A. INTRODUCTION

This chapter assesses the potential for the proposed project to result in short-term hazardous materials exposure during construction and long-term exposure following completion. The descriptions and analyses are based on hazardous materials investigation, testing, and remediation work conducted for the project site.

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 semivolatile organic compounds, methane, polychlorinated biphenyls, and hazardous wastes (defined as substances that are chemically reactive, ignitible, corrosive, or toxic). According to the *CEQR Technical Manual*, the potential for significant adverse 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.

As of fall 2008, the project site is currently vacant and the applicant has completed as-of-right excavation. Previously identified environmental concerns on the project site have been addressed in accordance with applicable legal requirements. As the proposed project requires CEQR review, NYC Department of Environmental Protection (DEP) has reviewed and approved a *Remedial Action Plan* (*RAP*) and *Construction Health and Safety Plan* (*CHASP*) which will be followed for future work on the site. Therefore, with these measures in place, significant adverse hazardous materials impacts will be avoided.

B. SITE CONDITIONS

According to the US Geological Survey (USGS) Topographic Map, Central Park Quadrangle 7.5-Minute Series Map, the average elevation of the project site is approximately 30 feet above mean sea level. As the site generally slopes downward from east to west, surface drainage is likely in a westerly direction toward the Hudson River which is approximately 1,000 feet to the west. Prior to demolition and ongoing excavation, most of the project site was covered by asphalt, with concrete basement foundation for the project site buildings. The site is connected to municipal sewer and water systems and the demolished buildings on the project site were heated by a natural gas steam boiler and suspended natural gas heating units.

Amtrak's Empire Line traverses the northeastern edge of the project site in a below-grade right-of-way established pursuant to an easement. The below-grade right-of-way is covered by a platform.

As discussed in Chapter 2, "Land Use, Zoning, and Public Policy," historic uses on the project site have included railroad companies, residences, auto repair businesses, and vehicle storage and automotive service/vehicle storage facilities.

The site is currently vacant and the applicant recently completed excavation and is continuing with foundation work, on an as-of-right basis.

C. BACKGROUND

The applicant purchased the property in 2006 from Verizon, which vacated the site in spring 2007. For many years, Verizon used the site for vehicle servicing and storage. The site included two brick buildings, rising to 2-stories, located along the western portion of the property, though a majority of the area was covered by a surface parking lot used for Verizon vehicles.

After demolishing the buildings, in 2007 the applicant initiated excavation of the site on an as-of-right basis pursuant to a NYC Department of Buildings permit for a commercial development. (A commercial development could be constructed on the project site in the future without the proposed action as-of-right under the site's existing M1-5 (CL) zoning, although in this EIS for analysis purposes it is assumed the site would remain vacant under No-Build conditions.)

Phase I Environmental Site Assessment

As relates to hazardous materials concerns, several measures were completed to identify and address hazardous materials concerns on the site. A *Phase I Environmental Site Assessment* was conducted for Verizon in 2006 that identified recognized environmental concerns which were subsequently addressed. These included:

* There were three underground storage tanks (USTs) on the project site.
* NYSDEC Spill Number 05-12738 was assigned to the site due to "leaking containers (and/or abandoned drums) in Verizon parking" on February 3, 2006. The spill remained open as of June 2006. The Phase I ESA recommended that NYSDEC be contacted to determine the status of the spill and what documentation is needed to submit a request for spill closure as there were no leaking drums present on the site at the time of the Phase I ESA walkthrough.
* A small patched area of concrete was observed in the floor in a garage area. Upon further investigation, it was found to be a vehicle service pit. A subsurface soil sample was collected from beneath the south basement concrete flooring adjacent to the base of the vehicle service pit structure. The soil sample was submitted to a New York State certified laboratory for analysis of volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) Based on laboratory results, VOCs and SVOCs were not detected above the method detection limit of the laboratory. Based on this data, the Phase I ESA states that no further work was warranted for this recognized environmental condition.
* Asbestos containing materials (ACM) were noted on pipe insulation within the basement level. Based on the age of the building, lead based paint may have been present. Additionally fluorescent light fixtures could have had ballasts that contained polychlorinated biphenyls (PCB) dielectric fluid. An asbestos inspection and lead paint survey were beyond

the scope of the Phase I ESA. The Phase I ESA states that prior to any repairs, replacement, or disturbance of these materials, sampling should be performed and the materials must be handled and disposed of properly according to federal and state laws.

