

EXECUTIVE SUMMARY

Site Description, Physical Setting and Site History

The Sites are identified as 220-222, 228, 230 and 232 East 125th Street, New York, New York, and are further described as Block 1789, Lots 39 (Site A), and 36, 35 and 34 (Site B), respectively. Church of Scientology Religious Trust is filing an application to enter into the New York City Brownfield Cleanup Program (NYC BCP) under the management of the Mayor's Office of Environmental Remediation (OER) as a Volunteer. The sites are associated with Brownfield Cleanup Program ID number 11CBCP004M and 11CBCP005M.

The sites consist of two developments separated by The New York Public Library located at 226 East 125th Street. Both sites are bounded by East 125th Street to the north, East 124th Street to the south, and are between 2nd Avenue to the east, and 3rd Avenue to the west, in the Borough of Manhattan, New York.

The site at 220-222 E 125th Street, or Lot 39 (Site A), is a rectangular-shaped lot, approximately 5,046 square feet in size that is currently developed with a 6-story commercial building with a full basement. The site at 228 E 125th Street, or Lot 36 (with Lot 35 and 34, collectively, Site B), is a rectangular-shaped lot approximately 2,523 square feet in size that is currently developed with a 2-story commercial building with no basement. 230 E 125th Street, or Lot 35, is a rectangular-shaped lot approximately 2,523 square feet in size that is currently developed with a 2-story building with a full basement. 232 E 125th Street, or Lot 34, is a rectangular-shaped lot approximately 2,523 square feet in size that is currently developed with a 3-story building with a full basement. The entire site is currently unoccupied.

The topography of the site and its vicinity is generally level. The surrounding property uses are predominantly residential and commercial.

The applicant is proposing to make the Site protective of human health and the environment consistent with the contemplated end use as a Church of Scientology (Site B) and an administration building for the Church of Scientology (Site A).

Summary of Past Uses of Site and Areas of Concern

Based on a review of Fire Insurance Maps and Regulatory Agency documents from a Phase I Environmental Site Assessment (ESA) Report prepared by Hydro Tech Environmental in October 2010, a Site history was established. The Sites were historically utilized for commercial purposes. The property located at Lot 36 on Site B was utilized as a coal yard in 1896 and as a manufacturing facility from 1939 to 2005. Lot 36 was last utilized for printing operations. The property located at Lot 39 (Site A) was utilized for manufacturing operations from 1950 to 1963. Lots 34 and 35 (Site B) were utilized for commercial operations from 1939 to 2005. Lot 35 was utilized as a laundry in 1911. Lots 34 and 35 were last utilized as a Church.

AOCs are listed below:

1. AST in northern portion of Lot 39.
2. Presence of historical fill and historical utilization of Lot 36 for printing operations and Lot 39 for manufacturing purposes.
3. Presence of petroleum staining of foundation slab at Lot 36.

Summary of the Work Performed under the Remedial Investigation

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);
2. Installed six soil borings in Lots 34, 35 and 36 (Site B) and three soil borings in Lot 39 (Site A), and collected seventeen soil samples for chemical analysis from the soil borings to evaluate soil quality; one soil boring did not contain soil at depth of zero to 2 feet and was terminated at 4 feet due to groundwater.
3. Installed three groundwater monitoring wells in Site B and two groundwater monitoring wells in Site A to establish groundwater flow and collected five groundwater samples for chemical analysis to evaluate groundwater quality. Performed a groundwater survey to determine the site specific groundwater flow direction.
4. Installed nine soil vapor probes around Site perimeter in Site B and six soil vapor probes around Site perimeter in Site A and collected fifteen samples for chemical analysis.

5. One indoor air sample was collected in Site B and one indoor air sample was collected in Site A for chemical analysis. One outdoor air sample was collected for chemical analysis.

Summary of the Hydrogeological Findings

The Geology and Hydrogeology of the Sites have been thoroughly investigated. Findings of the investigations indicate:

1. Depth to groundwater beneath the sites is approximately 12 feet.
2. Groundwater flow is generally from west to east beneath the Site.
3. Bedrock was not encountered during geotechnical or soil borings investigations. During the geotechnical investigation a boring was installed to 100 feet below grade and bedrock was not identified.
4. The stratigraphy from street grade to a depth of 8 feet at Lot 36 consists of fill material. The fill is underlain by glacial alluvium.

