilities. ~~Although the Project Area currently exists as Tax Block 3600, Lot 4, it is undergoing a proposed subdivision and will be apportioned into eight new tax lots to facilitate future residential development, as discussed in Section D below.~~

B. PRINCIPAL CONCLUSIONS

The Proposed Actions would not result in significant adverse impacts related to hazardous materials. A Phase I Environmental Site Assessment (ESA) was prepared in November 2020 ("2020 ESA") in order to evaluate potential contamination in the portion of the Project Area that is proposed for development (the "Development Site"). The 2020 ESA was limited to the western and southwestern segments of the Project Area where proposed new Buildings B1 through B6 are proposed, which comprise ~~tentative future Tax~~ Lots 4, 10, 15, 20, 30, 40, and 50 (the "Development Site"). The 2020 ESA did not identify any Recognized Environmental Conditions (RECs), Controlled Recognized Environmental Conditions (CRECs), Historical Recognized Environmental Conditions (HRECs), or De Minimis Conditions at the specified area evaluated as part of the 2020 ESA, and no additional investigation or action were recommended.

However, the New York City Department of Environmental Protection (DEP) determined that based on the historical on-site and/or surrounding area land uses, a Phase II Environmental Site Assessment (Phase II) is necessary to adequately identify/characterize the surface and subsurface soils, groundwater and soil vapor of the Development Site, and to inform and disclose the measures necessary to avoid impacts from hazardous materials. Accordingly, a Phase II Environmental Site Assessment Work Plan and a Health and

Safety Plan (HASP) were prepared and submitted to DEP for review and approval. DEP approved the Phase II Work Plan and HASP, and sampling activities on the Development Site have been conducted in accordance with the approved Work Plan. The Phase II Report along with a Remedial Action Plan (RAP) have been submitted to DEP for review and approval. The RAP incorporates a Construction Health and Safety Plan (CHASP). These plans set out procedures to be followed to avoid the potential for adverse impacts related to the hazardous materials identified by the Phase II investigation as well as other hazardous materials that could be unexpectedly encountered. The Applicant will commit to implementing the remedial activities outlined in the RAP and CHASP, which ~~are anticipated to be~~were approved by DEP ~~in advance of the issuance of the FEIS~~, prior to construction. As such, no significant adverse impacts related to hazardous materials would be expected to occur as a result of the Proposed Actions and resultant Proposed Project~~Development~~.

C. EXISTING CONDITIONS

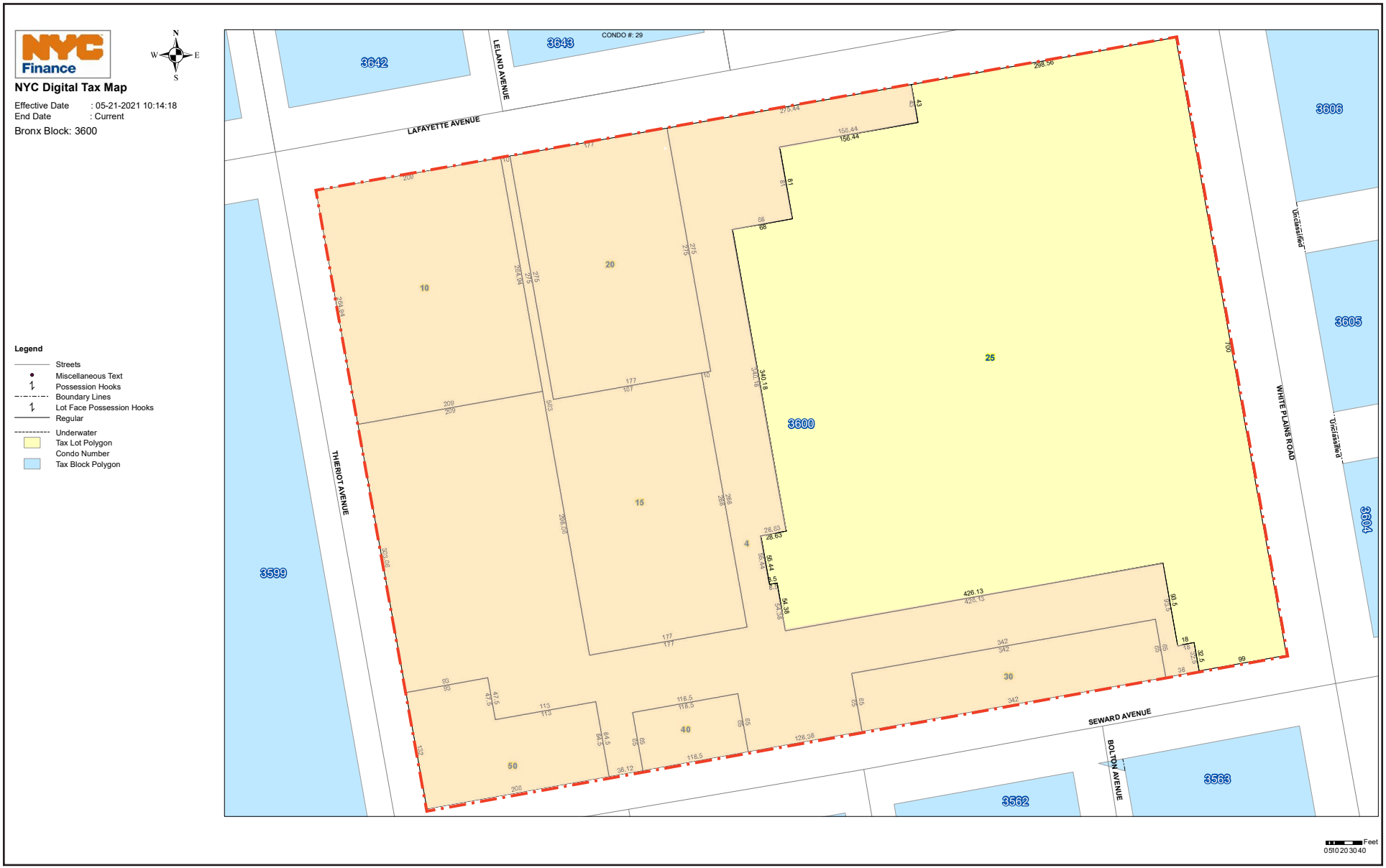
Phase I Environmental Site Assessment – November 2020

