A. INTRODUCTION

This chapter assesses the presence of hazardous materials in soil, groundwater, and soil vapor at the Project Area (Block 911, Lots 1 & 49). 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 *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,"** under the With-Action RWCDS, Block 911, Lot 1 ("Projected Development Site 1") would be developed with an approximately 1,154,987 gross square foot (gsf) mixed-use development ("Proposed Project") on approximately 164,392 sf of lot area ("Projected Development Site 1"). The Proposed Project would be comprised of approximately 1,400 dwelling units (DUs) (approximately 1,130,462 gsf of residential area), of which 350 DUs would be affordable; approximately 1,887 gsf of local retail space; approximately 22,638 gsf of community facility space; 525 accessory parking spaces; and 41,363 sf of publicly accessible open space. As a result of the Proposed Actions, 3rd Street, which is a mapped but unbuilt street north of 26th Avenue, would be demapped and built-out to allow public vehicular and pedestrian access. Access to the 525-space accessory parking garage would be via 3rd Street and 26th Avenue. The Proposed Project would also contain 41,363 sf of publicly accessible open space along the waterfront that would run along the entire length of Projected Development Site 1, providing multi-layered active and passive recreation space.

It is also expected that Block 911, Lot 49 ("Projected Development Site 2") in the proposed rezoning area would be redeveloped in the future with the Proposed Actions, in accordance with the proposed R7-3/C2-4 zoning district. This site is anticipated to be redeveloped with a 219,296 gsf building containing 265 DUs (of which 66 would be affordable), approximately 15,000 gsf of commercial retail uses, and 115 accessory parking spaces.

The development resulting from the Proposed Actions would entail excavation for the proposed new buildings, foundations, and utilities.

B. PRINCIPAL CONCLUSIONS

Based on the initial Phase I Environmental Site Assessment ("ESA") dated July 8, 1997 prepared by Middleton, Kontokosta Associates, for Bank Leumi Trust Company of New York on behalf of a prior unrelated real estate transaction, and the updated Phase I ESA prepared by Stantec Consulting Services, Inc. for Astoria Owners LLC in August 2013, these reports concluded that Projected Development Site 1 had over a 100-year history of industrial use by a number of heavy industrial operations, including the

Astoria Steel Company, the Brooklyn Foundry Company, the Gas Purifying Materials Company, JRC Lumber Corporation, and most recently as of 2012, LeNoble Lumber Co. Inc. Both reports concluded that these industrial operations likely led to contamination on Projected Development Site 1.

The vast majority of the hazardous materials on Projected Development Site 1 have already been addressed by the Applicant through remediation of the Project Development Site Phase I during participation in the New York State Brownfield Cleanup Program ("BCP") as the Astoria Steel Site BCP Site #C241155 ("BCP Site") under the oversight of the New York State Department of Environmental Conservation ("NYSDEC") and the New York State Department of Health ("NYSDOH"). There is some remaining contamination, defined in the Final Engineering Report ("FER") and summarized in this chapter, which will be managed by the current owner and all future owners pursuant to a Site Management Plan ("SMP") and Environmental Easement ("EE"), which will be described in further detail in this chapter. However, a Certificate of Completion ("COC") has been earned by the Applicant from the NYSDEC and NYSDOH such that the property is ready for the safe development of the Proposed Project (see **Appendix E** for Brownfield Cleanup Program Certificate of Completion).

With the EE already recorded, which mandates all current and future owners and operators of Projected Development Site 1 to maintain the engineering and institutional controls in the SMP, the Proposed Actions are not expected to result in any significant adverse impacts to hazardous materials.

In addition, an (E) Designation (E-671) would be mapped on Projected Development Site 2 (Block 911, Lot 49). With the requirements of the (E) Designation on Projected Development Site 2, it is expected that there would be no impact from the potential presence of contaminated materials. The implementation of the preventative and remedial measures outlined below would reduce or avoid the potential that significant adverse hazardous materials impacts would result from potential construction in the Project Area resulting from the Proposed Actions. Following such construction, there would be no potential for significant adverse impacts.

