Chapter 9: Hazardous Materials

A. INTRODUCTION

This chapter presents the findings of the hazardous materials assessment and identifies potential issues of concern with respect to workers, the community, and/or the environment during construction and after implementation of the proposed action. The potential for hazardous materials was evaluated based on a *Phase I Environmental Site Assessment (ESA)* prepared by AKRF, Inc. (AKRF) in December 2012 and other studies summarized in Section C (Existing Conditions).

The proposed action would entail the construction of a residential building with ground-floor commercial space and three basement levels containing parking, utility space, amenity space, and potentially an automobile dealership on applicant-controlled Block 1104, Lots 31, 40, 44 and 55 (the "proposed project site" or "development site 1"). The proposed action is also expected to result in redevelopment of one additional site that is not applicant-controlled (Block 1104, Lots 25 and 29—"development site 2") with a hotel. The new development on the proposed project site and development site 2 would entail subsurface disturbance. No changes as a result of the proposed action are anticipated for a third parcel located within the rezoning area (Block 1104, Lot 36), which is not controlled by the applicant. As described in Chapter 1, "Project Description," the size and ground disturbance of the structures assumed to be constructed under either RWCDS 1 or RWCDS 2 are substantially the same; therefore this analysis does not make a distinction between the two.

B. PRINCIPAL CONCLUSIONS

A hazardous materials analysis was conducted pursuant to 2012 *CEQR Technical Manual* guidelines. Known and potential sources of contamination were identified within the affected area, including: ~~an active status~~ a petroleum spill (Spill No. 0708204, closed by New York State Department of Environmental Conservation (NYSDEC) on December 6, 2013), urban fill materials, historical manufacturing, past and present automobile repair, and known aboveground storage tanks (ASTs) and suspected underground storage tanks (USTs) on development site 1; a suspected AST and a historical auto body shop on development site 2; and past and present commercial, industrial and manufacturing use, petroleum storage, and reported spills in the surrounding area.

Based on the above findings, to reduce the potential for human or environmental exposure to contamination during and following construction of the proposed project~~, remediation and monitoring of active status Spill No. 0708204 on the proposed project site would continue in accordance with New York State Department of Environmental Conservation (NYSDEC) requirements, including implementation of a NYSDEC-approved Remedial Action Work Plan (RAWP) dated February 2013. A~~a~~n (E) designation would be assigned to the proposed project site (development site 1) to ensure that remedial activities would be undertaken ~~prior to its~~ as part of its redevelopment. A New York City Mayor's Office of Environmental Remediation (OER) approved Remedial Action Plan (RAP) and associated Construction Health and Safety

Plan (CHASP) would be prepared for implementation during subsurface disturbance associated with project construction. The RAP would address requirements for items such as soil stockpiling, soil disposal and transportation; capping of soil disturbed by the project with impervious surfaces or clean soil; dust control; quality assurance; vapor control measures, such as the installation of a vapor barrier beneath new building foundations; and procedures for addressing known or unexpectedly encountered petroleum storage tanks, underground hydraulic lifts or contamination. The CHASP would identify potential hazards that may be encountered during construction and specify appropriate health and safety measures to be undertaken to ensure that subsurface disturbance is performed in a manner protective of workers, the community, and the environment (such as personal protective equipment, air monitoring, and emergency response procedures). Since the bottom of the foundation would extend below the water table, the use of a sub-slab ventilation system is not considered feasible, as it would be inundated with water. Below-grade garage levels would be equipped with a separate ventilation system. Following construction, proper implementation of the RAP/CHASP would be documented to the OER before occupancy permits could be obtained.

Similarly, an (E) designation would be assigned to development site 2 to ensure that investigation and, if warranted, remedial activities would be undertaken prior to its redevelopment. The (E) designation would require that prior to beginning construction or renovation involving subsurface disturbance (excavation), a Phase I ESA be conducted followed by a subsurface investigation (e.g., soil, groundwater, and soil gas sampling) in accordance with a scope submitted to the OER for review and approval. Based on the results of these studies, a RAP and associated CHASP are required to be prepared, submitted to the OER for review and approval prior to construction, and implemented during construction. A RAP addresses requirements for items such as: soil stockpiling, soil disposal, and transportation; dust control; quality assurance; and contingency measures should petroleum storage tanks or soil or groundwater contamination be encountered. A CHASP typically includes measures for worker and community protection, including personal protective equipment, dust control and air monitoring. Following construction, proper implementation of the RAP/CHASP would be documented to OER before occupancy permits can be obtained.