Known or potential hazardous material conditions resulting from previous and existing uses in and near the ~~proposed~~ Development Site were assessed through a Phase I Environmental Site Assessment (ESA) prepared by Impact Environmental Closures, Inc. (~~ECI~~IEC), dated November 3, 2020 ("2020 ESA"). The 2020 ESA was conducted in conformance with the scope and limitations of American Society for Testing and Materials (ASTM) Practice E 1527-13 *Standard Practice for Environmental Assessments: Phase I Environmental Site Assessment Process*, and included visual inspections; materials provided by the Applicant; a review of federal, state, and local regulatory databases; and historic records (Sanborn fire insurance maps, City Directories, aerial photographs). The 2020 ESA was limited to the Development Site (~~tentative future Tax~~ Lots 4, 10, 15, 20, 30, 40, and 50)~~ in anticipation of a planned apportionment of existing Tax Lot 4~~. The findings of the 2020 ESA are discussed below.

Development Site

The Development Site is located on the south side of Lafayette Avenue and the north side of Seward Avenue, between Thieriot Avenue and White Plains Road, and is located within an R6 zoning district. ~~The 2020 ESA indicated that, according to the Applicant, the overall Project Area is planned for a future subdivision, as depicted in the Tentative Tax Lot Sketch shown in Figure 9-1, and at the Applicant's request,~~ The 2020 ESA was limited to the western and southwestern segments of the overall Project Area (~~tentative future Tax~~ Lots 4, 10, 15, 20, 30, 40, and 50, the "Development Site," as shown in Figure 9-1). As such, the northeastern and eastern portion of the Project Area (~~tentative future Tax~~ Lot 25), which contains the existing Stevenson Commons development, was intentionally excluded from the 2020 ESA (see Figure 9-1).

The Development Site is currently occupied by a paved parking lot, landscaped grass areas, and tennis courts, and also contains temporary office trailers and storage containers. There are no existing structures on the site. According to the 2020 ESA, the Development Site was undeveloped from 1898 until 1998, when it was partially developed with the existing tennis courts, recreational fields, and paved parking space associated with the existing Stevenson Commons development. According to the Soil Survey of Bronx, New York (U.S. Department of Agriculture, U.S. Soil Conservation Service), the general soil component of the Development Site is Urban Land-LaGuardia Complex, 0 to 3 percent slopes, low impervious surface. According to the 2020 ESA, this soil type consists of urbanized areas where the majority of the surface is covered with buildings, roads, driveways, parking lots, and other manmade



Project Area

Development Site (Tax Lots 4, 10, 15, 20, 30, 40, 50)

Stevenson Commons

This figure has been updated for the FEIS

Figure 9-1

Tax Map - Lots Comprising the Project Area and Development Site

structures, and further classification of the soils in these areas is impractical. The Development Site has an elevation of approximately 13.5 feet above mean sea level, and exhibits relatively flat topography. According to the 2020 ESA, previous investigations indicate groundwater at average depth approaching 20 feet. Based upon a review of the applicable topographic map, the topographic gradient of the Development Site appears to be towards the southeast. Thus, it is likely that the presumed groundwater flow direction is towards the southeast, based upon the topographic gradient and the proximal water body (Pugsley Creek located approximately 0.40-mile to the south-southeast).