C. METHODOLOGY

The methodology utilized to assess Projected Development Site 1 is as follows:

The Phase I environmental investigations were performed in accordance with the scope and limitations of the applicable *ASTM Standard E 1527-93 and 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* at the time each Phase I assessment was performed. The scope of work for the Phase I ESAs included an evaluation of the following:

- Physical characteristics of the project site through a review of sources for topographic, geologic, soils, and hydrologic data;
- Site history through a review of sources such as land deeds, fire insurance maps, City directories, aerial photographs, prior reports, and interviews;
- Current site conditions, including observations and interviews regarding the following: the presence or absence of hazardous substances or petroleum products; generation, treatment, storage, or disposal of hazardous, regulated, or biomedical waste; equipment that utilized oils which potentially contain polychlorinated biphenyls (PCBs); and storage tanks (aboveground and underground);

- Usage of surrounding area properties and the likelihood for releases of hazardous substances and petroleum products (if known and/or suspected) to migrate onto the project site;
- Information in environmental agency databases and local environmental records within specified minimum search distances;
- Past ownership through a review of available prior reports and local municipal file review.

The Phase I ESA also included consideration of the following potential environmental conditions that area outside the scope of ASTM Practice E 1527-05: ACM, LBP, wetlands, and radon.

All subsequent investigation and remediation work plans and final reports were prepared in accordance with:

- the New York State Brownfield Cleanup Program Law in New York Environmental Conservation Law (ECL) Title 27 Article 14
- Title 6 of the New York Codes, Rules and Regulations (6 NYCRR) Part 375 regulations
- New York State Department of Health, Final Guidance for the Evaluation of Soil Vapor Intrusion in the State of New York, dated October 2006.
- New York State Department of Environmental Conservation, Division of Environmental Remediation, Draft Brownfield Cleanup Program Guide, dated May 2004.
- New York State Department of Environmental Conservation, DER-10 Technical Guidance for Site Investigation and Remediation, issued May 3, 2010; effective June 18, 2010.
- New York State Division of Water Technical and Operational Guidance Series (TOGS) (1.1.1) dated June 1998.
- Health & Safety Plan - 29 Code of Federal Regulation (CFR) 1910, 29 CFR 1926
- New York City Department of Environmental Protection (NYCDEP), Asbestos Abatement (further documented in the CCR prepared by Stantec), 3-15 26th Avenue, Astoria, Queens County, New York, October 2014
- Federal 40 CFR 761 PCB Self Implementing Regulations and
- Any other applicable federal, state, and local regulations.

D. BACKGROUND

In December 2019, before the BCP Certificate of Completion was earned at the conclusion of site-wide remediation, since a Track 4 restricted residential remediation was achieved, the Applicant had to grant NYSDEC an EE, which runs with the land and grants site access to the NYSDEC to perform inspections of Projected Development Site 1 to ensure all institutional controls and engineering controls that were imposed on Projected Development Site 1 as part of the final long term SMP requirements are being maintained to keep Projected Development Site 1 safe for residential development and long term reuse. The EE requires a recorded survey map that governs all future work on the BCP site, and is the final controlling survey map for the BCP site acreage, which was attached to the recorded easement and the recorded COC.

Since Projected Development Site 1 has been remediated to remove the major source areas of contamination in soil, but remaining contamination is still present under a remedial cover system, this assessment will focus on a brief summary of the investigation and remediation efforts accomplished and

the remaining SMP obligations, which have been specifically designed to prevent exposure to the remaining contamination to protect public health and the environment.

The original industrial use was the Astoria Steel facility as early as 1906. Subsequently, Projected Development Site 1 was used as a foundry to melt down and reprocess scrap iron by Brooklyn Foundry. The former steel and foundry operations on Projected Development Site 1 likely caused the heavy metals contamination, particularly chromium contamination, which had been identified as a contaminant of concern at the time the BCP Application was submitted. Brooklyn Foundry used several large boiler units, which heated scrap iron for reprocessing. Oil for these units was stored in underground storage tanks ("USTs") on Projected Development Site 1. There were three 3,000 gallon tanks, a 550 gallon tank, and a 1,500 gallon tank.

Subsequently, Projected Development Site 1 was used by the Gas Purifying Materials Company. The 1997 Phase I ESA did not explain exactly what this company did, but newspaper articles at the time of its operations suggested the company made machinery and pipes for gas purifying companies and indicated Projected Development Site 1 had a fire large enough to have been reported in articles at the time. JRC Lumber Corporation and LeNoble Lumber Co. are the most recent industrial operators, which used Projected Development Site 1 as a lumber yard and wood molding manufacturing facility.