Asbestos Abatement

Prior to building demolition, all asbestos containing materials were removed from the site in July 2007 under the supervision of Emteque Corporation, a consultant working on behalf of the applicant. This work was performed in accordance with DEP asbestos abatement regulations.

Phase II Subsurface Investigation and Remediation

In May 2007, Emteque Corporation was retained to perform a subsurface investigation of the site as a result of issues raised in the Phase I Environmental Site Assessment. The purpose of the investigation was to identify any contaminated soils which may be uncovered during excavation activities. At this time, NYCDEP was consulted and provided with a *Subsurface Investigation Work Plan* for the project site as a follow up to the *Phase I ESA*. NYCDEP's comments were incorporated into subsequent resubmissions. On October 25, 2007, NYCDEP approved the subsurface investigation work plan.

At the request of NYCDEP, a Construction Health and Safety Plan (CHASP) and Remedial Action Plan (RAP) were also prepared. The purpose of the RAP is to present measures for managing contaminated soil on-site and removing all underground petroleum storage tanks in accordance with applicable federal, state and local regulations.

During the NYCDEP review process, site activities commenced under the as-of-right zoning. These activities included asbestos abatement performed within existing structures, demolition of existing structures, and excavation activities.

On September 7, 2007, as part of the Phase II Subsurface Investigation Work Plan, Emteque was directed by NYCDEP to provide for seven (7) borings of the subsurface soils. Utility markouts were called in on September 7, 2007 to allow for the subsurface investigation to be performed on September 12, 2007.

Emteque Corporation mobilized for the subsurface investigation on September 12, 2007 and encountered the following conditions. The site was undergoing active excavation activities. Buried underground storage tanks had been uncovered and in some areas free product was noted in standing water in some of the excavation locations. Petroleum odors were also evident. On the north side of the site contamination soils had been stockpiled. On September 12, 2007, a spill (spill no. 0706546) was called into the New York State Department of Environmental Conservation (NYSDEC).

As part of this remediation program, the tanks and any appurtenances were cleaned, removed and disposed of in accordance with accepted industry standards and applicable federal, state and local regulatory agency requirements. Emteque retained the services of Enviro-Waste to provide for the recovery of the free product in the excavation. Environ-Waste also provided recovery services for

product in the excavation and the uncovered tanks on September 14, 2007, September 21, 2007, and October 2, 2007.

As a result of site conditions, the previously prepared subsurface investigation was modified to address existing conditions. The initial investigation included soil borings at five (5) locations, one (1) sample from the base of the excavation and two (2) samples from the soils stockpile. This investigation was performed on September 12, 2007. Samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), PCBs, Pesticides and TAL Metals. Two (2) additional borings were made on September 13, 2007.

The following is a summary of the soil field and laboratory analytical results:

- The encountered soils consisted of typical New York City fill consisting of construction and miscellaneous debris including brick to various depths. Fine sands, loam and gravel were also noted.
- Prior geotechnical investigations had been performed at the site and indicated shallow bedrock.
- Low levels of VOCs and SVOCs were noted in select locations. Elevated SVOCs were noted in one boring location and in samples collected from the excavation and stockpiled soils.
- Elevated levels of metals, mercury, copper and zinc were noted in select samples collected.
- Pesticides were noted at low levels and below regulatory standards with the exception of Chlordane, Dieldrin, and Endrin at one location.

Upon the discovery of another underground storage tank, additional samples of the tank pit were collected on September 21, 2007. The tank pit was located on the southwestern corner of the site. Once removed, sidewalls and the bottom of the exaction was sampled and the samples were analyzed for VOCs and SVOCs.

The removal of contaminated soils from the site commenced on November 1, 2007 and continued on a daily basis through November 7, 2007. Impact Environmental Corporation was retained to provide for the transportation and disposal of contaminated soils. During excavation and loading activities, Emteque provided continuous on-site monitoring of the activities in accordance with the NYCDEP submitted CHASP and RAP. Emissions in the loading and excavating areas were monitored for volatile organic compounds and nuisance dust using direct read instrumentation consisting of ppbRae and Dustrak devices.

At the completion of this work, approximately 45 percent of the western side and a portion of the northeastern section of the site had been excavated to bedrock and excavation through bedrock continued to proceed through the blasting of bedrock.

