3475 Third Avenue

BRONX, NEW YORK

Remedial Action Work Plan

NYSDEC BCP Number: C203080

Prepared for:

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CERTIFICATIONS

I, Jolanda Jansen, certify that I am currently a NYS registered professional engineer and that this Remedial Action Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

068972-1	11/9/2015	
NYS Professional Engineer #	Date	Signature

It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

FINAL REMEDIAL ACTION WORK PLAN

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LIST OF ACRONYMS

Acronym	Definition
AST	Aboveground Storage Tank
CAMP	Community Air Monitoring Plan
C&D	Construction & Demolition
CEQR	City Environmental Quality Review
CFR	Code of Federal Regulations
CHASP	Construction Health and Safety Plan
CO	Certificate of Occupancy
CPC	City Planning Commission
DSNY	Department of Sanitation
"E"	E-Designation
EAS	Environmental Assessment Statement
EIS	Environmental Impact Statement
ESA	Environmental Site Assessment
EC/IC	Engineering Control and Institutional Control
ELAP	Environmental Laboratory Accreditation Program
FDNY	New York City Fire Department
GPR	Ground Penetrating Radar
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations Emergency Response
IDW	Investigation Derived Waste
Notice - NNO	Notice of No Objection
Notice - NTP	Notice To Proceed
Notice - NOS	Notice Of Satisfaction
Notice - FNOS	Final Notice of Satisfaction
NYC BSA	New York City Board of Standards and Appeals
NYC DCP	New York City Department of City Planning
NYC DEP	New York City Department of Environmental Protection
NYC DOB	New York City Department of Buildings
NYC DOF	New York City Department of Finance

Acronym	Definition
NYC HPD	New York City Housing Preservation and Development
NYCRR	New York Codes Rules and Regulations
NYC OER	New York City Office of Environmental Remediation
NYS DEC	New York State Department of Environmental Conservation
NYS DEC DER	New York State Department of Environmental Conservation Division of Environmental Remediation
NYS DEC PBS	New York State Department of Environmental Conservation Petroleum Bulk Storage
NYS DOH	New York State Department of Health
NYS DOT	New York State Department of Transportation
OSHA	United States Occupational Health and Safety Administration
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PE	Professional Engineer
PID	Photo Ionization Detector
PM	Particulate Matter
QEP	Qualified Environmental Professional
RA	Register Architect
RAWP	Remedial Action Work Plan
RCA	Recycled Concrete Aggregate
FER	Final Engineering Report
RD	Restrictive Declaration
RI	Remedial Investigation
SCOs	Soil Cleanup Objectives
SCG	Standards, Criteria and Guidance
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
SSDS	Sub-Slab Depressurization System
SVOCs	Semi-Volatile Organic Compounds
USCS	Unified Soil Classification System

Acronym	Definition
USGS	United States Geological Survey
UST	Underground Storage Tank
TAL	Target Analyte List
TCL	Target Compound List
TCO	Temporary Certificate of Occupancy
VB	Vapor Barrier
VOCs	Volatile Organic Compounds

EXECUTIVE SUMMARY

167 - 168 Third Avenue LLC has established this plan to remediate a 17,600-square foot site located at 3475 Third Avenue in Bronx, New York. A Phase II Subsurface Investigation (Phase II) was performed to compile and evaluate data and information necessary to develop this Remedial Action Work Plan (RAWP). The remedial action described in this document achieves the remedial objectives, complies with applicable environmental standards, criteria and guidance and conforms to applicable laws and regulations.

Site Description/Physical Setting/Site History

The Project Site (3475 Third Avenue, in Morrisania section of Bronx, NY 10456) is a mid-block parcel (Block 2372, Lot 37) in a MX zone district that encourages projects of mixed-use within the same building. Figure 2 shows the Site location. The Site is approximately 17,600-square feet and is bounded by: Lots 11 (multi-family residential), 13 (vacant land), 15 (vacant land/parking) and 18 (automotive repair) to the west; Lot 32 to the north (two, five story commercial structures); Lot 41 to the south (multi-family residential); and, Third Avenue to the east. Sensitive receptors within 500 feet of the site include the Ready, Set, Learn LLC, daycare facility adjoining to the south at 3467 Third Avenue, and The Habitot ES, LLC daycare center adjoining to the east, at 3480 Third Avenue. A map of the site boundary is shown in Figure 1.

The project site is currently occupied by two vacant structures. A two-story building comprised of former community space on the ground floor and former offices on the second floor is located at the southern end of the Site. To the north, and occupying the remainder of the Site, is a three-story building with former retail and self-storage on the ground floor and former self-storage on the second and third floor. The proposed site for this project has a large street frontage of approximately 150.5’ and a sizable footprint of roughly 17,600 square feet. The proposed development of a 100% affordable housing project will be comprised of the construction of a new 12 story building. Beginning at grade level, the project design includes commercial space, an elevator bank, a two-story lobby with a security equipment room and mail room. The residential apartments commence on the second floor. The cellar houses the laundry, parking, and utilities. A boiler and elevator mechanical room are located at the roof level. The project will emphasize sustainability and be designed to meet the Enterprise Green Communities criteria.

Historical records indicate that the Site was developed as early as 1891. The current on-site buildings were constructed sometime between 1909 and 1951. Historical operations at the southern on-site structure have included a chemical company, automotive repair, manufacture of textiles and dyeing and finishing. Historical activities at the northern on-site structure have included a chemical company, manufacture of textiles, manufacture of bed springs, and dyeing and finishing. The Site was formerly registered as a large quantity generator of hazardous waste (1996), and a small quantity generator (1998 and 2002). The USEPA ID for the site is NYR000013144. Wastes generated included non-listed corrosive wastes, non-listed ignitable wastes, non-listed reactive wastes, toluene diisocyanate, and phenol. The Site is encumbered with an E-designation (E-118) for Hazardous Materials.

Summary of Proposed Redevelopment Plan

Development plans for the Site include the demolition of existing on-site structures and construction of a twelve story residential building with commercial space on the ground floor. A cellar accessed by a ramp down from a Third Avenue entrance at the southeast corner of the building occupies the entire building footprint. The cellar will contain a vehicle parking, laundry room, and utility/meter rooms. Total excavation depth for the cellar is anticipated to be approximately fourteen feet below surface grade (bsg). The excavation depth will be shallower at the ramp down to the cellar parking lot from Third Avenue and slightly deeper at the location of elevator pits. Groundwater has been documented at a depths between 15.75 and 15.90 feet bsg. The total volume of material to be excavated to facilitate construction of the cellar is anticipated to be 214,900 cubic feet (8,000 cubic yards). Soil volume is estimated based on 17,600 square feet x 14 feet = 246,400 cubic feet, minus 31,500 cubic feet where three existing cellars are present in the southern and eastern portions of the site. It is anticipated that the excavated material will be comprised of three waste streams including: poor quality urban fill (2,600 cubic yards), bedrock (1,600 cubic yards), and native soils (3,800 cubic yards). The current zoning designation is M1-1/R7-2, for manufacturing and residential use. The proposed use is consistent with existing zoning for the property. Proposed Development Plans are included as Appendix D. A Site Excavation Map is included as Figure 7.

