Chapter 11: Hazardous Materials

A. INTRODUCTION

In CEQR, a "hazardous material" generally indicates any substance that poses a threat to human health or the environment. It is often used interchangeably with "contaminated material," but should not be confused with the term "hazardous waste," which is a regulatory term used to indicate certain categories of waste materials. This chapter addresses the potential for the presence of hazardous materials resulting from previous and existing uses on the project site and in the surrounding area, and assesses the potential risks related to the proposed project with respect to any such hazardous materials. The proposed project would entail construction of a mixed-use development which would include: housing; open space/esplanade; local retail uses including a supermarket, and parking. Development would occur on the Eastern (i.e., Building 1) and Waterfront (WF) Parcels (i.e., Buildings 2 through 5), and the sites of Buildings 6, 7, and 8 (collectively, the building sites) within the New York City Housing Authority (NYCHA) Astoria Houses Campus. No development would occur at Whitey Ford Field or ~~Hallet's Cove~~ Halletts Point Playground, or elsewhere on the project site. Although certain new buildings would include cellar space (primarily for parking), this space would be created through a combination of raising the grade around the building and limited excavation (likely less than six feet). Construction would also entail some deeper excavation, e.g., for construction of elevator pits and certain utilities. The proposed project would also include a new connecting street segment between existing mapped portions of Astoria Boulevard on the NYCHA Parcel.

PRINCIPAL CONCLUSIONS

The Phase I ESAs identified potential hazardous material concerns at all of the building sites and the connecting street segment location. All parcels likely have fill materials of unknown origin and all existing structures have the potential to contain asbestos-containing materials (ACM), lead-based paint (LBP) and polychlorinated biphenyl (PCB) -containing electrical components. ACM may also be present as insulation around underground steam lines, several of which are known to be present. The Limited Phase II Subsurface Investigations, performed at the proposed locations of Buildings 1A through 5B (the Eastern and WF Parcels), found generally elevated levels of semi-volatile organic compounds (SVOCs) and metals, but the levels were typical of urban fill materials, rather than indicative of a spill or release. Evidence of volatile organic compounds (VOCs) contamination in groundwater was found at two locations which could be associated with historical on- or off-site releases.

Excavation activities associated with the proposed project could temporarily increase pathways for human exposure. To reduce the potential for human or environmental exposure to known or unexpectedly encountered contamination during and following construction of the proposed project, supplemental testing and a Remedial Action Plan (RAP) and associated Construction Health and Safety Plan (CHASP) would be prepared for implementation at all development sites during proposed construction. For sites under the Applicant's control (Building Sites 1-5), an (E) designation would be assigned and sampling and remedial protocols and reports will be

submitted for review and approval by the New York City Mayor's Office of Environmental Remediation (MOER). For sites subject to disposition by the City (Building Sites 6-8), the New York City Department of Environmental Protection (DEP) and the New York City Department of Housing Preservation and Development (HPD) would review and approve sampling protocols and the RAP and CHASP.

Demolition of existing structures would be conducted in accordance with applicable regulatory requirements relating to asbestos, lead-based paint and PCB-containing components. Any dewatering required for the proposed construction would be conducted in accordance with DEP sewer use requirements (and New York State Department of Environmental Conservation [NYSDEC] requirements in the case of discharge to the East River). If petroleum storage tanks are encountered during project site redevelopment, these tanks would be properly closed and removed, along with any contaminated soil, in accordance with the applicable regulations, including NYSDEC spill reporting and registration requirements.

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

B. METHODOLOGY

This assessment was based on review of the *Phase I Environmental Site Assessments* (ESAs) prepared in October and November 2012 by Property Solutions Incorporated (PS) for the building sites and for the location of the new Astoria Boulevard connecting street segment.

In addition to Phase I ESAs, PS prepared *Limited Phase II Subsurface Investigations*, dated October 22, 2008, for the proposed locations of Buildings 1A through 5B (the Eastern and WF Parcels), and June 10, 2013, for the sites of Buildings 6 and 7 on the NYCHA Parcel.

C. EXISTING CONDITIONS

SUBSURFACE CONDITIONS

The project site elevations range from a few feet to 20 or more feet above mean sea level, with a general decrease towards the waterfront. The Phase II investigations indicated that the project site is mostly underlain by urban fill materials (up to 15 feet thick) including brick and gravel and mixed in with sand and silt. Bedrock was not encountered by the Phase II borings (though refusal at depths of 4 to 7 feet occurred in five of the nine borings on the site of Building 6) but geotechnical studies have identified a highly variable bedrock surface with depths varying from as little as 3 feet to more than 37 feet below grade. Groundwater was first encountered at approximately 6 to 24 feet below grade and most likely flows radially from the site toward the East River. However, actual local groundwater flow can be affected by many factors including past filling, underground utilities, other subsurface obstructions such as bulkheads, and other factors. Groundwater in this part of Queens is not used as a source of potable water.