At the completion of the contaminated soils management aspect of the project, approximately 75 percent of the site had undergone excavation of soils to bedrock. The remaining portions of the site - the southeast corner and eastern edge - were used for staging and the loading of bedrock materials. Six (6) feet of overlying soils exist on bedrock in this area. Prior investigations failed to reveal the presence of any suspect or known underground storage tank in this area. Additional composite/grab sampling of the soils was performed in this area to classify the soils.

On December 7, 2007, three (3) additional boring were advanced to 6" below grade using Geoprobe technology in the southeastern quadrant of the site. Field screening of the soils was performed using a Photo ionization Detector (ppb Rae). Grab samples have been collected and analyzed for volatile organic compounds (VOCs), and composite samples collected and analyzed for semi-volatile organic compounds (SVOCs), Target Analyze List Metals (TAL Metals), PCBs, and Pesticides.

The soil samples were analyzed for volatile organic compounds (VOCs) by Method 9260B and for semi-volatile organic compounds (SVOCs) by EPA Method 8270 B/N, and target analyte list metals, PCBs as Aroclors SW-846 Method 8082, and Pesticides SW-846 Method 8081. The analytical results of the soil samples were compared to the criteria published by the New York State Department of Environmental Conservation (NYSDEC) for soils. NYSDEC has established statewide criteria for reuse of petroleum-contaminated soil, which is published in the NYSDEC STARS Memo #1 (1992). The STARS Memo provides guidance for specific petroleum-related VOCs and SVOCs, odors and other nuisance factors, and provides Toxicity Characteristic Leaching Procedure (TCLP) Alternative Guidance Values for waste characterization purposes. The NYSDEC Technical and Administrative Guidance Memorandum (TAGM) dated 1994 provides the Recommended Soil Cleanup Objectives (RSCO). TAGM provides guidance for remedial actions at NYSDEC Inactive Hazardous Waste and Spill sites, based on health-related concerns and available clean-up technologies.

In areas in which petroleum impacted soils were noted, all soils have been properly removed in accordance with the Remedial Action Plan and properly disposed. Free product noted in excavations and within underground storage tanks have been properly removed and disposed. Tanks noted have been cleaned of contents and the metals disposed on construction waste. Endpoint sampling has not been performed based on conversations with the NYSDEC. Emteque Corporation submitted a spill closure report to the NYSDEC, and NYSDEC cleared the spill and issued a "No Further Action" determination.

At the time of the revised Remedial Action Plan (October 10, 2008), all of the contaminated soils had been removed from the site, and the NYSDEC had closed the open spill number for the site. All excavation activities had been performed and the foundation walls were approximately 90 percent complete. The vapor barrier/waterproofing had been installed below the foundation slab and foundation waterproofing was pending. No further exposure to petroleum impact soils is anticipated at this time. As per the RAP, the Applicant is committed to providing 2 feet of clean fill across any uncapped portions of the site.

D. CURRENT ACTIVITIES

The applicant is continuing with foundation work on the site, which is expected to continue into 2009. This work is being performed on an as-of-right basis. Related to hazardous materials concerns, the applicant is now implementing waterproofing/vapor barrier measures for the project site.

As the proposed project is subject to CEQR review, in October 2008 DEP reviewed and approved a *Remedial Action Plan* (*RAP*) and a *Construction Health and Safety Plan* (*CHASP*). The applicant is required to ensure that these documents are followed, in order to ensure that the proposed project will not result in significant adverse hazardous materials impacts.

As foundation work is completed, contaminated soils may be uncovered and the *CHASP* details the procedures in the event suspect contaminated soils are discovered. In that case, Emteque would sample the soils, confirm contamination, and oversee removal of the soil for disposal in accordance with NYSDEC and NYCDEP requirements, which are outlined in the *CHASP*. As the site has been excavated to bedrock, additional tanks will not be uncovered.

The applicant will continue to consult with DEP regarding hazardous materials concerns on the project site during the construction of the proposed project. If necessary, the applicant will enter a restrictive declaration to bind it to measures needed to ensure that hazardous materials impacts are avoided.

E. CONCLUSION

The project site will continue to undergo as-of-right foundation work and related construction and further construction would continue under Build conditions. Hazardous materials concerns will be addressed by the applicant, in consultation with DEP and NYSDEC, as required. A *RAP* and a *CHASP*, approved by DEP are being implemented. If necessary, the applicant will enter a restrictive declaration to bind it to measures needed to ensure that hazardous materials impacts are avoided.

By following these measures, there would be no significant adverse hazardous materials impacts to construction workers, neighborhood residents, or future occupants or visitors of the new building.