Summary of Environmental Investigation

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);
2. Collected samples from two mechanized soil borings (extended by URS), eleven hand borings, and ten test pits extended by others across the entire project Site, and collected 32 soil samples for chemical analysis from the soil borings to evaluate soil quality;
3. Collected samples from three groundwater monitoring wells (MW-5, 2MW-1 and 2MW-2) and collected groundwater samples from two test pits (W-1 and W-2) extended by others for chemical analysis to evaluate groundwater quality. Depth to groundwater measurements were taken at the wells to establish groundwater flow;
4. Installed eight temporary soil vapor probes, and collected eight soil vapor samples for chemical analysis.

Summary of Environmental Findings

1. Elevation of the property at the Third Avenue sidewalk ranges from 43.2 feet to 45.1 feet.
2. Depth to groundwater ranges from between 15.78 and 15.90 feet bsg at the Site according to geotechnical reports. Groundwater flow is generally from north to south beneath the Site.
3. Depth to bedrock is variable throughout the site and is shallower in the west and south, becoming relatively deeper to the north and east. Shallow bedrock is present at depths between 1'9" and 8'7 below the surface of the concrete floor in the western half of the site with the shallowest bedrock in the southwest corner. Bedrock was encountered at depths between 17' and greater than 25' below the concrete slab at the eastern side of the site.
4. The stratigraphy of the site, from the surface (concrete floor of the self-storage area, or unfinished basement floors) down, consists of between 0.5' and 2' of urban fill (ash, slag, coal dust) underlain by a layer of native, course reddish brown sand with varying amounts of silt and gravel that extends to bedrock. Bedrock depths vary from between

1-2 feet below the surface at the western side of the site to more than 25 feet below sidewalk grade at the eastern side of the site.

5. Soil/fill samples collected during the RI were compared to NYSDEC Part 375-6 Unrestricted Use (Track 1) and Restricted Residential Use (Track 2) Soil Cleanup Objectives (SCOs). One VOC, acetone (maximum of 0.051 mg/Kg) was detected above its Unrestricted Use SCO. Several SVOCs were identified at low concentrations, all below their respective Unrestricted Use SCOs. Metals including arsenic (maximum 27.9 mg/Kg), barium (maximum 3,850 mg/Kg), iron (maximum 83,100 mg/Kg), lead (maximum 2,960 mg/Kg), mercury (maximum 1.54 mg/Kg), and zinc (maximum 2,500 mg/Kg) were detected above Restricted Residential SCOs. Chromium (maximum 63.9 mg/Kg), copper (maximum 164 mg/Kg) and nickel (maximum 32.8 mg/Kg) also exceeded their Unrestricted Use SCOs. All these maximum concentrations were detected in one shallow sample location [TP-3 (0-2')], indicating a hotspot. Shallow borings subsequently extended in the vicinity of TP-3 to a depth of 6 feet bsg, together with analysis of soil samples from the se borings for total weight lead, support the conclusion that the volume of soils with elevated metals concentrations at this location is likely limited to the immediate vicinity of TP-3 and is unlikely to represent a volume exceeding 60 cubic yards. Three pesticides, 4,4'-DDD (maximum 0.039 mg/Kg) 4,4'-DDE (maximum 0.237 mg/Kg), and 4,4'-DDT (maximum 0.279 mg/Kg) were detected above their Unrestricted Use SCOs at five shallow samples. No PCBs were detected above Unrestricted Use SCOs.

6. Groundwater samples collected during the RI were compared to NYSDEC 6NYCRR Part 703.5 Groundwater Quality Standards (GQS). Groundwater samples showed no detected concentrations of pesticides or PCBs. No VOC was detected above GQS. One SVOC, hexachlorobenzene (at 0.35 µg/L in MW-5) exceeded its GQS. Several metals were identified in groundwater, and of those, sodium (maximum 702,000 mg/L), magnesium (maximum 59,800 mg/L) and iron (maximum 1,120 mg/L) were detected above their respective GQSs.

7. Soil vapor samples collected during the RI were compared to the compounds listed in the New York State Department of Health (NYSDOH) Final Guidance for Evaluating Soil Vapor Intrusion. Soil vapor results show a wide range of compounds throughout the property including BTEX and associated petroleum related compounds as well as

chlorinated hydrocarbons. The concentrations of BTEX compounds were detected at maximum concentration of 86 µg/m^3. Most compounds were detected at concentrations less than 20 µg/m^3, except for acetone, that was detected at maximum concentrations of 113 µg/m^3. Chlorinated VOCs methylene chloride (maximum 74 µg/m^3), carbon tetrachloride (maximum 53.2 µg/m^3), tetrachloroethene (maximum 43.2 µg/m^3), TCA (maximum 87.3 µg/m^3) and trichloroethene (maximum 10 µg/m^3) were detected in one or more soil vapor samples.

Qualitative Human Health Exposure Assessment

The qualitative exposure assessment identified potential completed routes of exposure to construction workers and remediation workers through inhalation, ingestion and dermal contact of petroleum compounds and heavy metals during excavation activities. The Health and Safety Plan prepared for the site (HASP, included as Appendix C) identifies such exposures and provides instructions for on-site workers to minimize potential exposure.

No potential environmental impacts through the groundwater to surface water discharge were identified.

Summary of the Remedy

The proposed remedial action achieves all of the remedial action goals established for the project. The proposed remedial action is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants and uses standard methods that are well established in the industry. The proposed remedial action will consist of:

1. Performance of all required NYS BCP Citizen Participation activities according to an approved Citizen Participation Plan.
2. Perform a Community Air Monitoring Program for particulates and volatile organic carbon compounds.
3. Selection of Track 2 Restricted Residential Use SCOs for the protection of public health. Due to deep excavation for development, large areas of the property are expected to achieve Track 1 Unrestricted Use SCOs.
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas.

5. Completion of a Waste Characterization Study prior to excavation activities. Waste characterization soil samples will be collected at a frequency dictated by disposal facility(s).

6. Removal of concrete vaulted aboveground storage tanks in compliance with applicable local, State and Federal laws and regulations.

