Office of Environmental Remediation

"E" Designation Program

Hazardous Materials

Phase II Work Plan
(Short Form)

For

3500 Park Avenue

Bronx, NY

Block 2369, Lot 20

OER Project Number TBD

CEQR Number 08DCP022X; 3500 Park Avenue Rezoning

Prepared for:

The Bridge

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Introduction

This Phase II Investigation Work Plan has been developed for the 3500 Park Avenue site (Site). The Site is located within the Morrisania section of the Bronx. The following work scope has been developed in response to the Conditional Negative Declaration issued on September 13, 2010, an OER meeting on May 3, 2016, and due-diligence for the proposed development project.

Site Location, Current Use, and Proposed Development Plan

The Site is located in the Morrisania section of the Bronx and is identified as Block 2389, Lot 20. A Site Location Plan has been included as Figure 1. Currently, the Site is an approximately 15,207-square foot asphalt-paved parking lot with a small attendant shed on the southwestern portion. The proposed development project consists of a new residential building containing both affordable and supportive housing units. The water table is expected at approximately 20 feet below ground surface (bgs). A Site Plan has been enclosed as Figure 2.

Phase I ESA Summary

A Phase I Environmental Site Assessment (ESA) was conducted in 2006 by Land America Corporation. The Phase I ESA did not identify any *Recognized Environmental Conditions (RECs)*; however, a preliminary review of historical documents by AKRF indicated that the Site was historically used for manufacturing advertising displays and woodworking and a metal spray booth and paint shed were located at the eastern portion of the Site, which were deemed RECs by AKRF. It is noted that a new Phase I ESA will be conducted concurrently with the Subsurface (Phase II) investigation. The 2006 Phase I ESA is included in Attachment A.

Phase II Investigation Work Scope

Geophysical Survey

AKRF will conduct a geophysical survey, including ground-penetrating radar (GPR), to investigate the potential presence of underground storage tanks (USTs), underground utilities, drums, etc. GPR uses electromagnetic wave propagation and scattering to image and identify changes in electrical and magnetic properties in the ground. This task would also include a magnetometer survey to confirm the presence and location of any USTs. Magnetometers measure irregularities in the magnetic field in a given area.

Soil, Groundwater and Soil Vapor Summary

AKRF will conduct a subsurface investigation to collect soil, groundwater, and soil vapor samples for laboratory analysis. The proposed scope of the sampling includes the following:

- The advancement of a minimum of five soil borings with the collection and laboratory analysis of at least 10 soil samples;
- The installation of three temporary groundwater monitoring wells with the collection and laboratory analysis of three groundwater samples; and
- The installation of four temporary soil vapor probes with the collection and laboratory analysis of three soil vapor samples.

Each sample point location at the Site will be accurately measured to fixed benchmarks (i.e., select property lines, adjacent structures, etc.) or by a precision GPS that is capable of coordinating a fixed point with within +/- 1 foot. The proposed sample locations are shown on Figure 2.

Soil Sampling

A track mounted Geoprobe® Direct-Push Probe (DPP) drill rig will be used to advance the soil borings. Borings will be advanced to the groundwater interface, which is expected to be encountered at approximately 20 feet below grade, or bedrock, whichever is encountered first. Soil samples will be obtained in a stainless steel, macro-core sampler with an internal acetate liner and field-screened using a photoionization detector (PID), which measures relative concentrations of volatile organic compounds (VOCs). A geologist/engineer/qualified environmental professional (QEP) will screen the soil samples during borehole advancement for organic vapors with a photo-ionization detector (PID) and evaluate for visual and olfactory impacts prior to collecting environmental samples. All field work will be recorded in a field log.

At each of the soil boring locations, one soil sample would be collected from the upper two feet to evaluate shallow soil quality and one soil sample will be collected from the interval displaying the highest PID reading or visual evidence of contamination. In the absence of contamination, the second soil sample would be collected from the anticipated excavation depth, which is anticipated to be between 10 to 12 feet below grade. Discrete (grab) samples will be taken from the aforementioned sampling intervals. The subsurface soil samples may also serve as in-situ post-excavation soil samples for the remedial plan. A third soil sample may be collected from each or several test boring(s) if 1) elevated PID readings and/or visual and olfactory observations are noted during borehole advancement and/or 2) field observations identify an upper fill layer underlain by native material the additional soil sample from the upper zone of the native layer will help delineate the vertical migration of impacts (if any), as well as determine a more detailed remedy and potentially provide a cost savings for disposal options.

Monitoring Well Installation and Groundwater Sampling

Three of the five soil borings will be converted into temporary one-inch diameter groundwater wells to facilitate groundwater sample collection. Each temporary well will be installed to approximately 5 feet below the groundwater interface (assumed total depth of 25 feet below grade). Representative groundwater samples will be collected from each well using low-flow sampling techniques. Sampling will be conducted in accordance with NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation, dated May 2010, and Sampling Guidelines and Protocols, dated March 1991. Groundwater wells will be gauged with a water level meter to record a depth to groundwater reading (1/100 foot), and if necessary, an interface meter to determine the thickness of free floating product.

Following sampling, the temporary wells will be removed, the borings backfilled with the soil cuttings, and patched at grade with asphalt by the drilling contractor.

Soil Vapor Sampling

Samples will be collected in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006). Conditions in the field may require adjustment of sampling locations. Groundwater is expected to be encountered at a depth of 20 feet.