Suspect lead-based paint, asbestos-containing materials (ACM), and suspect polychlorinated biphenyl (PCB) containing electrical and hydraulic equipment and fluorescent lighting fixtures may be present at the proposed project site, and/or at development site 2. During and following demolition associated with the proposed action, regulatory requirements pertaining to ACM, lead-based paint, and PCBs would be followed.

With the above-described measures, the proposed project would not result in any significant adverse impacts related to hazardous materials.

C. EXISTING CONDITIONS

SUBSURFACE CONDITIONS

The proposed project site lies at an elevation of approximately 20 to 25 feet above mean sea level, with surface topography sloping down to the northwest. Bedrock is expected to be present approximately 0 to 30 feet below grade, sloping down to the northwest. Past subsurface investigations at the proposed project site indicate that the bedrock is overlain by sandy soil with varying degrees of silt and gravel and small amounts of brick, concrete, and wood (urban fill material). The past subsurface investigations indicate that groundwater is present at a depth of approximately 16 to 18 feet below street grade. Groundwater likely flows towards the Hudson

River, which is approximately 780 feet west of the Property. However, actual groundwater flow at the Property can be affected by many factors including local topography, bedrock geology, past pumping of groundwater, past filling activities, subsurface openings or obstructions such as basements, underground parking garages, underground utilities, and other factors beyond the scope of this study. Groundwater in Manhattan is not used as a source of potable water.

HAZARDOUS MATERIALS ASSESSMENT

The December 2012 Phase I ESA was conducted for the proposed project site, development site 2, and Lot 36. The Phase I ESA reviewed a variety of sources including: current and historical Sanborn Fire Insurance maps; state and federal environmental regulatory databases; computerized New York City Fire Department and Buildings Department records; and previous studies of the proposed project site. These previous studies included *Phase I ESAs* conducted by AKRF in September 2007 and March 2009, a *Subsurface (Phase II) Investigation* conducted by AKRF in October 2007, and documents pertaining to delineation and remediation activities for ~~active~~closed-status NYSDEC Spill No. 0708204 on on-site Lot 31. The Phase I ESA also included reconnaissance of the proposed project site and its surroundings. The Phase I ESAs and subsequent work related to NYSDEC Spill No. 0708204 identified the following:

- AKRF conducted a Phase II investigation of the proposed project site in October 2007. The Phase II identified soil and groundwater impacted with volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) beneath a former 1,000-gallon fuel oil AST in the basement of the Lexus dealership on Lot 31, and to the south and west of the tank location. Concentrations of VOCs, SVOCs, pesticides and polychlorinated biphenyls detected in other areas of the proposed project site appeared to be attributable to historic fill. Based on the findings of the Phase II, a spill was reported to NYSDEC and assigned Spill No. 0708204. AKRF conducted tank closure and related investigation and remedial activities from 2008 to 2010. The tank was closed and removed in May 2008. In-situ chemical oxidation injection to remediate contamination was performed in January 2009. Post-remedial sampling performed in 2009 and 2010 indicated a significant decline in soil and groundwater contaminant concentrations; however, some residual soil contamination remained beneath the location of the former AST. Approximately 30 cubic yards of soil were excavated in 2013 from beneath the basement floor to remove soil contamination in the source area near the former AST to the extent practical. Endpoint soil samples indicated some residual contamination. ~~Quarterly~~ Post-excavation groundwater monitoring indicated relatively stable groundwater concentrations and the spill was closed by NYSDEC on December 6, 2013.~~will continue into 2014 in accordance with the NYSDEC-approved RAWP. Further monitoring and potential remediation would be coordinated with NYSDEC.~~

- The proposed project site was historically occupied by manufacturing and auto-related facilities with gasoline and/or fuel oil storage. At the time of the 2012 reconnaissance, the proposed project site included a Lexus dealership and service center on Lots 31 and 40, a parking garage on Lot 44, and an automobile repair shop on Lot 55. Development site 2 historically included an auto body shop.