7. Excavation and removal of soil/fill exceeding Track 2 SCOs. The entire building footprint will be excavated to a depth of approximately 14 feet below grade for development purposes. A small portion of property will be excavated to a slightly deeper depth for elevator pits. A ramp down from Third Avenue to the cellar parking area at the southern end of the site will be excavated to shallower depths. Approximately 8,000 cubic yards of soil/fill will be removed from the Site and properly disposed at an appropriately licensed or permitted facility.

8. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID. Appropriate segregation of excavated media on-Site.

9. Management of excavated materials including temporarily stockpiling and segregating in accordance with defined material types and to prevent co-mingling of contaminated material and non-contaminated materials.

10. Transportation and off-Site disposal of all soil/fill material at licensed or permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media on-Site.

11. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations.

12. If Track 2 SCOs are not met, exposure to residual soil/fill will be prevented by an engineered composite cover system comprised of a concrete slab and associated sub base materials which will be considered an engineering control as part of a Track 4 remedy and subject to a SMP.

13. Installation of a Waterproofing Membrane with a minimum 20 mil thickness under the entire building slab and behind sub-grade sidewalls. All membrane seams and penetrations will be sealed according to the manufacturer's recommendations and instructions. If the membrane is installed as a means to address contaminated site media, it will be considered a vapor barrier and part of the remedy requiring a SMP. Waterproofing Membrane specifications are included as Appendix F. A Site-Wide Basement Slab and Waterproofing Membrane Plan is included as Figure 8.

14. The subgrade parking area will be constructed and operated with high volume air exchange in compliance with the NYC Building Code and will not require installation of an active sub-slab depressurization system (SSDS). A determination as to the need for installation and operation of an active SSDS under the building slab in all areas of the building where parking is not present on the first constructed level of the building will be made after completion of soil vapor sampling following excavation and remediation of soil and fill. This decision will also include consideration of the efficacy of such a system where the building slab will rest directly on bedrock surface.

15. Performance of all activities required for the remedial action, including acquisition of required permits and attainment of pretreatment requirements, in compliance with applicable laws and regulations.

16. Dewatering in compliance with city, state, and federal laws and regulations. Extracted groundwater will either be containerized for off-site licensed or permitted disposal or will be treated under a permit from New York City Department of Environmental Protection (NYCDEP) to meet pretreatment requirements prior to discharge to the sewer system.

17. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations.

18. Submission of a Final Engineering Report (FER) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, lists any changes from this RAWP, and describes all Engineering and Institutional Controls to be implemented at the Site.

19. If Track 2 SCOs are not met, submission of an approved Site Management Plan (SMP) in the FER for long-term management of residual contamination, including plans for operation, maintenance, monitoring, inspection and certification of Engineering and Institutional Controls and reporting at a specified frequency.

20. Recording of an environmental easement that includes a listing of Institutional Controls. Institutional Controls will include prohibition of the following: (1) vegetable gardening and farming; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without NYSDEC approval. If Track 2 SCOs are not met, the environmental easement will include a listing of Engineering Controls and a requirement that management of these controls must be in compliance with an approved SMP.

REMEDIAL ACTION PLAN

1.0 INTRODUCTION

167 - 168 Third Avenue LLC entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) in June, 2015, to investigate and remediate a 17,600-square feet property located at 3475 Third Avenue in Bronx County, New York. 167 - 168 Third Avenue LLC is a Volunteer in the Brownfield Cleanup Program. Residential use is proposed for the property. When completed, the Site will contain a twelve story residential building with a full cellar. Refer to the Brownfield Cleanup Program (BCP) application for additional details.

This Remedial Action Work Plan (RAWP) summarizes the nature and extent of contamination as determined from data gathered during the Remedial Investigation (RI), performed between March 2015 and August 2015. It provides an evaluation of a Track 1 cleanup, where Unrestricted Use SCOs are met, Track 2 cleanup, where Restricted Residential Use SCOs are met, and a Track 4 cleanup where Track 2 SCOs are not met and a composite cover system comprised of a vapor barrier, concrete slab and sub base materials are installed across the entire site. The remedy described in this document is consistent with the procedures defined in DER-10 and complies with all applicable standards, criteria and guidance. The remedy described in this document also complies with all applicable Federal, State and local laws, regulations and requirements. The NYSDEC and New York State Department of Health (NYSDOH) have determined that this Site does not pose a significant threat to human health and the environment. The RI for this Site did not identify fish and wildlife resources.

A formal Remedial Design document will not be prepared.

1.1 SITE LOCATION AND DESCRIPTION

The Site consists of one lot in the Morrisania section of Bronx, New York and is identified as Block 2372 and Lot 37 on the New York City Tax Map. Figure 1 shows the Site location. The Site is approximately 17,600-square feet and is bounded by Lots 11, 13, 15 and 18 to the west,

Lot 32 to the north, Lot 41 to the south and Third Avenue to the east. A map of the site boundary is shown in Figure 2 and a boundary map is attached to the BCA as required by Environmental Conservation Law (ECL) Title 14 Section 27-1419. The project site is currently occupied by two vacant structures. A two-story building comprised of former community space on the ground floor and former offices on the second floor is located at the southern portion of the Site. To the north, and occupying the remainder of the Site, is a three-story building with former retail and former self-storage on the ground floor and former self-storage on the second and third floor. Historical operations at the southern on-site structure have included a chemical company, automotive repair, manufacture of textiles and dyeing and finishing. Historical activities at the northern on-site structure have included a chemical company, manufacture of textiles, manufacture of bed springs, and dyeing and finishing.

A map of the site boundary is shown in Figure 2

1.2 CONTEMPLATED REDEVELOPMENT PLAN

The Remedial Action to be performed under the RAWP is intended to make the Site protective of human health and the environment consistent with the contemplated end use. The proposed redevelopment plan and end use is described here to provide the basis for this assessment. However, the Remedial Action contemplated under this RAWP may be implemented independent of the proposed redevelopment plan.

Development plans for the Site include the demolition of existing on-site structures and construction of a twelve story government subsidized affordable housing residential building with commercial space on the ground floor. A cellar accessed by a ramp down from a Third Avenue entrance at the southeast corner of the building will extend across the entire Site. The cellar will contain a ventilated parking garage and utility rooms. Total excavation depth for the cellar is anticipated to be approximately fourteen feet bsg. Excavation depths will be shallower at the ramp down to the cellar and deeper at elevator pits. Bedrock is present at depths shallower than 14 feet bsg across the western half of the site. Across the eastern half of the site bedrock is deeper than the maximum anticipated depth of construction excavations. At the completion of construction activities, it is anticipated that soil will only remain at the excavation floor and walls at the eastern half of the site (excavation at the remainder of the site will terminate in bedrock). Groundwater has been documented at a depth between 15.75 and 15.90 feet bsg. It is anticipated

that the excavated material will be comprised of three waste streams including: poor quality urban fill (2,600 cubic yards), bedrock (1,600 cubic yards), and native soils (3,800 cubic yards). A Site Excavation Map is included as Figure 7. The current zoning designation is M1-1/R7-2, for manufacturing and residential use. The proposed use is consistent with existing zoning for the property.

