
Chapter 4: Hazardous Materials

4.1 Introduction

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 and semi-volatile organic compounds, methane, polychlorinated biphenyls and hazardous wastes (defined as substances that are chemically reactive, ignitable, corrosive or toxic). According to the *2014 CEQR Technical Manual*, the potential for significant impacts from hazardous materials can occur when: a) hazardous materials exist on a site and b) an action would increase pathways to their exposure; or c) an action would introduce new activities or processes using hazardous materials.

4.2 Methodology

The potential for hazardous materials was evaluated based on an April 22, 2014 Phase I Environmental Site Assessment (ESA) prepared by CBRE, Inc. (CBRE); a July 2014 limited Subsurface Report Phase II Environmental prepared by GZA GeoEnvironmental; and a Phase II ESA prepared by VHB dated August 5, 2015. These documents have been reviewed and approved by the New York City Department of Environmental Protection (DEP) (see Appendix B).

4.3 Assessment

Existing Conditions

Phase I Environmental Site Assessment

A Phase I ESA, dated April 22, 2014, was completed for the project site by CBRE, Inc. (CBRE) of Houston, Texas, and included all analyses as specified in the American Society for Testing and Materials (ASTM) Method E 1527-13 (See Appendix A). The goal of the Phase I ESA process is to identify “Recognized Environmental Conditions” (RECs), which means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. The Phase I ESA was also completed to assess the potential presence of “Historic Recognized Environmental Conditions” (HRECs) or “Controlled Recognized Environmental Conditions” (CRECs) which could further assess the potential for a current or past release that could impact subsurface conditions at the site. The scope of CBRE’s Phase I ESA included the existing two-story parking garage located at the site.

Per the ASTM Standard, the Phase I ESA reviewed a variety of information sources, including current and historic Sanborn Fire Insurance Maps; topographic maps and aerial photographs; historical land title records and city directories; state and federal environmental regulatory databases identifying listed sites; and local environmental records. The Phase I ESA also included reconnaissance of the site and surrounding neighborhood and interviews with the building manager.

As stated in Practice E1527-13, there may be environmental issues or conditions at the site, which may be requested by the user to be addressed as part of the Phase I ESA, which are not covered within the scope of ASTM Practice E1527-13. These issues are referred to as non-scope considerations. The following non-scope considerations were addressed in a limited capacity within the Phase I ESA: radon, lead-based paint (LBP), asbestos-containing materials (ACM), wetlands, and mold and water damage.

The Phase I ESA prepared by CBRE stated that the Phase I ESA revealed no evidence of RECs in connection with the property except for the follows:

- *Mobil Service Station 168 (107-02 Grand Central Parkway) located immediately adjacent to the Property to the northeast. The station is identified as the location of an active NYSDEC spill case (No. 07-09582)... Based on the review, the NYSDEC indicated that Exxon/Mobil, the responsible Party, will be required to excavate area between the canopy and the sidewalk at the site including dewatering, to achieve closure... CBRE identified several groundwater monitoring wells on the gasoline station property, immediately adjacent to the northeastern boundary of the Property. In addition, the existing gasoline tanks were identified to be located no more than 20 feet from the northeastern boundary of the Property. Based on the identification of an active spill case on the adjacent property for which the NYSDEC is requiring additional remedial actions and the presence of groundwater monitoring wells on the gasoline station property, coupled with the proximity of the gasoline tanks to the Property and the likelihood that the release at the gasoline station operation has at least minimally impacted the Property, the gasoline station operation is identified as a REC for this assessment.*

No further RECs were identified. Furthermore, no CRECs or HRECs were identified in association with the site in the CBRE Phase I ESA. Based upon the aforementioned REC associated with the adjacent New York State Department of Environmental Conservation (NYSDEC) active spill incident, CBRE indicated that *...Given that minimal impacts to the Property are presumed, coupled with the identified current uses of the Property, additional investigation is not warranted to confirm the release; however, CBRE recommends that the presumed impacts to the Property should be considered with regard to future redevelopment activities to be undertaken at the Property.*

No hazardous or non-hazardous petroleum substances, or unidentified substance containers were present at the site during CBRE's site reconnaissance.

The CBRE Phase I ESA identified a 275-gallon diesel aboveground storage tank (AST) associated with an emergency backup generator for the existing Marriott hotel. The tank was not observed within or proximate to the proposed redevelopment area and was not considered a significant environmental risk.

Several storm drains were identified in the lower parking garage levels. Furthermore, approximately 22 dry wells were observed within the surface parking lot located within the redevelopment areas. According to the CBRE Phase I ESA, the storm drains were assumed to be connected to the municipal storm/sanitary sewer system. However, there is a potential for storm drains to leach into the ground. Leaching structures such as storm drains, sanitary systems and floor drains are classified as Underground Injection Control (UIC) structures that are subject to closure procedures under the UIC Program as mandated by the United States Environmental Protection Agency (USEPA).