- Two approximately 500-gallon motor oil ASTs were noted on the first floor of the Lexus auto repair shop on Lot 31. One 500-gallon AST containing used motor oil was located on the first floor of the auto repair shop on Lot 40. Two abandoned 500-gallon ASTs formerly containing new and used motor oil, two in-service approximately 500-gallon lubrication oil ASTs, and a cinderblock structure containing a suspect abandoned fuel oil UST were all noted in the basement of Lot 44.

Manways and four vent pipes located in the ramp providing access from West 57th Street to the parking garage on Lot 44 were believed to be associated with abandoned gasoline USTs. Two fill caps noted on the wall of the garage near the West 56th Street entrance may have been associated with the known abandoned ASTs on Lot 44, or other suspect tanks. A fuel oil tank fill port and vent pipe were observed adjacent to the Lot 36 building in the West 57th Street sidewalk. Several gasoline USTs were noted for the proposed project site on historical Sanborn maps on Lots 40, 44 and potentially 55.

The regulatory database search indicated a NYC Fire Department record for a 4,000-gallon No. 2 fuel oil tank on Lot 31. The facility was listed as CX Auto of NY, Inc. at 835 Eleventh Avenue. A 500-gallon waste oil AST was registered with NYSDEC at the same address. This was likely one of the tanks observed at the Lexus service center during the reconnaissance.

Computerized NYC Buildings Department records indicated fuel oil use on Lots 31, 40, and 44 and one or more gasoline USTs on Lot 44. Based on the identified records, in addition to the observed active and abandoned ASTs, gasoline and/or fuel oil underground storage tanks may have been located on-site in the past, and may remain buried beneath the proposed project site.

- A 2,500-gallon fuel oil AST was registered with NYSDEC on Lot 29. The building on Lot 29 was not accessible for inspection as part of the 2012 Phase I ESA.
- Computerized NYC Buildings Department records indicated that an oil-water separator and two spray booths may have been installed on Lot 40 in 1992. No spray booths were located in the building in 2012. Lexus representatives were not certain whether an oil-water separator was installed in 1992.
- Petroleum products and solvents were stored throughout the proposed project site in drums and other containers. Some oil staining was visible on concrete floors in the storage areas.
- Based on the age of the on-site buildings, ACM, lead-based paint and/or PCB-containing electrical equipment, elevator equipment, and fluorescent lighting fixtures may be present. Hydraulic oil for aboveground vehicle lifts on Lots 31, 40 and 44 and suspected underground vehicle lifts on Lots 31, 40, 44 and 55 may also contain PCBs. Fluorescent lighting fixtures and other equipment may contain mercury.
- The surrounding neighborhood had a history of commercial, industrial, and manufacturing use, including automobile-related operations. Past or present petroleum storage tanks were identified at nearby properties. Reported and unknown releases from off-site locations may have affected subsurface conditions within the proposed rezoning area.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the proposed project, the proposed project site and Lots 25, 29 and 36 would remain in their current condition. Currently, there are no known significant health risks associated with the project site. Likewise, there would be no significant health risks at the project site in the future without the proposed project. Legal requirements (including NYSDEC regulations) pertaining to petroleum storage tank maintenance and suspect ACM, lead-based paint, and PCB-containing equipment would need to be followed.

E. THE FUTURE WITH THE PROPOSED PROJECT

The future with the proposed project would entail subsurface disturbance for the construction of new buildings on the applicant-controlled proposed project site and the non-applicant controlled development site 2, as well as changes in use on both of these sites. The proposed project site is underlain by fill materials with elevated concentrations of SVOCs and metals, and residual petroleum contamination in soil and groundwater associated with ~~active~~ closed-status Spill No. 0708204. Subsurface conditions beneath development site 2 may also have been affected by past and present, on and off-site uses. Additionally, existing structures on both sites may contain hazardous materials such as ACM, PCBs, and/or lead-based paint. The proposed action could result in the disturbance of these hazardous materials and potentially increase pathways for human or environmental exposure. Impacts would be avoided by implementing the following measures.