A layout of the initial proposed site development is presented in Figure 3.

1.3 DESCRIPTION OF SURROUNDING PROPERTY

The Site is located in an urban area comprised primarily of multi-family residential and commercial properties. Adjoining uses include: two, five story commercial structures to the north (Lot 32); Third Avenue to the east; multi-family residential buildings to the south (Lot 41); and, multi-family residential buildings (Lot 11), vacant parcels/parking (Lots 13 and 15) and automotive repair (Lot 18) to the west. Sensitive receptors with 500 feet of the site include the Ready, Set, Learn LLC, daycare facility adjoining to the south at 3467 Third Avenue, and The Habitot ES, LLC daycare center adjoining to the east, at 3480 Third Avenue.

Figure 4 shows the surrounding land usage.

2.0 DESCRIPTION OF REMEDIAL INVESTIGATION FINDINGS

The investigation was conducted between March 2015 and August 2015. The RI was submitted to NYSDEC in October 2015 and approved by NYSDEC in October 2015.

2.1 SUMMARY OF REMEDIAL INVESTIGATIONS PERFORMED

The following environmental work plans and reports were developed for the Site:

Remedial Investigation Report, October 2015, Ecosystems Strategies, Inc. (ESI)

The following work was performed during the RI:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);

2. Collected samples from two mechanized soil borings (extended by URS), eleven hand borings, and ten test pits extended by others across the entire project Site, and collected 32 soil samples for chemical analysis from the soil borings to evaluate soil quality;
3. Collected samples from three groundwater monitoring wells (MW-5, 2MW-1 and 2MW-2) and collected groundwater samples from two test pits (W-1 and W-2) extended by others to evaluate groundwater quality. Depth to groundwater measurements were taken at the wells to establish groundwater flow; and,
4. Eight soil vapor probes were installed around the Site and eight vapor samples were collected and submitted for chemical analysis.

Table A, below, summarizes all media sampling performed at the Site in chronological order of sample collection.

Table A: List of Samples

Date Collected	Matrix	Sample Identification	
		ESI ID	**LABORATORY ID**
03/02/2015	Soil Vapor	SV-01 through SV-07	L1504985-01 through L1504985-07
03/02/2015	Soil	TP-1 0-2 TP-1 8.5' TP-2 0-2' TP-2 8.5' TP-3 0-2' TP-4 8.9' TP-4 0-2' TP-5 0-2' TP-6 0-2' TP-6 4.5' TP-7 0-2'	15C0106-01 15C0106-02 15C0106-03 15C0106-04 15C0106-05 15C0106-06 15C0106-07 15C0106-08 15C0106-09 15C0106-10 15C0106-13
03/02/2015	Water	W-1 W-2	15C0106-11 15C0106-12
03/11/2015	Soil	S-AST-E 0-4 S-AST-W 0-4 S-AST-S 0-4 N-AST-W 0-4 N-AST-S 0-4	15C0369-01 15C0369-02 15C0369-03 15C0369-04 15C0369-05
03/11/2015	Water	W-1 W-2	15C0391-01 15C0391-02
03/18/2105	Soil	TP-5/B-5 14-16 B-8 0-2	15C0511-01 15C0511-02
04/15/2015	Soil	TP-9 0-2 TP-9 14-15 TP-10 0-2 TP-10 14-15	15D0717-01 15D0717-02 15D0717-03 15D0717-04
04/15/2015	Soil Vapor	SV-08	L1507858-01

Date Collected	Matrix	Sample Identification	
		ESI ID	LABORATORY ID
04/15/2015	Soil	TP-3 N 0-2	15D0715-01
		TP-3 N 4-6	15D0715-02
		TP-3 S 0-2	15D0715-03
		TP-3 S 4-6	15D0715-04
		TP-3 E 0-2	15D0715-05
		TP-3 E 4-6	15D0715-06
		TP-3 W 0-2	15D0715-07
		TP-3 W 4-6	15D0715-08
08/12/2015	Soil	2B-5 (14-16')	15H0436-01
		2B-8 (0-2')	15H0436-02
08/12/2015	Water	2MW-1	15H0438-01
		2MW-2	15H0438-02

2.2 SIGNIFICANT THREAT

The NYSDEC and NYSDOH have determined that this Site does not pose a significant threat to human health and the environment. Notice of that determination has been provided for public review. A copy of the notice is included in Appendix I.

2.3 SITE HISTORY

Site history is documented in a Phase I Environmental Site Assessment report issued by ESI in March 2015. Several residential and commercial structures were located on the property from as early as 1891 until sometime between 1951 and 1977. The current on-site buildings were constructed sometime between 1909 and 1951 (southern building) and sometime between 1951 and 1977 (northern building). Available records indicate that historical operations at the southern building have included a chemical company, automotive repair, manufacture of textiles and dyeing and finishing. Historical activities at the northern building have included a chemical company, manufacture of textiles, manufacture of bed springs, and dyeing and finishing. The property was formerly registered as a large quantity generator of hazardous wastes in 1996, and as a small quantity generator in 1998 and 2002 (manifest records indicate that wastes generated included non-listed corrosive wastes, non-listed ignitable wastes, non-listed reactive wastes, toluene diisocyanate, and phenol). The USEPA ID for the site is NYR000013144. Two 1,080-gallon aboveground fuel oil bulk storage tanks are located within concrete vaults in the cellar of each building. All Sanborn Maps available for this Site were reviewed prior to preparation of the RAWP.