No equipment with the potential to contain polychlorinated biphenyls (PCBs) were identified during the site reconnaissance. Furthermore, no stains, corruptions, odors, evidence of petroleum spills or other conditions were identified on the project site by CBRE.

No debris, dumping or surficial staining was identified in the CBRE Phase I ESA. However, minor pavement staining associated with routine automobile storage was observed and was classified as a "de minimus" condition.

No suspect asbestos-containing material (ACM) or lead-based paint (LBP) was identified at the site during the CBRE visual inspection, and same are not considered an environmental concern.

Subsurface Exploration and Foundation Engineering Report for LaGuardia Airport Marriott Hotel Parking Garage

GZA GeoEnvironmental of New York (GZA) prepared a limited Subsurface Report containing the results of a geotechnical evaluation and limited subsurface investigation conducted between June 10 and June 23, 2014, which is included in Appendix B. Sampling was performed at an existing environmental test boring (known in the Subsurface Report as B-05A) located at the easternmost boundary of the site, proximate to the gasoline filling station that services Grand Central Parkway. Although not specifically indicated in the Subsurface Report, it is likely the environmental test boring was previously installed to assess whether the adjacent spill incident (as previously summarized in the summary of the Phase I ESA, above) impacted subsurface soils and groundwater at the site.

Soils were collected continuously at test boring B-05A to a terminal depth of approximately 20 feet below grade surface (bgs). Groundwater was confirmed during the soil boring installation at approximately nine-to-10 feet bgs. Two (2) soil samples were collected at a depth of approximately 15 feet bgs (within the groundwater interface) from test boring B-05A and were submitted for laboratory analysis for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). Laboratory analytical data from B-05A indicated the presence of acetone at low concentrations of 2.4 and 4.3 parts per billion (ppb), which is well below applicable standards. No additional VOCs or SVOCs were identified in the sample results, which indicates that impacts associated with the adjacent active spill incident have not encroached onto the subject property.

The Subsurface Report indicates that dewater activities would likely be necessary for excavations extending below eight feet bgs, and that a dewatering plan should be designed by a Licensed Professional Engineer registered in the State of New York. The contractor should also be prepared to evacuate accumulated rainwater and runoff from local excavations during construction.

Additional Considerations

Approximately 22 dry wells were observed within the surface parking lot located within the redevelopment areas, some of which have the potential to leach into the ground. Leaching structures such as storm drains, sanitary systems and floor drains are classified as UIC structures that are subject to closure procedures under the UIC Program as mandated by the USEPA. Prior to removal of the storm drains, the USEPA would be contacted. At a minimum, the USEPA will be provided a completed Inventory of Injection Wells Form (EPA FORM 7520-16). Upon review, additional closure activities may be required by the USEPA, including sampling and remedial action of bottom sediments (if confirmed to be impacted). All storm drain removal will be conducted in accordance with prevailing regulations.

Phase II Environmental Site Assessment

Based upon review of the above-referenced documents, DEP required a supplemental subsurface investigation at the site in order to determine the potential presence of impacts. A Phase II Work Plan and associated Health and Safety Plan (HASP) was prepared by VHB, dated May 5, 2015 and was submitted to, and conditionally approved by, the DEP in correspondence dated June 2, 2015.

The Phase II ESA involved the collection of soil and groundwater samples within the footprint of the proposed parking garage structure. In accordance with the Work Plan and correspondence from the DEP, a limited geophysical survey was also conducted in order to clear locations for the installation of four (4) soil borings and two (2) groundwater monitoring wells.

As previously indicated, four (4) soil boring locations were identified in order to obtain representative soil conditions within the location of the project site. The soil borings were installed utilizing a Geoprobe® hydraulic push drill rig and were advanced to the proposed terminal excavation depth (approximately 11 feet bgs) in order to obtain an accurate profile of the soils at the site. As required by DEP, shallow soil samples (one-to-two feet bgs) and deeper soils (11-to-12 feet bgs) representative of the terminal excavation depths were collected within the footprint of the proposed parking garage.

Based upon the sample results, no impacts relating to VOCs, SVOCs, pesticides or PCBs were identified in on-site soils above the most stringent New York State DEC Part 375 Track One Unrestricted Use Soil Cleanup Objectives (UUSCOs). However, the metal calcium was detected at elevated concentrations in two soil sample locations. As no DEC Part 375 standards are available for the metal calcium, a supplemental cleanup objective for protection of ecological resources in DEC Commissioner's Policy 51 (CP-51) was utilized as an applicable standard. The two elevated concentrations exceeded the DEC CP-51 standard of 10,000 milligrams per kilogram (mg/kg) for calcium. No other metal exceedances were identified in the sample results. Based upon only slight exceedances in calcium at the site, the Phase II ESA recommended that the soil be shipped as clean backfill, as no DEC Part 375 standards were exceeded. However, notwithstanding the above, the Phase II ESA also recommended that soils be transferred to an alternate facility where the protection of ecological resources is not warranted and that laboratory data be provided to the receiving facility prior to transport.