HAZARDOUS MATERIALS ASSESSMENT

All of the Phase I ESAs reviewed a variety of sources including: historical Sanborn Fire Insurance and other historical maps; state and federal environmental regulatory databases; historical aerial photographs; and city directories. They also included reconnaissance of each parcel and its surroundings. All of these properties have likely been filled with materials of unknown origin and all existing structures have the potential to contain ACM, LBP, and PCB-containing electrical components. ACM may also be present as insulation around underground

steam lines, several of which are known to be present. An overview of other Phase I ESA findings and findings of the Limited Phase II Subsurface Investigations is as follows:

- Buildings 1A & 1B: Historical concerns included a 60,000 gallon aboveground storage tank associated with a wood dipping operation and an underground storage tank (UST) though this may have been removed in 2003. The Phase II sampling found evidence of VOC contamination in one groundwater sample, which could have been related to a past on-site or upgradient release. Other sampling found elevated levels of certain SVOCs and metals, but the detected concentrations were typical of urban fill materials, rather than indicative of a spill or release.
- Buildings 2, 3 & 4: Historical concerns included an on-site gas works, a machine shop, a repair shop, an oil-water separator and a wood dipping operation. USTs (with one closed-status spill) were known to have been located on this parcel—some have been removed whereas others may remain. The Phase II sampling found evidence of VOC contamination in one groundwater sample, which was likely related to a past on-site release. Other sampling found elevated levels of certain SVOCs and metals, but the detected concentrations were typical of urban fill materials, rather than indicative of a spill or release.
- Buildings 5A & 5B: Historical concerns included a lumber storage and possibly a drying area associated with a wood dipping operation, an Eagle Oil Works building, printers, and a sump or dry well. The Phase II soil sampling found elevated levels of SVOCs and metals, but the detected concentrations were typical of urban fill materials, rather than indicative of a spill or release.
- Buildings 6A, 6B, 7A, & 7B: Historical concerns included dry cleaning and dyeing operations (both on-site and nearby), and a textile flame proofing operation. Two fuel oil USTs are present immediately north of the parcels, adjacent to a boiler house for the 3-04 27th Avenue building with the NYCHA Astoria Houses Campus. There is an open-status NYSDEC spill listing associated with this location (related to contamination associated with earlier tanks which were removed and replaced). The Phase II sampling found field evidence of petroleum-like contamination in one location (a former cleaning and dyeing facility) and groundwater at that location contained levels of a VOC, cumene, at four times the drinking water standard (though groundwater is not and would not be used as a source of drinking water). Overall, the Phase II sampling found levels of SVOCs and metals typical of urban fill materials, as well as slightly elevated levels of common pesticides in two shallow soil samples (but at levels meeting state guidelines for residential properties).
- Building 8: Historical concerns included shipyards (including a machine shop), a fireproofing company, an iron works, an engine room, and a cast stone company.
- Astoria Boulevard Connecting Street Segment: There are no current structures and no past uses of concern were identified. Contamination from nearby releases cannot be ruled out and a steam line runs under this location.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the proposed project, the project site would remain in its 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. The petroleum spills already reported to NYSDEC with an open status would still need to be addressed until given a closed status. Any newly discovered spills would be reported to NYSDEC and addressed per applicable regulatory requirements.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

The proposed project would include cellar space (primarily for parking), which would be created through a combination of raising the grade around the building and limited excavation (likely less than six feet). Construction would also entail some deeper excavation, e.g., for construction of elevator pits and certain utilities and some soil disturbance for other construction including the waterfront esplanade and other new landscaped areas. Dewatering may be required during some of this work.

The Phase I ESAs identified potential hazardous material concerns at all of the building sites and the Astoria Boulevard connecting street segment location; including historical petroleum use/storage and other uses including a gas works, a shipyard, dry cleaning and dyeing, and wood dipping. All parcels likely have fill materials of unknown origin and all existing structures have the potential to contain ACM, LBP, and PCB-containing electrical components. ACM may also be present as insulation around underground steam lines, several of which are known to be present.

The Limited Phase II Subsurface Investigations, performed at the proposed locations of Buildings 1A through 5B (the Eastern and WF Parcels), generally found elevated levels of SVOCs and metals, but the levels were typical of urban fill materials, rather than indicative of a spill or release. Evidence of VOC contamination in groundwater was found at two locations which could be associated with historical on- or off-site releases.

The Phase I and Limited Phase II studies were reviewed by the DEP and their review was documented in a December 4, 2012 letter to the New York City Department of City Planning (DCP).