2.4 GEOLOGICAL CONDITIONS

Site geological conditions are documented in the *RI Report* prepared by ESI and in a *Geotechnical Investigation Report* (March 2015) prepared by URS. Geological conditions are summarized as follows:

- Elevation of the property at the Third Avenue sidewalk ranges from 43.2 feet to 45.1 feet.
- Depth to groundwater ranges from between 15.78 and 15.90 feet below sidewalk level at the Site (data from *Geotechnical Investigation Report*, March 2015, prepared by URS). Groundwater flow is generally from northeast to southwest beneath the Site. Groundwater flow is shown in Figure 10.
- Depth to bedrock is variable throughout the site and is shallower in the west and south, becoming relatively deeper to the north and east. Shallow bedrock is present at depths between 1'9" and 8'7" below the surface of the concrete floor in the western half of the site with the shallowest bedrock in the southwest corner. Bedrock is present at depths between 17' and greater than 25' below the surface of the concrete slab in the eastern half of the Site.
- The stratigraphy of the site, from the surface (concrete floor of the self-storage area, or unfinished basement floors) down, consists of between 0.5' and 2' of urban fill (ash, slag, coal dust) underlain by a layer of native, coarse reddish brown sand with varying amounts of silt and gravel that extends to bedrock. Bedrock depths vary from between 1-2 feet below the surface at the western side of the site to greater than 25' below sidewalk grade at the eastern side of the site. Groundwater flow is shown in Figure 10.

2.5 CONTAMINATION CONDITIONS

2.5.1 Conceptual Model of Site Contamination

The Site is covered by a layer of urban fill materials, which may have originally been sourced from impacted locations. Soil, as well as groundwater and soil vapor, may have been impacted by historical commercial use of the Site or by previous demolition activities. Contaminants in fill, or soil contamination from historical Site uses, may contribute to groundwater and/or soil vapor contamination.

2.5.2 Description of Areas of Concern

Areas of concern include:

1) General impacts to soil, groundwater and soil vapor from historical commercial use of the Site, previous demolition activities and/or poor-quality urban fill; and,

2) Potential releases from on-site petroleum bulk storage tanks (residential heating oil).

Based on an evaluation of the environmental data and historical information, disposal of significant amounts of hazardous waste is not suspected at the Site.

2.5.3 Identification of Standards, Criteria and Guidance

The following standards, criteria and guidance (SCG) were referenced during Site Characterizations and Remedial Investigations:

6 NYCRR Part 175 - Special Licenses and Permits--Definitions and Uniform Procedures

6 NYCRR Part 182 - Endangered & Threatened Species of Fish & Wildlife

6 NYCRR Part 371 - Identification and Listing of Hazardous Wastes

6 NYCRR Part 375 – Environmental Remediation Programs;

6 NYCRR Part 608 - Use and Protection of Waters

6 NYCRR Part 661 - Tidal Wetlands - Land Use Regulations

6 NYCRR Part 663 - Freshwater Wetlands Maps and Classification

6 NYCRR Part 703, New York State Groundwater Quality Standards;

6 NYCRR Parts 700-706 - Water Quality Standards

29 CFR Part 1910.120 - Hazardous Waste Operations and Emergency Response

NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation;

NYSDEC Ambient Water Quality Standards and Guidance Values – TOGS 1.1.1;

NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York

NYSDOH Generic Community Air Monitoring Plan

NYSDEC STARS #1 - Petroleum-Contaminated Soil Guidance Policy

NYSDEC SPOTS #14 - Site Assessments at Bulk Storage Facilities

NYSDEC Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites

2.5.4 Soil/Fill Contamination

Soil/fill samples collected during the RI were compared to NYSDEC Part 375-6 Unrestricted Use (Track 1) and Restricted Residential Use (Track 2) SCOs. One VOC, acetone (maximum of 0.051 mg/Kg) was detected above its Unrestricted Use SCO. Several SVOCs were identified at low concentrations, all below their respective Unrestricted Use SCOs. Metals including arsenic (maximum 27.9 mg/Kg), barium (maximum 3,850 mg/Kg), iron (maximum 83,100 mg/Kg), lead (maximum 2,960 mg/Kg), mercury (maximum 1.54 mg/Kg), and zinc (maximum 2,500 mg/Kg) were detected above Restricted Residential SCOs. All these maximum concentrations were detected in one shallow sample location (TP-3 (0-2')), indicating a hotspot location that was subsequently delineated and is unlikely to represent a volume of fill greater than 60 cubic yards. Chromium (maximum 63.9 mg/Kg), copper (maximum 164 mg/Kg) and nickel (maximum 32.8 mg/Kg) also exceeded their Unrestricted Use SCOs. Three pesticides, 4,4'-DDD (maximum 0.039 mg/Kg) 4,4'-DDE (maximum 0.237 mg/Kg), and 4,4'-DDT (maximum 0.279 mg/Kg) were detected above their Unrestricted Use SCOs at five shallow samples. No PCBs were detected above Unrestricted Use SCOs.

Tables 1 through 8 in Appendix B show exceedances of Track 1 Unrestricted SCOs and Track 2 Restricted Residential SCOs for all soil/fill at the Site. Figure 5 is a spider map that shows the location and summarizes exceedances from Track 1 Unrestricted SCOs Track 2 Restricted Residential for all soil/fill.

2.5.5 Groundwater Contamination

Groundwater samples collected during the RI were compared to NYSDEC 6NYCRR Part 703.5 Groundwater Quality Standards (GQS). Groundwater samples showed no detected concentrations of pesticides or PCBs. No VOCs were detected above GQS One SVOC, hexachlorobenzene (at 0.35 µg/L in MW-5) exceeded its GQS. Several metals were identified in

groundwater, and of those, sodium (maximum 702,000 mg/L), magnesium (maximum 59,800 mg/L) and iron (maximum 1,120 mg/L) were detected above their respective GQSs.

Exceedances of GA groundwater standards in monitor wells prior to the remedy are shown in Tables 11, 12 and 13. A spider map that indicates the locations of and summarizes exceedances from GA groundwater standards prior to the remedy is shown in Figure 5.

2.5.6 Soil Vapor Contamination

Soil vapor samples collected during the RI were compared to the compounds listed in the New York State Department of Health (NYSDOH) Final Guidance for Evaluating Soil Vapor Intrusion. Soil vapor results show a wide range of compounds throughout the property including BTEX and associated petroleum related compounds as well as chlorinated hydrocarbons. The concentrations of BTEX compounds were detected at maximum concentration of 86 µg/m^3. Most compounds were detected at concentrations less than 20 µg/m^3, except for acetone, that was detected at maximum concentrations of 113 µg/m^3. Chlorinated VOCs methylene chloride (maximum 74 µg/m^3), carbon tetrachloride (maximum 53.2 µg/m^3), tetrachloroethene (maximum 43.2 µg/m^3), TCA (maximum 87.3 µg/m^3) and trichloroethene (maximum 10 µg/m^3) were detected in one or more soil vapor samples. Concentrations of chlorinated compounds suggest the need for remedial action.

A table of soil vapor data collected prior to the remedy is shown in Table 14. A spider map that indicates the location(s) of and summarizes soil vapor data prior to the remedy is shown in Figure 5.