A site inspection conducted as part of the 2020 ESA found the northern portion of the Development Site occupied by mobile office trailers associated with the Stevenson Commons development on the eastern portion of the Project Area, and several shipping containers (the interior of these spaces was not made accessible for observation during the inspection), as well as staged pallets of building materials. Staged stockpiles of stone and soil were observed in the paved parking area at the northwest segment, and minor amounts of construction debris including concrete, brick, fencing, and building materials, were observed in this area. No evidence of underground storage tanks (USTs) or aboveground storage tanks (ASTs), fill ports or vent pipes was observed, and no evidence of staining or discoloration on any surface was observed. No distressed, discolored or stained vegetation was observed, and no visible evidence of on-site surface impoundments, pits, lagoons, or sumps were observed. Retail-sized gasoline containers commonly used for landscaping purposes were observed in direct contact with the ground surface in proximity to the office trailers; no other use, storage or generation of hazardous substances was evident in, on or at the property.

Surrounding Area

As land uses occurring on the surrounding properties may have an effect on the environmental quality of the Development Site, the 2020 ESA included a general survey of the adjacent and surrounding properties in an attempt to identify visual evidence of apparent or potential sources of environmental concern. To the north of the site is Lafayette Avenue, followed by a school building and commercial properties. To the east are the Stevenson Commons residential buildings, followed by White Plains Road and two United States Post Office buildings. To the south is Seward Avenue, followed by residential apartment buildings; and to the west is Thieriot Avenue, followed by residential apartment buildings. The 2020 ESA did not identify any evidence of any storage, handling, or discharge of hazardous substances from limited visual observations from those properties' borders.

Records Review

The Development Site was not listed on any of the searched environmental regulatory databases conducted as part of the 2020 ESA. There was one (1) listing for a registered UST that was installed on 12/01/1975 and closed-in place on 09/10/2012 in accordance with petroleum bulk storage regulations.

The 2020 ESA also reviewed environmental records and regulatory sources regarding possible RECs within the ASTM minimum search distance from the Development Site. Based on distance from the property, area topography, estimated direction of groundwater flow and/or regulatory status, the 2020 ESA identified the following listings for properties adjoining or surrounding the Development Site as environmentally significant or worthy of special note:

- 1850 Lafayette Avenue (not within the boundary of the Development Site, and associated with existing buildings at Stevenson Commons): UST installed on 12/01/1975 and closed on 09/10/2012 in accordance with petroleum bulk storage regulations. Listed in following databases: US AIRS Facility, FINDS/ECHO.

- 755 White Plains Road (Located 615 ~~-~~feet to the east of Development Site): listed in the following databases: NY AIRS; NY DRYCLEANERS (a drycleaner, known as "S & S Cleaners", it is listed as having been shut down); NY UST; NY LTANKS; RCRA Non-Gen/NLR; ICIS; FINDS/ECHO; NY Manifest.

Additionally, according to EDR's Vapor Encroachment Condition (VEC) Assessment Tool, one (1) source for potential non-petroleum contamination/volatile organic compounds (VOCs) exists within 0.11 miles (615 feet) northeast of the Development Site. The off-site listing is identified as Lamar Cleaners (1977-1994) and S & S Cleaners (2012) under the address 755 White Plains, Bronx, NY. No violations or documented spill(s) were reported. Given the absence of documented contamination and that the above off-site listing is over 100 feet from the Development Site boundary, and likely presence of relatively impermeable soil layers, such as highly organic, wet soils due to the former Pugsley Creek, the 2020 ESA did not consider this off-site dry cleaner a vapor intrusion risk.

2020 ESA Conclusions

The 2020 ESA did not identify any Recognized Environmental Conditions (RECs), Controlled Recognized Environmental Conditions (CRECs), Historical Recognized Environmental Conditions (HRECs), or De Minimis Conditions at the specified area evaluated as part of the 2020 ESA. Based on IEC's review of reasonably ascertainable records and site reconnaissance, no current or historical on- or off-site properties and/or uses were identified to have the potential to pose a future material threat or under conditions indicative of a release that may have adversely impacted the environmental quality of the Development Site. Accordingly, the 2020 ESA did not recommend any additional investigation or action.