With respect to groundwater, VHB sampled one previously existing groundwater monitoring well located at the northeastern portions of the site, and installed two additional permanent groundwater monitoring wells in order to obtain accurate baseline groundwater conditions at the site. Each of the groundwater wells were purged, developed and sampled utilizing low flow sampling techniques in accordance with applicable USEPA guidance for low flow groundwater sampling. No constituents were detected in groundwater samples above the DEC Technical and Operational Guidance Series (1.1.1) (TOGS) Ambient Water Quality Standards and Guidance Values (AWQSGVs). Based upon the absence of impacts to groundwater, no further action or recommendations with respect to groundwater quality were warranted. Furthermore, based upon the results, no impacts to groundwater from off-site sources were identified. However, as groundwater will likely be encountered during the proposed parking garage construction, the Phase II Report recommended that all applicable and standard dewatering procedures and permitting for non-impacted groundwater during construction be followed.

In correspondence dated September 16, 2015, the DEP recommended no additional environmental testing based on the results of the Phase II ESA but did request that the applicant prepare a Construction Health and Safety Plan (CHASP) for DEP review and approval. As required, a CHASP will be prepared by the applicant and submitted to DEP for review and approval before the start of construction.

No-Action Condition

In the future without the proposed actions the project site and building would continue to be utilized as an active two-story parking garage, associated surface parking lot and a hotel building, and no excavation of soils would be required and groundwater would remain undisturbed. As such, there would be no significant health risks at the project site in the future without the proposed actions.

With-Action Condition

In the future with the proposed actions, the existing parking garage and surface parking lot would be demolished, and the site would be redeveloped with a larger parking garage structure associated with the nearby LaGuardia Airport and adjacent Marriott hotel.

Implementation of the proposed actions would result in excavation at the site to a terminal depth of approximately 11 feet bgs. Based upon the Phase II ESA, groundwater is expected to be encountered at approximately four-to-five feet bgs. No exceedances were identified in on-site groundwater in the Phase II ESA and it was determined that there are no off-site influences that may impact groundwater on the site. As groundwater will be encountered during construction activities, dewatering will be required. Given these conditions, all applicable and appropriate dewatering practices and permitting for non-impacted groundwater will be implemented by the applicant during construction activities. As such, there will be no significant adverse impacts to groundwater resulting from the proposed actions.

Further, as indicated in the Phase II ESA, minor exceedances of calcium were detected above relevant DEC CP-51 standards in two locations on the site. Given the recommendations set forth in the Phase II ESA, any soils excavated within the project area will be removed and transferred to an off-site location where the protection of ecological resources is not applicable as outlined in 6 NYCRR Part 375, Section 6.6.¹ As such, implementation of the proposed actions will result in the removal of soils with elevated calcium concentrations that will prevent contact with future site occupants.

As mentioned previously, in correspondence dated September 16, 2015, the DEP recommended no additional environmental testing based on the results of the Phase II ESA but did request that the applicant prepare a CHASP for DEP review and approval. As required, a CHASP will be prepared by the applicant and submitted to DEP for review and approval before the start of construction. Furthermore, as required by DEP, the CHASP will be implemented during construction activities by the applicant. The CHASP will outline procedures for the handling and removal of calcium-impacted soils in order to minimize any potential exposure to contractors and construction workers.

4.4 Conclusion

Based upon the subsurface investigations identified and summarized herein, there were no impacts to groundwater identified on the site. It was also determined that no off-site spills or other adjacent uses were affecting groundwater quality at the site. As groundwater will likely be encountered as part of construction, standard dewatering procedures and permitting will be implemented by the applicant for non-impacted groundwater. Additionally, the Phase II testing showed no potential for contaminated soils or other hazardous materials, except for the metal calcium, which is not regulated by DEC's Part 375 standards. DEP reviewed and approved these findings on September 6, 2015 and required only the preparation of a CHASP, which will be submitted for DEP approval prior to the start of construction. The CHASP will outline procedures for the handling and removal of calcium-impacted soils in order to minimize any potential exposure to contractors and construction workers.

In conclusion, the project would not result in the disturbance of hazardous materials nor would it increase pathways for human or environmental exposure to hazardous materials. As such, the proposed actions would not result in any significant adverse impacts related to hazardous materials, and no further analysis is required.

¹ As indicated in 6 NYCRR Part 375, "Ecological Resources" means all flora and fauna and the habitats that support them, excluding such biota as pets, livestock, and agricultural and horticultural crops.