2.6 ENVIRONMENTAL AND PUBLIC HEALTH ASSESSMENTS

2.6.1 Qualitative Human Health Exposure Assessment

An exposure assessment was conducted to qualitatively assess the potential impacts of known environmental contaminants associated with the Site on human health, with attention to all possible exposure pathways (i.e. ingestion, inhalation and direct contact). Both current (existing conditions) and future use (proposed restricted-residential or mixed restricted-residential/commercial use) scenarios were considered. Contaminants were assessed relative to specific impacted media.

The primary contaminants of concern at the Site are metals in surface soils (no significant contamination has been identified in groundwater or soil vapor). On-site workers (or trespassers) present during remediation and/or future development activities are the most likely receptor population.

The following section evaluates the elements associated with exposure pathways, and describes how each of these elements pertains to the Site. For all media, the implementation of a HASP and a CAMP will mitigate possible impacts to both on-site and off-site receptor populations. Any on-site or off-site development activities that involve disturbance, exposure or contact with contaminated soil, soil vapor or groundwater will require monitoring and mitigation plans to address potential direct contact with media, dust generation and contaminant migration.

Soil

Direct contact, ingestion and/or inhalation (of particulate matter) are the primary exposure pathways for contaminated subsurface soils. People can come into contact if they participate in ground-intrusive work at the Site, or are exposed to dust generated during construction activities, which disturb contaminated soil. Within excavation areas, the potential for contact is generally a concern for work conducted at depths less than 4 feet. Outside of excavation activities, there are no likely exposures to contaminated soil.

The potential exists for low-level contamination to remain at on-site areas after remediation and development activities. All potential exposure pathways (direct contact, ingestion or inhalation) will likely be mitigated as subsurface soils would have been remediated and/or access to subsurface soils would be limited by paved areas and building foundations.

Soil Vapor

Potential exposure pathways include vapor intrusion within the structures and at off-site properties, and direct contact and/or inhalation of contaminated soil vapor generated during soil excavation or remedial construction. Exposure pathways within the building are likely to be insignificant, based on current uses. A CAMP would be implemented at the Site (and, as required, at off-site areas) to monitor air quality and minimize potential exposures to vapors for both construction works and the public.

The potential for on-site and off-site exposure to soil vapor is expected to decrease after soils have been remediated. Post-remediation sampling results will document contaminant levels in remaining media and will determine the need for any on-site and off-site vapor intrusion studies, and the need for any on-site engineering controls or building design features (e.g., sub-slab depressurization system or a fully ventilated ground floor garage) to mitigate soil vapor intrusion.

Groundwater

Direct contact and/or ingestion are the primary exposure pathways for contaminated groundwater. Impacted groundwater is not being used for drinking water (or any other purposes) at the Site or at off-site areas, as the area is served by the public water supply. No known private wells exist in the vicinity of the Site. People can come into contact if they participate in ground-intrusive work at the Site. The potential for contact is generally a concern for work conducted at depths approaching the groundwater elevation (approximately 15 feet bsg). Levels of dissolved contaminants in groundwater downgradient of the Site are anticipated to diminish as a result of Site remediation.

2.6.2 Fish & Wildlife Remedial Impact Analysis

The groundwater chemistry and surface water discharge pathway was evaluated. Based on the low concentration of VOCs and other contaminants in groundwater at the site and the long distance to surface water, there are no expected impacts to surface water from contaminants migrating beneath the site.

2.7 INTERIM REMEDIAL ACTION

No Interim Remedial Measures (IRMs) have been performed at the Site.

2.8 REMEDIAL ACTION OBJECTIVES

Based on the results of the RI, the following Remedial Action Objectives (RAOs) have been identified for this Site:

Soil

- Prevent direct contact with contaminated soil.

Soil Vapor

- Prevent exposure to contaminants in soil vapor.
- Prevent migration of soil vapor into dwelling and other occupied structures.

3.0 DESCRIPTION OF REMEDIAL ACTION PLAN

This section includes a description of the remedial alternatives and provides a comparison and evaluation of the alternatives in terms of required threshold and balancing criteria. As required, a Track 1 Unrestricted Use scenario is evaluated for the remedial action. In addition, a Track 2 Restricted Residential Use scenario is evaluated as well as a Track 4 scenario in the event that Track 2 cannot be met.

The goal of the remedy selection process is to select a remedy that is protective of human health and the environment taking into consideration the current, intended and reasonably anticipated future use of the property. The remedy selection process begins by establishing RAOs for media in which chemical constituents were found in exceedance of applicable standards, criteria and guidance values (SCGs). Remedial alternatives are then developed and evaluated based on the following nine criteria and sustainability:

Threshold Criteria

- Protection of human health and the environment;

Balancing Criteria

- Compliance with SCGs;
- Short-term effectiveness and impacts;
- Long-term effectiveness and permanence;
- Reduction of toxicity, mobility, or volume of contaminated material;
- Implementability;
- Cost effectiveness;
- Community acceptance; and
- Land use.

3.1 SUMMARY OF REMEDIAL ALTERNATIVES

3.1.1 Proposed Remedial Alternatives

Alternative 1 consists of the following:

- Selection of NYSDEC 6NYCRR Part 375 Unrestricted Use (Track 1) SCOs.
- Removal of all soil/fill exceeding Track 1 Unrestricted Use SCOs throughout the Site and confirmation that Track 1 Unrestricted Use SCOs have been achieved with post-excavation endpoint sampling. If soil/fill containing analytes at concentrations above Unrestricted Use SCOs is still present at the base of the excavation after removal of all soil required for construction of the new building's cellar level and slab are complete, additional excavation would be performed to ensure complete removal of soil/ fill that does not meet Track 1 Unrestricted Use SCOs.
- No Engineering or Institutional Controls are required for a Track 1 cleanup. A concrete slab covering the entire site and water proofing membrane would be installed as part of standard building development and are not considered components of the remedy. Additional soil vapor management would not be required in areas on the first constructed floor where high volume air exchange is required by NYC Building Code to address indoor vehicle parking. If post-construction soil vapor sampling indicates that significant soil vapor contamination is present in areas without high-volume air exchange, use of an active SSDS would be considered (such a system cannot operate for more than five years under the Track 1 designation).
- The E-designation for the site would be removed.

Alternative 2 consists of the following:

- Selection of NYSDEC 6NYCRR Part 375 Restricted Residential Use (Track 2) SCOs.
- Removal of all soil/fill exceeding Track 2 Restricted Use SCOs throughout the Site and confirmation that Track 2 Restricted Use SCOs have been achieved with post-excavation endpoint sampling. If soil/fill containing analytes at concentrations above Track 2 Restricted Use SCOs is still present at the base of the excavation after removal of all soil required for construction of the new building's cellar level and slab are complete,

additional excavation would be performed to ensure complete removal of soil/ fill that does not meet Track 2 Unrestricted Use SCOs.