Summary of the Environmental Contamination

1. **Site A Soil:** Materials beneath the foundation slab on this 1/9 acre property were sampled at three locations. No SVOCs exceeded Track 1 Soil Cleanup Objectives (SCOs). VOCs did not exceed Track 1 SCOs. Extremely low levels of metals were identified in soil samples. Metals did not exceed Track 1 SCOs.
2. **Site A Groundwater:** Groundwater is identified at 10 feet depth below street grade. Groundwater contained very low levels of dissolved metals in samples. Groundwater samples achieved Class GA Groundwater standards for dissolved metals. SVOCs, PCBs and Pesticides were not detected. No VOCs were detected above the Class GA groundwater standards. Unfiltered samples showed evidence of soil turbidity. No saline intrusion was evident.
3. **Site A Soil Vapor:** Soil vapor samples were collected at 6 locations on the 1/9 acre site and showed wide spread but generally low to moderate levels of BTEX compounds. Individual BTEX ranged from ND to 87 ug/m³ with highest concentrations on the south side of the property. Similarly, trichlorethylene and perchlorethylene were detected in

two of six samples and on the south side of the property. Concentrations of these two contaminants were very low and did not exceed 0.6 ug/m^3 in either sample. No onsite source of BTEX or chlorinated VOC was detected and soil vapor findings are attributed to off-site activities and are not related to an on-site source.

4. **Site B Soil:** Soil/fill samples confirmed the presence of moderate concentrations of SVOCs, mostly PAH compounds, in shallow soil/fill on Lot 36 and low concentrations on Lot 35 and 34. SVOCs are attributed to the presence of historic fill. SVOCs are present in soil from zero to 2 feet in the northern and southern quadrants of Lot 36. PAHs are not detected in deeper soil samples on any of the three lots. No other SVOCs were detected in the deep soil samples. No VOCs were detected in any soil sample above Track 1 SCOs. Metals were identified in soil from zero to 2 feet in northern and southern portions of Lots 34, 35 & 36. Elevated levels of metals were not detected in any of the deep soil samples.
5. **Site B Groundwater:** Groundwater is identified at 10 feet depth below grade. Groundwater contained very low levels of dissolved metals in samples. Unfiltered samples showed evidence of soil turbidity. No saline intrusion was evident. SVOCs, PCBs and Pesticides were not detected. No VOCs were identified above Class GA groundwater standard. Perchloroethylene was identified in groundwater below Class GA groundwater standards on Lot 34 and 35 and trichloroethylene was identified below Class GA groundwater standards in a monitor well on Lot 35. Perchloroethylene and trichloroethylene were not identified on Lot 36. No VOCs exceeded applicable groundwater standards.
6. **Site B Soil Vapor:** Sub slab soil vapor samples from Lots 34, 35 and 36 exhibited BTEX (and other compounds associated with a gasoline spill) and perchloroethylene and trichloroethylene. Total VOC compounds in soil vapor ranged from 0.250 ug/m^3 to 750 ug/m^3 beneath Lots 34, 35 and 36. The site contaminants observed in sub-slab soil vapor appear to be related to two sources, a gasoline-associated source and a chlorinated solvent source. Highest concentrations of chlorinated hydrocarbons are found on the north side and south side of Lots 35 and 36. BTEX concentrations occur in all nine of the soil vapor probes on the property, with concentrations below 60 ug/m^3 in all cases and no clear pattern of higher concentrations on the lots. Gasoline management or distribution activities or other activities that would be associated with BTEX were not identified in past usage of any of the lots on this site. No BTEX was observed in any of the soil or groundwater samples collected on the three lots that make up the site. Similar to Site A where no contamination was observed and BTEX was identified in soil vapor, this

suggests an off-site BTEX source. Lot 36, the westernmost of the three lots, was most recently utilized for printing operations which may explain the observations of PCE and TCE. However, the study did not detect any PCE or TCE in shallow or deep soil samples or groundwater samples on Lot 36 or in soil on either of the two adjacent lots.

Groundwater did show low levels of PCE and TCE (below 3 ug/l) under the former church property but neither compound was identified under Lot 36. These findings are not consistent with an onsite source on Lot 36 but could be explained by a nearby offsite source. Much of the neighborhood is paved and soil vapor can be expected to persist and migrate laterally from its original source area. The plan for redevelopment of the property, including Lot 36, involves the removal of soil and fill down to a final depth of approximately 12-14 feet below street grade. Lot 36 has no basement and substantial soil will be removed during this activity. During excavation activities, soil and fill will be screened by visual, olfactory and PID methods. If an on-site source area for PCE or TCE exists on Lot 36, it is anticipated that it will be removed during soil/fill excavation.

Based on the results of this RI, we conclude that there is no evidence to suspect disposal of significant quantities of hazardous waste

Summary of the Remedy

The preferred remedy listed below achieves protection of public health and the environment for the intended use of the property. The preferred remedial action alternative achieves all of the remedial action objectives established for the project and addresses applicable SCGs. The preferred remedial action alternative is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants. The preferred remedial action alternative is cost effective, implementable and uses standards methods that are well established in the industry.

Remedial elements to be implemented at Site A will include:

1. Preparation of a Community Protection Statement and performance of all required NYC BCP citizen participation activities according to an approved Citizen Participation Plan (CPP).