An (E) designation would be assigned to ensure that remedial activities would be undertaken prior to redevelopment. The (E) designation would ensure that appropriate procedures for any necessary subsurface disturbance are followed prior to, during, and following construction. The (E) designation requirements related to hazardous materials would apply to the following development sites:

Block 1104, Lots 31, 40, 44, and 55 (development Site 1)
Block 1104 Lots 25 and 29 (development Site 2)

The standard text for the (E) designation related to hazardous materials at both development sites is as follows:

"Task 1-Sampling Protocol

The applicant submits to OER, for review and approval, a Phase I ESA of the site along with a soil, groundwater and soil vapor testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of samples should be selected to adequately characterize the site, specific sources of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.

Task 2-Remediation Determination and Protocol

A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER.

If remediation is indicated from test results, a proposed remediation plan must be submitted to 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.

A construction-related health and safety plan should be submitted to OER and would be implemented during excavation and construction activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil, groundwater and/or soil vapor. This plan would be submitted to OER prior to implementation."

DEVELOPMENT SITE 1

Impacts would be avoided related to the proposed project on development site 1 as follows:

- ~~Remediation of Spill No. 0708204 would continue in accordance with NYSDEC requirements, including continued implementation of the NYSDEC-approved RAWP. Excavation of soil for spill remediation and construction purposes would be performed in accordance with applicable federal, state, and local regulations and guidelines.~~

  ~~Specifically, the (E) designation will address hazardous materials as follows:~~

  - ~~"Demolition of the on-site buildings would be in compliance with applicable regulatory requirements relating to asbestos-containing materials (ACM), lead-based paint (LBP), polychlorinated biphenyls (PCBs) or mercury.~~

  - ~~The (E) designation would ensure that appropriate procedures for any necessary subsurface disturbance are followed prior to, during, and following construction. Specifically, additional pre-construction subsurface testing may need to be conducted in accordance with an Investigation Work Plan and Health and Safety Plan approved by the Office of Environmental Remediation (OER). Based on the results of the existing and any additional testing, the applicant would then prepare a RAP/CHASP, which would be submitted to OER for approval. The (E) designation would require that an approved RAP/CHASP be obtained in order to receive building permits prior to conducting soil disturbance. The (E) designation would also require that a Notice of Satisfaction be obtained (subsequent to the applicant submitting a Closure Report to OER documenting proper performance of all required procedures) before seeking Certificates of Occupancy for any newly constructed structures.~~

  - ~~Dewatering, if required, would be in accordance with applicable New York City Department of Environmental Protection (DEP) requirements (following pre-treatment, if necessary)."~~

  ~~The (E) designation would ensure that appropriate procedures for any necessary subsurface disturbance are followed prior to, during, and following construction. An OER-approved RAP and CHASP would be prepared for implementation during subsurface disturbance associated with project construction. The (E) designation would require that an approved RAP/CHASP be obtained in order to receive building permits prior to conducting soil disturbance. The RAP would address requirements for items such as soil stockpiling, soil disposal and transportation; capping of soil disturbed by the project with impervious surfaces or clean soil; dust control; quality assurance; vapor control measures, such as the installation of a vapor barrier beneath new building foundations; and procedures for addressing known or unexpectedly encountered petroleum storage tanks, underground hydraulic lifts or contamination. The CHASP would identify potential hazards that may be encountered during construction and specify appropriate health and safety measures to be undertaken to ensure that subsurface disturbance is performed in a manner protective of workers, the community, and the environment (such as personal protective equipment, air monitoring, and emergency response procedures). Since the bottom of the foundation would~~