- Establishment of use restrictions including prohibitions on any use higher than Restricted Residential e.g. the use of groundwater from the Site; prohibitions of restricted Site uses, such as farming or vegetable gardening, to prevent future exposure pathways; and prohibition of a higher level of land use without NYSDEC approval;
- No Engineering Controls are required for a Track 2 cleanup. A concrete slab covering the entire site and waterproofing membrane would be installed as part of standard building development and are not considered part of the remedy. Additional soil vapor management would not be required in areas on the first constructed floor where high volume air exchange is required by NYC Building Code to address indoor vehicle parking. However, an active SSDS would be considered to address soil vapor contamination if post-construction soil vapor sampling indicates that additional remedial action is warranted (use of the SSDS as a long-term engineering control for vapor contamination is permitted under Track 2).
- The property would receive an environmental easement registered with the county clerk memorializing institutional controls. The Site would continue to be encumbered with an E-designation for hazardous material.

Alternative 3 consists of the following:

- Removal of all soil/fill to 14' with post-excavation end point sampling. If Track 2 SCOs are not met, no additional material will be excavated.A minimum 20 mil thick soil vapor barrier would be installed. Additional soil vapor management would not be required in areas on the first constructed floor where high volume air exchange is required by NYC Building Code to address indoor vehicle parking. However, an active SSDS would be considered to address soil vapor contamination if post-construction soil vapor sampling indicates that additional remedial action is warranted.
- Placement of a composite cover system over the entire Site consisting of the building slab;

- Establishment of use restrictions including prohibitions on the use of groundwater from the Site; prohibitions of restricted Site uses, such as farming or vegetable gardening, to prevent future exposure pathways; and prohibition of a higher level of land use without NYSDEC approval;
- Establishment of an approved SMP to ensure long-term management of these Engineering and Institutional Controls including the performance of periodic inspections and certification that the controls are performing as they were intended. The SMP will note that the property owner and property owner's successors and assigns must comply with the approved SMP; and
- The property would receive an environmental easement registered with the county clerk memorializing engineering and institutional controls and the SMP and continue to be encumbered with an E-designation for hazardous materials.

3.1.2 Evaluation of Threshold Criteria

Protection of Public Health and the Environment

This criterion is an evaluation of the remedy's ability to protect public health and the environment, and an assessment of how risks posed through each existing or potential pathway of exposure are eliminated, reduced or controlled through removal, treatment, and implementation of Engineering Controls or Institutional Controls. Protection of public health and the environment must be achieved for all approved remedial actions.

Alternative 1 would be protective of human health and the environment by removing all soil/fill exceeding Track 1 Unrestricted Use SCOs, thus eliminating potential for direct contact with contaminated soil/fill once construction is complete and eliminating the risk of contaminants leaching into groundwater.

Alternative 2 would be protective of human health and the environment by removing all soil/fill exceeding Track 2 Restricted Residential Use SCOs, thus eliminating the potential for direct contact with contaminated soil/fill once construction is complete and eliminating the risk of contaminants leaching into groundwater, as well as by placement of Institutional Controls prohibiting any higher use of the Site and continuing the E-designation on the property.

Alternative 3 would achieve comparable protections of human health and the environment by excavation and removal of most soil/fill exceeding Track 2 Restricted Residential Use SCOs, as well as by placement of Institutional Controls, and use of Engineering Controls (a composite cover system including a 20-mil vapor barrier and concrete slab across the entire site). The composite cover system would prevent direct contact with any remaining on-Site soil/fill above Track 2 SCOs. Implementing Institutional Controls including a SMP and continuing the E-designation on the property would ensure that the composite cover system remains intact and protective of public health.

For all Alternatives, any potential on-site soil vapor impacts, as well as future impacts from off-site soil vapors, would be mitigated by a ventilated basement parking garage with high volume air exchange, and by use of a SSDS, if installed (the SSDS would be a short-term measure if implemented under the Track 1 Alternative.

For all Alternatives, potential exposure to contaminated soils or groundwater during construction would be minimized by implementing a Construction Health and Safety Plan (CHASP), an approved Soil/Materials Management Plan (SMMP), and Community Air Monitoring Plan (CAMP). Potential contact with any contaminated groundwater would be prevented as its use is prohibited by city laws and regulations.

3.1.3 Evaluation of Balancing Criteria

Compliance with Standards, Criteria and Guidance (SCGs)

This evaluation criterion assesses the ability of the alternative for conformance with SCGs that are applicable, relevant and appropriate. Principal SCGs that are applicable, relevant and appropriate for evaluating the alternatives for remediation of this BCP site include the following:

- 29 CFR Part 1910.120 - Hazardous Waste Operations and Emergency Response
- 10 NYCRR Part 67 – Lead
- 6 NYCRR Part 371 - Identification and Listing of Hazardous Wastes (November 1998)
- 6 NYCRR Part 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities (November 1998)

- 6 NYCRR Subpart 374-1 - Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities (November 1998)
- 6 NYCRR Part 375 - 6 NYCRR Part 375 Environmental Remediation Programs Subparts 375-1, 375-3 and 375-6 (December 2006)
- 6 NYCRR Part 376 - Land Disposal Restrictions
- 6 NYCRR Part 608 - Use and Protection of Waters
- 6 NYCRR Parts 700-706 - Water Quality Standards (June 1998)
- 6 NYCRR Part 750 through 758 - Implementation of NPDES Program in NYS ("SPDES Regulations")
- 6 NYCRR Part 375-6 Soil Cleanup Objectives
- New York State Groundwater Quality Standards – 6 NYCRR Part 703;
- NYSDEC Ambient Water Quality Standards and Guidance Values – TOGS 1.1.1;
- NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation - May 2010;
- NYSDEC Draft Brownfield Cleanup Program Guide – May 2004;
- New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan
- NYS Waste Transporter Permits – 6 NYCRR Part 364;
- NYS Solid Waste Management Requirements – 6 NYCRR Part 360 and Part 364.
- TAGM 4059 - Making Changes To Selected Remedies (May 1998)
- STARS #1 - Petroleum-Contaminated Soil Guidance Policy
- TAGM 3028 - "Contained In" Criteria for Environmental Media: Soil Action Levels (August 1997)
- DER-10, Technical Guidance for Site Investigation and Remediation, May 2010

- DER-23 / Citizen Participation Handbook for Remedial Programs, January 2010
- OSWER Directive 9200.4-17 - Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites (November 1997)

Additional regulations and guidance are applicable, relevant, and appropriate to the remedial alternatives and will be complied in connection with implementation of the remedial program; however, the list above is intended to represent the principal SCGs which should be considered in evaluating the remedial alternatives for the BCP site.