In order to evaluate potential contamination on Projected Development Site 1 after the initial 1997 Phase I ESA, a Phase II Environmental Subsurface Investigation was first performed nine years later in 2006. The Phase II Report, prepared by Leggette, Brashears & Graham, Inc. for Guy Cohen and Glenn S. Cohen, who were affiliated with the former site owner, focused on the impacts the USTs and previous industrial uses of Projected Development Site 1 may have had on the groundwater and soil. It was also a goal of this assessment to determine if the USTs remained on Projected Development Site 1. After performing a Geophysical survey, the report identified one potential area that was consistent with the presence of a UST, which had been cemented in place. This Report identified petroleum related volatile organic compounds ("VOCs") above current Restricted Residential Soil Cleanup Objectives (RRSCOs), including ethylbenzene, xylenes, and n-propylbenzene. Semi- volatile organic compounds ("SVOCs") were detected above current RRSCOs, including benzo[a]-anthracene, benzo[a]-pyrene, benzo[b]-fluoranthene, benzo[k]-fluoranthene, bis(2-ethylhexyl)phthalate, chrysene, dibenz-(a, h)-anthracene, and naphthalene. Additionally, metals were detected at levels above current RRSCOs in all eleven soil samples, including chromium, arsenic, lead, and mercury.

In groundwater, VOCs were also detected in three of six wells, but were only detected above the NYS TOGS 1.1.1 AWQS (Ambient Water Quality Standards) in one well. Acetone and benzene were detected, and benzene was above its respective AWQS. SVOCs were detected in exceedance of the applicable AWQS in three wells. SVOCs detected above respective AWQS included, benz(a)anthracene, benzo(b)fluoranthene, bis(2-ethylhexyl)-phthalate, chrysene, and fluoranthene. Additionally, metals were detected above AWQS in all five samples tested. Metals above the TOGS AWQS included arsenic, barium, chromium, and mercury.

Several potential sources of contamination were identified, including past and present manufacturing, woodworking, manufacturing supply storage, and automobile repair uses, evidence of historic leaks associated with machinery use, known aboveground storage tanks (ASTs), suspected underground storage tanks (USTs), asbestos containing materials (ACM), and lead based paint (LBP).

The Phase II Environmental Site Assessment dated September 2013, prepared by Stantec Consulting Services, Inc. ("Stantec") for Astoria Owners LLC, which was the main report that justified Projected Development Site 1's acceptance into the BCP as a BCP site, found more of these same types of typical VOC, SVOC and metals contaminants associated with Projected Development Site 1's historic steel and metals manufacturing related prior uses. After Projected Development Site 1 was accepted in the BCP, and after the Remedial Investigation Work Plan (RIWP) was submitted, but before the two former on-site buildings, which covered about 48,500 square feet of Projected Development Site 1, were demolished, polychlorinated biphenyls (commonly known as PCBs), were found at high levels in the vicinity of 3rd Street along the western side of Projected Development Site 1 and in the vicinity of 4th Street along the eastern side of Projected Development Site 1. In addition, once the building materials were sampled before demolition, PCBs were also found to be present in a number of building materials, including paint and chalk used throughout the building structures, all of which were flaking onto the ground and all of which was removed prior to demolition in 2018 in accordance with a May 2017 Self-Implementing PCB Work Plan prepared by Stantec approved by the USEPA. USEPA became an involved agency once PCBs were found to exceed hazardous waste levels, since hazardous waste PCBs fall under that agency's jurisdiction pursuant to the federal Toxic Substance and Control Act (TSCA) statute.

Projected Development Site 1 was ultimately remediated in accordance with the NYSDEC-approved May 17, 2019 Remedial Action Work Plan ("RAWP") to meet a site-specific Track 4 remediation for restricted residential use and in accordance with the May 2017 Self-Implementing Cleanup and Disposal of PCB Remediation Waste Work Plan ("Self-Implementing PCB Work Plan").