~~extend below the water table, the use of a sub-slab ventilation system is not considered feasible, as it would be inundated with water. Below-grade garage levels would be equipped with a separate ventilation system. Following construction, proper implementation of the RAP/CHASP would be documented to OER. The (E) designation would require that a Notice of Satisfaction be obtained (subsequent to the applicant submitting a Closure Report to OER documenting proper performance of all required procedures) before seeking Certificates of Occupancy for any newly constructed structures.~~

- The (E) designation cited above would require that the RAP/CHASP be approved by OER in order to receive building permits prior to conducting soil disturbance. The RAP would address requirements for items such as soil stockpiling, soil disposal and transportation; capping of soil disturbed by the project with impervious surfaces or clean soil; dust control; quality assurance; vapor control measures, such as the installation of a vapor barrier beneath new building foundations; and procedures for addressing known or unexpectedly encountered petroleum storage tanks, underground hydraulic lifts or contamination. The CHASP would identify potential hazards that may be encountered during construction and specify appropriate health and safety measures to be undertaken to ensure that subsurface disturbance is performed in a manner protective of workers, the community, and the environment (such as personal protective equipment, air monitoring, and emergency response procedures).
- The (E) designation would also require that a Notice of Satisfaction be obtained (subsequent to the applicant submitting a Closure Report to OER documenting proper performance of all required procedures) before seeking Certificates of Occupancy for any newly constructed structures.
- During subsurface disturbance, excavated soil would be handled and disposed of in accordance with applicable regulatory requirements. This would include characterization of all fill material sent for off-site disposal in accordance with the requirements of the receiving facility.
- Based on the anticipated depth of excavation, dewatering will be required during the proposed construction, which would be performed in accordance with New York City Department of Environmental Protection (NYCDEP) requirements.
- Known ASTs and any other petroleum storage tanks encountered during construction would be registered, if required, with NYSDEC and/or the New York City Fire Department, and closed and removed, along with any associated contaminated soil, in accordance with applicable regulatory requirements. Any evidence of a petroleum spill would be reported to NYSDEC and addressed in accordance with applicable requirements.
- Prior to demolition, an asbestos survey would be conducted by a NYC-certified asbestos investigator and all ACM would be removed and disposed of in accordance with local, state and federal requirements.
- All demolition activities with the potential to disturb lead-based paint would be performed in accordance with the applicable Occupational Safety and Health Administration regulation (OSHA 29 CFR 1926.62—Lead Exposure in Construction).
- Unless there is labeling or test data indicating that suspect PCB-containing lighting fixtures, electrical equipment and hydraulic equipment do not contain PCBs and that fluorescent lighting fixtures do not contain mercury, if disposal is required, it would be performed in accordance with applicable federal, state, and local requirements.

- Any oils or chemicals requiring disposal would be properly disposed of in accordance with applicable requirements.

DEVELOPMENT SITE 2

- Since proposed development site 2 is not controlled by the applicant, an (E) designation cited above would be assigned to this site to ensure that investigation and, if warranted, remedial activities would be undertaken prior to its redevelopment.

  ~~An (E) designation indicates the presence of requirements relating to hazardous materials and mandates that prior to beginning construction or renovation involving subsurface disturbance (excavation), a Phase I ESA be conducted followed by a subsurface investigation (e.g., soil, groundwater, and soil gas sampling) in accordance with a scope submitted to the OER for review and approval. Based on the results of these studies, a RAP and CHASP are usually required to be prepared, submitted to the OER for review and approval prior to construction, and implemented during construction. A RAP typically addresses requirements for items such as: soil stockpiling, soil disposal, and transportation; dust control; quality assurance; and contingency measures should petroleum storage tanks or soil or groundwater contamination be encountered. A CHASP typically includes measures for worker and community protection, including personal protective equipment, dust control and air monitoring. Following construction, proper implementation of the RAP/CHASP would be documented to the OER before occupancy permits can be obtained.~~

- Similarly to the future without the proposed action, legal requirements (including NYSDEC regulations) pertaining to petroleum storage tank maintenance and suspect ACM, lead-based paint and PCB-containing equipment would need to be followed.

With these measures, the proposed project would not result in any significant adverse impacts related to hazardous materials. ✷