2. Establishment of Track 1 Soil Cleanup Objectives (SCOs). The site already achieves Track 1 SCOs and removal action is not required.
3. Removal of an AST in the building basement and register as required by New York State laws and regulations.
4. Placement of a vapor barrier on the existing slab, placement of a new 2-inch layer of cement on the barrier, and operation of a positive pressure HVAC in the basement level to provide protection from soil vapor intrusion from off-site.
5. Screening during any basement excavations for indications of contamination by visual means, odor, and monitoring with a photo ionization detector (PID).
6. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas.
7. Performance of Community Air Monitoring Program for particulates and volatile organic carbon compounds.
8. Submission of a RAR which describes the remedial activities including any changes from this RAWP, certifies that the remedial requirements have or will be achieved, defines the Site boundaries, and describes any Engineering and Institutional Controls to be implemented at the Site.

Remedial elements to be implemented at Site B will include:

1. Preparation of a Community Protection Statement and performance of all required NYC BCP citizen participation activities according to an approved Citizen Participation Plan (CPP).
2. Establishment of Track 1 Soil Cleanup Objectives (SCOs).
3. Excavation and removal of soil/fill to a depth of 12-14 feet below street grade including 12-14 feet at Lot 36 and approximately 2 feet beneath existing basements at Lots 35 and 34. Application of Track 1 SCOs for soils that will not be excavated.
4. Construction of an engineered composite cover consisting of a 2-foot mat-slab.

5. Construction of a vapor barrier beneath the building slab and operation of a positive pressure HVAC in the building basement to address potential soil vapor intrusion from offsite.
6. Performance of Community Air Monitoring Program for particulates and volatile organic carbon compounds.
7. Collection and analysis of end-point samples to evaluate the performance of the remedy with respect to attainment of Track 1 SCOs.
8. Screening for indications of contamination by visual means, odor, and monitoring with a photo ionization detector (PID) of excavated soil/fill during all intrusive work.
9. Transportation and off-Site disposal of all soil/fill material at permitted facilities in accordance with all Federal, State and City laws and regulations for handling, transport, and disposal.
10. Sampling and analysis of excavated media as required by disposal facilities.
11. Appropriate segregation of excavated media for off-site disposal.
12. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas.
13. Implementation of storm-water pollution prevention measures.
14. Performance of all activities associated with the remedial action, including permitting requirements and pretreatment requirements, will be addressed in accordance with all applicable Federal, State and City laws and regulations.
15. Import of materials to be used for backfill and cover in compliance with OER approved plan and in accordance with all Federal, State and City laws and regulations.
16. Placement of backfill material in excavated areas as needed.
17. If Track 1 cannot be achieved, recording of a Declaration of Covenants and Restrictions that includes a full listing of Engineering Controls and Institutional Controls and notice that these controls must be maintained within a Site Management Plan to prevent future exposure to any residual contamination remaining at the Site.

18. If Track 1 cannot be achieved, establishment in a recorded Declaration of Covenants and Restrictions, a series of Institutional Controls on the Site, including: (1) compliance with the provisions of the recorded Declaration of Covenants and Restrictions; (2) compliance with provisions of the approved Site Management Plan; (3) operation and maintenance of Engineering Controls as specified in the Site Management Plan; (4) inspection and certification of all Engineering Controls at a frequency and in a manner defined in the Site Management Plan; (5) performance of environmental and public health monitoring as defined in the Site Management Plan; (6) reporting at a frequency and in a manner defined in the Site Management Plan; (7) protection of on-Site monitoring devices in a manner specified in the SMP; and (8) prohibition of discontinuation of Engineering Controls without an OER-approved amendment or extinguishment of the Declaration of Covenants and Restrictions.
19. If Track 1 cannot be achieved, establishment in a recorded Declaration of Covenants and Restrictions, a series of site restriction Institutional Controls on the Site, including: (1) prohibition of vegetable gardening and farming; (2) prohibition of the use of groundwater without treatment rendering it safe for the intended use; (3) prohibition on all disturbance of residual contaminated material unless it is conducted in accordance with the provisions in the Site Management Plan; and (4) prohibition on higher level of land usage without an OER-approved amendment or extinguishment of this Declaration of Covenants and Restrictions.
20. Submission of a RAR which describes the remedial activities including any changes from this RAWP, certifies that the remedial requirements have or will be achieved, defines the Site boundaries, and describes any Engineering and Institutional Controls to be implemented at the Site.
21. If Track 1 cannot be achieved, submission of an approved Site Management Plan in the Remedial Action Report for long-term management of residual contamination, including plans for Institutional and Engineering Controls for: (1) inspection and certification, (2) monitoring, (3) operation and maintenance, and (4) reporting.