The FER documents that a site-specific restricted-residential Track 4 remedy was achieved, which allows for the future planned Phase I development. Residual impacts above the Restricted Residential SCOs remain in soil, and VOC impacts remain in groundwater and soil vapor. A groundwater treatment plan was implemented as part of the remedy and CVOC concentrations in groundwater have decreased by about one to two orders of magnitude in the source area compared to data collected during the Remedial Investigation ("RI") performed by Stantec. Continued groundwater monitoring will be conducted as part of the SMP. Residual contamination remaining in place summarized below in the "Existing Conditions" section in this chapter. The required Engineering Controls ("EC") and Institutional Controls ("IC") are also summarized below in the "Existing Conditions" section in this chapter.

E. EXISTING CONDITIONS

The existing conditions of Projected Development Site 1 post-remediation include shoreline erosion and sedimentation control improvements along the East River (e.g., new rip-rap, silt fencing, filter sock) and a site-wide cap or cover system consisting of a combination of impervious cover (along the northern BCP site extent), a minimum of 18-inches of recycled concrete aggregate (RCA) topped with a minimum 6-inches of topsoil meeting the soil quality requirements in the New York State regulations contained in 6 NYCRR §375-6.7(d)(ii)(b) (i.e., the lower of the Protection of Groundwater ("PGW") Soil Cleanup Objectives ("SCOs") or Restricted Use-Restricted Residential SCOs ("RRSCOs"). The site-wide cover system is protective for restricted residential use and extends over the entire site covering the remaining contamination post remediation described below.

The remaining remediation under the cover system is described is summarized below:

Remaining Soil Contamination

End-Point soil samples collected from the bottom and side walls of remedial excavations were analyzed as required by the NYSDEC-approved RAWP for remaining regulatory above the Part 375 Unrestricted Use ("UU") and Restricted Residential Use ("RR") SCOs for VOCs, SVOCs, metals, pesticides, and PCBs and draft regulatory standards for 1,4-dioxane and Per- and polyfluoroalkyl substances ("PFAS") compounds by an NYSDOH ELAP-certified laboratory. Additional endpoint soil samples were collected from the sidewalls and bases of remedial excavations, which included PCB-contaminated soil/fill. These samples were analyzed for PCBs by an NYSDOH ELAP-certified laboratory. In addition, prior to remedial excavation activities, Stantec performed a Remedial Investigation ("RI") and Supplemental Remedial Investigation ("SRI"), which included collection of soil samples within, and outside of the remedial excavation extents. All RI and SRI samples were compared to the Part 375 UUSCOs and RRSCOs for VOCs, SVOCs, PCBs, pesticides, and metals and analyzed by an NYSDOH ELAP-certified laboratory.

Despite the extensive remedial actions implemented to remove soil source areas, residual remaining soil contaminants still exceed the RRSCOs following remediation in the top two feet of soils throughout Projected Development Site 1, which will be managed in place with the current engineered-site cover system pursuant to the SMP and future new cover system, which will consist of the building foundations, asphalt streets and walkways and two feet of clean soil in any landscaped areas.

Exposure to remaining soil contamination throughout Projected Development Site 1 and in the top two feet of soil is prevented by the EC Site cover system, consisting of impervious cover or a minimum of 18-inches of RCA topped with a minimum of 6-inches of imported topsoil meeting the soil quality requirements in Part 375-6.7(d)(ii)(b) (i.e., lower of PGW SCOs or RR SCOs). In addition, new shoreline erosion and sedimentation control improvements were installed, consisting of rip-rap, hay bales, silt fencing, and a filter sock. The cover system is considered an EC only in areas where soil within the top two feet of the Residual Management Zone exceeds RRSCOs. In addition, a physical demarcation layer was placed along the base of each remedial excavation prior to backfilling to identify the top of the Residual Management Zone. An additional demarcation layer was placed immediately below the engineered composite cover system.

Remaining Soil Vapor Contamination

During the 2018-2019 SRI performed by Stantec, three soil vapor samples (VP-1, VP-2, and VP-3) were collected to evaluate the concentrations of VOCs in soil vapor. The soil vapor samples were placed along the western half of the former 3rd Street right of way in areas that were excavated as part of the remedy. No additional soil vapor data outside of the remedial excavation areas were collected during previous investigations.

Sub-slab depressurization systems to address potential vapor intrusion will be incorporated into the design of all future buildings constructed at Projected Development Site 1 to mitigate any residual vapors present.