2021 Phase II Work Plan

Upon Review of the 2020 ESA, DEP determined that based on the historical on-site and/or surrounding area land uses, a Phase II Environmental Site Assessment (Phase II) is necessary to adequately identify/characterize the surface and subsurface soils, groundwater and soil vapor of the Development Site, and to inform and disclose the measures necessary to avoid impacts from hazardous materials. Accordingly, a Phase II Environmental Site Assessment Work Plan and a Health and Safety Plan (HASP) were prepared by ~~Impact Environmental~~IEC on behalf of the Applicant (dated January 27, 2021, revised March 4, 2021), and submitted to DEP for review and approval.

The March 2021 Work Plan proposes to advance 19 soil borings at the Development Site. A minimum of two (2) discrete (grab) soil samples will be collected from each of the test borings within the proposed footprints of Buildings B1, B2, B3, B4, B5, and B6 from surface grade to ~~2~~two feet below grade surface (bgs) and a sample from the two-foot interval below the maximum excavation depth of ~~8-10~~eight to ten feet bgs and/or the groundwater interface, whichever is encountered first. Seven soil borings will be installed within open spaces throughout the Development Site, including two within a proposed landscape and water feature area adjacent to Building B1, two open space borings within the proposed tennis court/landscaped area and three within two proposed storm water detention tank locations. Samples collected at these open space areas will be collected from 0-2 and 2-4 feet bgs. Six groundwater samples will be collected from existing permanent monitoring wells at each of the proposed Building B1, B2, B3, B4, B5 and B6 locations. Soil and groundwater samples will be analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds, pesticides, polychlorinated biphenyls, and Target Analyte List metals. Twelve soil vapor implants will be installed to a depth of 8-8.5 feet bgs within proposed Building B1, B2, B3, B4, B5, and B6 footprints. One ambient outdoor background air sample will be collected. Soil

vapor and outdoor air samples will be collected and analyzed for VOCs. The HASP addresses worker and community health and safety during remedial investigation activities.

In a letter dated April 5, 2021, DEP approved the March 2021 Work Plan, with the stipulation that all surface and subsurface soil samples (including potential intermediate depth samples) collected for laboratory analysis should be discrete grab samples.

Phase II Environmental Site Assessment Report – May 2021

Sampling activities were conducted on the Development Site in April 2021 in accordance with the approved Work Plan, and the findings were documented in a Phase II ESA Report prepared by ~~Impact Environmental Closures, Inc. (ECI),~~IEC, dated May 3, 2021. The following subsurface investigative activities were undertaken:

- A total of 19 soil borings were installed at the Development Site within proposed building footprints B1, B2, B3, B4, B5, and B6 and planned open space area. Of the 19 soil borings, a total of 38 soil samples were collected from two vertical depth intervals per borehole to characterize soil conditions above groundwater within planned excavation areas.
- A total of six (6) groundwater samples were collected from each proposed building location to evaluate groundwater conditions.
- A total of 12 soil vapor implants were installed at a depth interval of 7 to 7.5 feet below grade (fbg), below surface grade being approximately 1-2 feet above current groundwater interface. Two (2) soil vapor implants were installed for each proposed building footprint. In addition, two (2) ambient air samples were collected concurrently to background conditions.

Based on these investigative activities and subsequent data evaluation, the Phase II ESA Report presented the following findings:

- Stratigraphy: Historic fill was observed throughout the Development Site and predominately consists of brown fine to coarse sands mixed with anthropogenic material including brick, concrete, wood, glass, metal, plastic, and ceramic between 1-to-9 fbg. Following this layer, a gray to black peat material with a humic odor was evident within the 9-to-10 fbg interval. The historic fill layer was encountered within each boring extending to the terminal depth. Native soil was not encountered.
- Hydrogeology: Groundwater was observed at depths ranging from 8.60 to 12.71 feet bgs during the Phase II ESA. Based on gauging data and local topography, groundwater is inferred to flow southeast.
- Historic Fill: Historic fill contains concentrations of PAHs and metals above the regulatory standards. Detected concentrations of PAHs and metals, with the exception of mercury, were typical of historic fill found in New York City. The presence of hazardous lead waste and mercury concentrations up to three orders of magnitude higher than the NYSDEC restricted residential soil clean-up objectives, and elevated PAHs in historic fill within the southern portion of the Development Site is likely related to the observed presence of anthropogenic material.
- SVOC, PCBs, and Metals-Impacted Groundwater: Groundwater across the Development Site contained SVOCs, PCBs, and metals at concentrations above the Class GA TOGS guidance values during this investigation. Elevated PAHs and PCBs in groundwater are likely related to the presence of PAHs/PCBs in historic fill, while the presence of the metals observed in groundwater are likely related to a combination of historic fill quality, entrained sediments in groundwater samples, local geology,

and/or regional groundwater conditions. The presence of PAHs, PCBs, and metals in groundwater do not trigger the need for additional groundwater remediation.