The Geoprobe® DPP unit will be used to install four soil vapor points from select locations to evaluate soil vapor. The soil vapor samples would be collected from approximately 12 feet below grade. Samples will be collected in appropriate sized Summa canisters that have been certified clean by the laboratory and samples will be analyzed by using USEPA Method TO-15. A flow controller will be affixed to each canister and calibrated for sample collection over a 120-minute period. Flow rate for both purging and sampling will not

exceed 0.2 liters per minute (L/min). 24 hours following soil vapor probe installation, one to three implant volumes shall be purged prior to the collection of any soil-gas samples. A sample log sheet will be maintained summarizing sample identification, date and time of sample collection, sampling depth, identity of samplers, sampling methods and devices, soil vapor purge volumes, volume of the soil vapor extracted, vacuum of canisters before and after the samples are collected, apparent moisture content of the sampling zone, and chain of custody protocols.

As part of the vapor intrusion evaluation, a tracer gas will be used in accordance with NYSDOH protocols to serve as a quality assurance/quality control (QA/QC) device to verify the integrity of the soil vapor probe seal. A container (box, plastic pail, etc.) will serve to keep the tracer gas in contact with the probe during testing. A portable monitoring device will be used to analyze a sample of soil vapor for the tracer gas prior to sampling. If the tracer sample results show a significant presence of the tracer, the probe seals will be adjusted to prevent infiltration. At the conclusion of the sampling round, tracer monitoring will be performed a second time to confirm the integrity of the probe seals.

For quality assurance/quality control (QA/QC) purposes and to establish background conditions, one ambient air sample will be collected concurrently with the soil vapor samples.

Sample Analysis

Soil, groundwater, and soil vapor samples will be submitted to a NYSDOH Environmental Laboratory Accreditation Program (ELAP)-certified laboratory for analysis of the following:

- TCL VOCs by EPA Method 8260;
- TCL Semi-volatile organic compounds by EPA Method 8270;
- TCL Pesticides/PCBs by EPA Method 8081/8082;
- Target Analyte List metals by EPA Method 6010 and 7471; and
- Soil vapor samples will be analyzed for VOCs by using USEPA Method TO-15.

All groundwater samples will be analyzed for both filtered (dissolved) and unfiltered (total) metals. If either LNAPL and/or DNAPL are detected, appropriate samples will be collected for characterization and “finger print analysis” and required regulatory reporting (i.e. NYSDEC spills hotline) will be performed.

Quality Assurance/Quality Control Procedures

QA/QC procedures will be used to provide performance information with regard to accuracy, precision, sensitivity, representation, completeness, and comparability associated with the sampling and analysis for this investigation. Field QA/QC procedures will be used (1) to document that samples are representative of actual conditions at the Site and (2) identify possible cross-contamination from field activities or sample transit. Laboratory QA/QC procedures and analyses will be used to demonstrate whether analytical results have been biased either by interfering compounds in the sample matrix, or by laboratory techniques that may have introduced systematic or random errors to the analytical process. QA/QC samples (one field blank, one trip blanks, one blind duplicate, and one matrix spike/matrix spike duplicate) will be collected and analyzed at an ELAP-certified laboratory.

Investigation Derived Waste

Cuttings may be disposed at the Site within the borehole that generated them to within 24 inches of the surface unless:

- Free product or grossly contaminated soil are present in the cuttings;
- The borehole has penetrated an aquitard, aquiclude or other confining layer; or extends significantly into bedrock;
- Backfilling the borehole with cuttings will create a significant path for vertical movement of contaminants. Soil additives (bentonite) may be added to the cuttings to reduce permeability;
- The soil cannot fit into the borehole.

Those soil cuttings needing to be managed on-site will be containerized in properly labeled DOT approved 55-gallon drums for future off-site disposal at a permitted facility. All boreholes which require drill cuttings disposal would ultimately be filled with bentonite chips (hydrated) and asphalt/concrete capping. Disposable sampling equipment including, spoons, gloves, bags, paper towels, etc. that came in contact with environmental media will be double bagged and disposed as municipal trash in a facility trash dumpster as non-hazardous trash.

Reporting

A Phase II Investigation Report (template version) will be prepared following completion of the field activities and receipt of the laboratory data. The report will provide detailed summaries of the investigative findings. Soil, groundwater and soil vapor analytical results will be compared to the NYSDEC Part 375-6.8(a) Unrestricted Used Soil Cleanup Objectives, appropriate Part 375-6.8(b) Restricted Soil Cleanup Objectives and NYSDEC Part 703 Groundwater Quality Standards (GQS) (class GA) or Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS), and NYSDOH October 2006 Final Guidance for Evaluating Soil Vapor Intrusion Matrices. The report will include an updated sampling plan, spider diagrams, analytical data tables for all reported constituent compounds (including non-detectable concentrations) and remedial recommendations, as warranted.

Investigation HASP

An OSHA compliant Health and Safety Plan that meets all OSHA HAZWOPER requirements will be implemented during the Site work to protect worker safety. The Site Safety Coordinator will ensure full compliance of the HASP in accordance with applicable health and safety laws and regulations. All field personnel involved in investigation activities will participate in training required under OSHA HAZWOPER 29 CFR 1910.120, including 40-hour hazardous waste operator training and annual 8-hour refresher training. Emergency telephone numbers will be posted at the site location before any work begins. A safety meeting will be conducted before each shift begins. Topics to be discussed include task hazards and protective measures (physical, chemical, environmental); emergency procedures; PPE levels and other relevant safety topics including a highlighted route map to the nearest hospital/emergency room. Meetings will be documented in a log book or specific form. Potential on-site chemicals of concern include VOCs, SVOCs, Pesticides/PCBs, and Metals (specifically arsenic, lead, and mercury at a minimum). Information fact sheets and/or summary tables for each contaminant group are included in the HASP. A copy of this HASP will be on-site during each sampling event and is attached as Appendix B.