The remaining contamination described above will be addressed by the IC and EC Plan. ICs and ECs are required to protect human health and the environment. The IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at Projected Development Site 1, which are summarized below:

Institutional Controls

A series of ICs is required in the SMP and pursuant to the EE, which is an IC intended to require: (1) implementation, maintenance and monitoring of all the EC systems (i.e. maintenance of a site-wide cover system and future Sub-slab depressurization Systems inside future buildings); (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of Projected Development Site 1 to Restricted Residential, Commercial or Industrial uses only. Adherence to these ICs on Projected Development Site 1 is required by the EE. ICs identified in the EE may not be discontinued without an amendment to or extinguishment of the EE.

Engineering Controls

The primary ECs on Projected Development Site 1 at this time is the Site Cover System since exposure to remaining contaminated soil (i.e., soil that exceeds Restricted Residential SCOs) is prevented by an engineered site cover system, comprised of impervious cover or a minimum of 18-inches of RCA and topped with a minimum 6-inches of topsoil meeting the soil quality requirements in regulations at 6 NYCRR § 375-6.7(d)(ii)(b) (i.e., lower of PGW SCOs or RRSCOs). In addition, new shoreline erosion and sedimentation control improvements were installed, consisting of rip-rap, hay bales, silt fencing, and a filter sock.

This cover system extends to areas of Projected Development Site 1 that were not actively remediated, but contain soil concentrations in excess of RRSCOs. With the exception of the new shoreline erosion and sedimentation control improvements along the northern site extent, the RCA layer extends across the entire site for grading purposes, but is not considered part of the engineering control cover system where it overlies areas where soil complies with the RRSCOs within the top two feet of the Residual Management Zone. A high visibility demarcation barrier (i.e., orange snow fence) underlies the engineered cover system to clearly establish the Residual Management Zone.

Any breach in the composite site cover during future development is required to be repaired or newly constructed in accordance with the SMP. The Excavation Work Plan provided outlines the procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed, and any underlying remaining contamination is disturbed. The Plan will be implemented during site construction. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in the SMP. Any work conducted pursuant to the Excavation Work Plan must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for Projected Development Site 1. The HASP complies with DER-10, and 29 Code of Federal Regulation (CFR) 1910, 29 CFR 1926, and other applicable federal, state, and local regulations.

The site cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity. On this site, the initial site cover system will be replaced when site development occurs in accordance with the requirements in this SMP.

Any future on-site buildings will be required to have a sub-slab depressurization system (“SSDS”) incorporated into the foundation design, or other acceptable measures, to mitigate the migration of vapors into the building(s) from contaminated soil and/or contaminated groundwater.

The vapor mitigation system will consist of a sub-slab depressurization system installed within a gas permeable aggregate layer beneath the slab and will be ventilated to the building's exteriors. The system will be sealed with a continuous vapor barrier that is integrally bonded to poured concrete for the future building foundation. The bond between the vapor barrier and poured concrete allows for the system to be minimally affected by differential settlement of the new structure and effectively provides a barrier between the new buildings and the underlying residual contamination. The designs for the vapor mitigation system will be prepared during design of the new buildings and will be mandated by compliance with the SMP and the EE.

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

In the future without the Proposed Actions, the Project Area would not be rezoned and an (E) designation would not be assigned to Projected Development Site 2. In the future without the Proposed Actions, Projected Development Site 1 would be developed as a warehouse/distribution facility. The existing M1-1 zoning permits a 1.0 FAR for manufacturing and commercial uses. It is assumed that Projected Development Site 1 would be developed with a 2-story 172,612 gsf warehouse 82 accessory parking spaces.

Under the No-Action condition, it is assumed that the existing vacant warehouse building on Projected Development 2 would be re-occupied with 28,750 gsf of typical warehouse uses and 14 accessory parking spaces.

The owner of Projected Development Site 1 would still be required to maintain the ECs and ICs in the SMP and EE to protect human health and the environment because residual soil and groundwater with contaminant concentrations exceeding applicable Restricted Residential standards are still represent throughout the vast majority of Projected Development Site 1 within the top two feet of the Residual Management Zone, and VOC-impacted soil vapor remains beneath Projected Development Site 1 after completion of the Remedial Action Plan. Long-term management of these ECs and ICs must be performed and are enforceable pursuant to the EE or the COC may be revoked due to non-compliance. There is also an approximately ten year timeframe in which some or all of the project must be completed in order to obtain the BCP tangible property tax credits, after which time these tax credits terminate and can no longer be claimed.