- CVOC-Impacted Impacted Vapor: Ambient air samples contained typical background levels of VOCs indicative of outdoor urban conditions with no CVOC detections. Soil vapor samples collected detected concentrations predominantly below NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion "monitor or mitigate" thresholds. However, soil vapor collected within the B1 proposed building footprint contained concentrations of PCE, TCE, and Cis-1,2-Dichloroethane above the sub-slab NFA level indicating a future vapor intrusion condition may exist. No point source of this condition could be identified.

Sufficient analytical data were gathered during the Phase II ESA to establish soil cleanup levels and to develop a remedy for the site, which was presented in a Remedial Action Plan (RAP), as discussed below.

Remedial Action Plan – May 2021

~~Impact Environmental Closures, Inc. (IEC)~~IEC prepared a Remedial Action Plan (RAP), dated May 11, 2021, to address contamination detected during the Phase II Environmental Site Assessment (ESA) conducted at the Development Site. A Construction Health and Safety Plan (CHASP) was prepared and submitted concurrently with the RAP for review and approval by DEP.

The proposed remedial action will be the excavation of contaminated overburden as it relates to construction, vapor barrier installation and establishment of permanent engineering control – expected to be a Sub Slab Depressurization System (SSDS), composite/vapor barrier and clean soil cap, where appropriate. Remedial actions are specific to disturbed areas of the Development Site related to the construction of proposed buildings B1, B2, B3, B4, B5, and B6. Development will occur at the Development Site in a phased approach and once final development plans are provided by the Applicant, IEC will prepare an addendum to the RAP with the specifications for the installation and maintenance of the proposed engineering controls. Once completed, a Remedial Action Report (RAR) will be prepared describing the actual work performed.

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO-ACTION CONDITION)

As described in Chapter 1, "Project Description," in the future without the Proposed Actions, it is anticipated that that no new development would occur on the Development Site. Legal requirements (including local, state, and federal regulations), such as those relating to petroleum storage tank maintenance and handling and disposal of ACM, LBP, and PCBs, would continue to be applicable.

E. THE FUTURE WITH THE PROPOSED ACTIONS (WITH-ACTION CONDITION)

The Proposed Project would entail excavation for the six new buildings on the Development Site (~~tentative future Tax~~ Lots 4, 10, 15, 20, 30, 40, and 50). As noted above, a Phase II Environmental Site Assessment Work Plan and a HASP were prepared and submitted to DEP for review and approval. DEP approved the Phase II Work Plan and HASP, and sampling activities on the Development Site have been conducted in accordance with the approved Work Plan. As discussed above, the Phase II Report along with a Remedial Action Plan (RAP) have been submitted to DEP for review and approval. The RAP incorporates a CHASP. These plans set out procedures to be followed to avoid the potential for adverse impacts related to the

hazardous materials identified by the Phase II investigation as well as other hazardous materials that could be (unexpectedly) encountered. The RAP addresses requirements for items such as soil management (including stockpiling, handling, transportation, and disposal), air monitoring, and measures for removal of any unsuspected USTs encountered during soil removal activities. The RAP also includes engineering controls such as a composite cover system to prevent exposure to residual soil/fill; installation of a vapor barrier system to avoid the potential for soil vapor intrusion into the new buildings; installation of an environmental soil cap in the identified open space areas; and sub-slab depressurization system. The CHASP describes the procedures to be followed in order to reduce employee exposure to potential health and safety hazards that may be present during environmental investigation activities being performed at the site. The Applicant will commit to implementing the remedial activities outlined in the RAP and CHASP, which ~~are anticipated to be~~were approved by DEP ~~in advance of the issuance of the FEIS~~, prior to construction. With the measures outlined above included as part of the Proposed Actions, and adherence to existing regulations, there would be no increase in the exposure of people or the environment to hazardous materials associated with the Proposed ~~Development~~Project. As such, no significant adverse impacts related to hazardous materials would be expected to occur as a result of the Proposed Actions and resultant Proposed ~~Development~~Project.