Although excavation activities associated with the proposed project could increase pathways for human exposure temporarily, impacts would be avoided by performing these activities in accordance with the following (which includes the requirements of the DEP letter):

- Demolition of existing structures would be in accordance with applicable regulatory requirements relating to ACM, LBP, and PCB-containing components.
- Any dewatering required for the proposed construction would be conducted in accordance with DEP sewer use requirements (and NYSDEC requirements in the case of discharge to the East River).
- If petroleum storage tanks are encountered during project site redevelopment, these tanks would be properly closed and removed, along with any contaminated soil, in accordance with the applicable regulations, including NYSDEC spill reporting and registration requirements.
- A hazardous materials (E) designation would be placed on the Applicant-controlled development sites (Buildings 1 through 5) to ensure that appropriate testing and measures to protect human health and the environment are incorporated into the development. Based on the results of supplemental Phase II testing, implementation of a RAP/CHASP (all subject to approval by MOER) would be necessary prior to commencement of work involving subsurface disturbance. The RAP would address requirements for items such as: debris removal; soil stockpiling; soil disposal and transportation; dust control; quality assurance; contingency measures for closure and removal of any unexpectedly encountered petroleum storage tanks and addressing any unexpectedly encountered contamination; vapor controls for the new buildings, if required; and requirements for the imported clean soil in landscaped

areas. The CHASP would include measures for worker and community protection, including personal protective equipment, dust control and air monitoring. Approval of a Remedial Closure Report by MOER would be necessary prior to use or occupancy of the development sites.

- Since construction of Buildings 6, 7, and 8 would occur following disposition approval from the U.S. Department of Housing and Urban Development (HUD) under Section 18 of the U.S. Housing Act of 1937, HPD (acting as Responsible Entity for NYCHA) would require preparation of a Phase II Investigation, and if necessary, a site-specific RAP/CHASP for these building sites. The Phase II Investigation must follow DEP protocols for soil, groundwater, and/or soil gas. Written approval of the testing work plan and RAP/CHASP (if necessary) by HPD and DEP would be required prior to HPD's submission of environmental clearance documentation to HUD for these sites. Implementation of any approved RAP/CHASP would occur as part of construction and would be required through a Development Agreement between NYCHA and the applicant/developer or a Restrictive Declaration. Written approval from DEP of any required RAP/CHASP would also be needed prior to loan closings for any components of the project that may seek financing from HPD for the construction of affordable housing (i.e., Buildings 6, 7, and 8 or any inclusionary housing proposed on other sites).

  For Buildings 6, 7, and 8, the RAP(s) would address requirements for items such as: debris removal; soil stockpiling; soil disposal and transportation; dust control; quality assurance; contingency measures for closure and removal of any unexpectedly encountered petroleum storage tanks and addressing any unexpectedly encountered contamination; vapor controls for the new buildings (i.e., vapor barriers and/or a sub-slab depressurization system, if feasible); and requirements for a two-foot layer of imported clean soil in landscaped areas. The CHASP(s) would include measures for worker and community protection, including personal protective equipment, dust control and air monitoring, as requested in DEP's letter dated July 10, 2013.

It should be noted that a sampling protocol for the building sites that would be disposed of to the Applicant (Buildings 6 and 7) has been prepared and approved by DEP. ~~It is anticipated that t~~The Phase II Investigation pursuant to the protocol ~~may be~~ was conducted between the Draft and Final Environmental Impact Statement (EIS). ~~If available, t~~The results of the Phase II Investigation ~~will~~ are summarized above ~~in the Final EIS (FEIS) as will any additional RAP/CHASP elements necessary for these sites based on the results~~. Based on the results of the Phase II Investigation performed for the sites of Buildings 6 and 7, no additional RAP/CHASP elements beyond those described above would be necessary.

The text of the (E) designations for the sites of Buildings 1 through 5 (located on Block 490, Lots 1 and 11, Block 915, Lot 6, and Block 916, Lots 1 and 10) would be as follows:

- **Task 1: Sampling Protocol**
    - **Prior to construction, the Applicant submits to MOER, for review and approval, a Phase II Investigation protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented.**
    - **No sampling should begin until written approval of a protocol is received from MOER. The number and location of sample sites should be selected to adequately characterize the site, the specific source 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 the sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by MOER upon request.

- **Task 2: Remediation Determination and Protocol**
    - **A written report with findings and a summary of the data must be submitted to MOER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by MOER if the results indicate that remediation is necessary. If MOER determines that no remediation is necessary, written notice shall be given by MOER.**
    - **If remediation is indicated from the test results, a proposed remedial action plan must be submitted to MOER for review and approval. The Applicant must complete such remediation as determined necessary by MOER. The Applicant should then provide proper documentation that the work has been satisfactorily completed.**
    - **A MOER-approved construction health and safety plan would be implemented during evacuation 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 MOER for review and approval prior to implementation.**

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