Compared with development anticipated on Projected Development Site 1 as a result of the Proposed Actions, the No-Action condition would result in a remediated, but underutilized, waterfront site. Thus, under the No-Action conditions, while there would be no need to comply with the SMP requirements related to soil disturbance, all other the ECs and ICs would still need to be maintained.

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

In the future with the Proposed Actions, the Project Area would be rezoned from a M1-1 zoning district to a R7-3/C2-4 district to allow for residential, commercial, and community facility uses. While construction of the Proposed Project may involve some excavation for the construction of elevator pits and certain utilities, as well as some soil disturbance for other construction, including the waterfront esplanade, new landscaped areas, and the proposed new street and pedestrian walkways, the means and methods to handle any disturbance of the site cover system has already been approved by both the

NYSDEC and NYSDOH pursuant to the SMP and EE. Compliance with the SMP Excavation Work Plan within the SMP is enforceable by the EE.

The Proposed Project would result in greater disturbance of the existing cover system and possibly soil under the cover system and a greater increase in residential and commercial uses as compared to the No-Action condition. Thus, the potential for adverse impacts associated with excavation for construction and with changes in land use would increase with the Proposed Actions. Although the Proposed Project could increase pathways for human exposure to construction workers only to the remaining contamination described above, the potential for significant adverse impacts would be avoided by the measures identified in the NYSDEC and NYSDOH approved SMP. All excavation activities are required to be performed in compliance with the Excavation Work Plan contained within the SMP. If any soil is required to be disposed off-site, the SMP also dictates all of the off-site disposal requirements. In addition, proper remedial and/or health and safety measures that would be employed during construction as required by the HASP and CAMP, which are part of the SMP, and are designed to protect both workers and the community from exposure.

Air monitoring will be conducted for site personnel and the community the CAMP. Dust emissions will be monitored using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10). Organic odors will also be monitored with a device called a PID. Dust and odor suppression measures (e.g., water misting, odor suppressant) will be implemented as required in the event of an emergency and there are protocols built into the plan to stop work if there are any unexpected emergencies impacting the community. Personnel air monitoring will be conducted in the breathing zone periodically during drilling, excavation, and sampling activities to evaluate health and safety protection for the field personnel. Initially, ambient air monitoring will be performed within the work area. The on-site consultant will monitor with a PID (MultiRAE 3000 or similar device) vapors in accordance with the HASP. These plans state that if vapors or dust exceed action levels, work will cease and the work location will be evacuated. Monitoring will be continued until the levels drop to safe limits. In addition to air monitoring in the worker breathing zone, community air monitoring in compliance with the CAMP will be conducted. All of these safety measures are already built into the plan and must be complied with during future construction or the Applicant may lose the COC and extensive BCP tax credits.

Moreover, there will be state and local oversight of any on-site activities. NYSDEC is required to receive a seven-day notice prior to the commencement of any on-site work, and is permitted to inspect any work being performed at any time pursuant to the access rights it has been granted in the EE for Projected Development Site 1. In addition, the public is required to be notified pursuant to the Citizen's Participation Plan (CPP) when future construction work commences.

By assigning an (E) Designation (E-671) on Projected Development Site 2, the potential for an adverse impact to human health and the environment resulting from the Proposed Actions would be reduced or avoided. The (E) Designation provides the impetus to identify and address environmental conditions so that significant adverse impacts during site development would be reduced, with OER providing the regulatory oversight of the environmental investigation and remediation during the process. Building permits are not issued by the New York City Department of Buildings (DOB) without prior OER approval of the investigation and/or remediation pursuant to the provisions of Section 11-15 of the New York City Zoning Resolution (Environmental Requirements).

The text of the hazardous materials (E) Designation (E-671) for Projected Development Site 2 (Block 911, Lot 49) would be as follows:

Task 1: Sampling Protocol

> **Prior to construction, the applicant must submit to the New York City Mayor's Office of Environmental Remediation (OER), 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 by OER. 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 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 for the test results, a proposed remedial action plan (RAP) must be submitted by 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-related health and safety plan (CHASP) would be implemented during excavation and construction 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 in place, the Proposed Actions would not result in any significant adverse impacts related to hazardous materials.