Conformance with the appropriate standards for remediation of contaminated soil is an important criterion in evaluating the remedial alternatives for the BCP site. Presently, in New York State 6 NYCRR Part 375 establishes the primary SCGs associated with remediation of contaminated soil at sites which are in the BCP. If proposing remediation pursuant to a Track other than Track 1 (Unrestricted Use), 6 NYCRR Part 375 requires evaluation of at least one remedial alternative pursuant to Track I (Unrestricted Use) and one other alternative developed by the applicant for the proposed use of the BCP site. The proposed remedial alternatives have been prepared in conformance with this requirement.

Alternative 1 would achieve compliance with the remedial goals, chemical-specific SCGs and RAOs for soil through removal of soil to achieve Track 1 Unrestricted Use SCOs. Alternative 2 would achieve compliance through removal of soil to achieve Track 2 Restricted Residential Use SCOs and Protection of Groundwater SCOs. Alternative 3 would achieve compliance through removal of soil and installation of an Engineering Control to prevent any soil exposures (composite cover system across the entire site). For Alternatives 2 and 3, Institutional Controls, including an environmental easement prohibiting any higher use of the Site and continuing the E-designation on the property, would be put in place. For Alternative 3, a SMP would ensure that engineering controls remained in place and protective for the long term.

For all Alternatives, compliance with SCGs for soil vapor would be achieved by installing a waterproofing membrane system below the new building's basement slab and continuing the waterproofing membrane outside of subgrade foundation walls, as part of development, and use of portions of the building cellar as a parking garage with high volume air exchange that conforms to the NYC Building Code. A SSDS may be installed (if necessary) based on post-

construction soil vapor testing. Use of the SSDS will require a SMP, and would only occur as a short-term measure for the Track 1 Alternative.

Health and safety measures contained in the CHASP and CAMP will be implemented during Site redevelopment under this RAWP. For all Alternatives, focused attention on means and methods employed during the remedial action would ensure that handling and management of contaminated material would be in compliance with applicable SCGs. These measures will protect on-site workers and the surrounding community from exposure to Site-related contaminants.

Short-Term Effectiveness and Impacts

This evaluation criterion assesses the effects of the alternative during the construction and implementation phase until remedial action objectives are met. Under this criterion, alternatives are evaluated with respect to their short term effects during the remedial action on public health and the environment during implementation of the remedial action, including protection of the community, protection of onsite workers and environmental impacts.

All Alternatives have similar short-term effectiveness during their implementation, as each requires excavation of historical fill material and bedrock. Each alternative would result in short-term dust generation impacts associated with excavation, handling, load out of materials, and truck traffic. Short-term impacts could potentially be higher for Alternative 1 since excavation of greater amounts of soil and fill might take place. However, focused attention to means and methods during a Track 1 removal action, including community air monitoring and appropriate truck routing, would minimize the overall impact of these activities.

An additional short-term adverse impact and risks to the community associated with each remedial alternative is increased truck traffic. Truck traffic would be routed on the most direct course using major thoroughfares where possible and flag persons would be used to protect pedestrians at Site entrances and exits.

The potential adverse impact to the community, workers and the environment for each alternatives would be minimized through implementation of control plans including a CHASP, a CAMP and a SoMP, during all on-Site soil disturbance activities and would minimize the release of contaminants into the environment. Each alternative provides short-term effectiveness in

protecting the surrounding community by decreasing the risk of contact with on-Site contaminants. Construction workers operating under appropriate management procedures and a CHASP would provide protection from on-Site contaminants by using personal protective equipment would be worn consistent with the documented risks within the respective work zones.

Long-Term Effectiveness and Permanence

This evaluation criterion addresses the results of a remedial action in terms of its permanence and quantity/nature of waste or residual contamination remaining at the Site after response objectives have been met, such as permanence of the remedial alternative, magnitude of remaining contamination, adequacy of controls including the adequacy and suitability of Engineering Controls/Institutional Controls (ECs/ICs) that may be used to manage contaminant residuals that remain at the Site and assessment of containment systems and ICs that are designed to eliminate exposures to contaminants, and long-term reliability of ECs.

Alternative 1 would achieve long-term effectiveness and permanence related to on-Site contamination through removal of soil to achieve Track 1 Unrestricted Use SCOs. Alternative 2 would achieve these goals through removal of soil to achieve Track 2 Restricted Residential Use SCOs and Protection of Groundwater SCOs. Alternative 3 would achieve these goals through removal of soil and installation of an Engineering Control to prevent any soil exposures (composite cover system across the entire site). For Alternatives 2 and 3, Institutional Controls, including an environmental easement prohibiting any higher use of the Site and continuing the E-designation on the property, would be put in place. For Alternative 3, a SMP would ensure that engineering controls remained in place and protective for the long term.

For all Alternatives, long-term effectiveness and permanence related to on-Site contamination for soil vapor would be achieved by installing a waterproofing membrane system below the new building's basement slab and continuing the waterproofing membrane outside of subgrade foundation walls, as part of development, and use of portions of the building cellar as a parking garage with high volume air exchange that conforms to the NYC Building Code. A SSDS may be installed (if necessary) based on post-construction soil vapor testing. Use of the SSDS will require a SMP, and would only occur as a short-term measure for the Track 1 Alternative.

Reduction of Toxicity, Mobility, or Volume of Contaminated Material

This evaluation criterion assesses the remedial alternative's use of remedial technologies that permanently and significantly reduce toxicity, mobility, or volume of contaminants as their principal element. The following is the hierarchy of source removal and control measures that are to be used to remediate a Site, ranked from most preferable to least preferable: removal and/or treatment, containment, elimination of exposure and treatment of source at the point of exposure. It is preferred to use treatment or removal to eliminate contaminants at a Site, reduce the total mass of toxic contaminants, cause irreversible reduction in contaminants mobility, or reduce of total volume of contaminated media.

Alternatives 1 and 2 would permanently eliminate the toxicity, mobility, and volume of contaminants from on-Site soil by removing all soil in excess of, respectively, Track 1 Unrestricted Use SCOs and Track 2 Restricted Use SCOs.

Alternative 3 would remove most contamination at the Site, and all remaining on-Site soil/fill beneath the new building will be inaccessible beneath a composite cover system.

Alternatives 1 and 2 would remove a greater total mass of contaminants from the Site. The removal of soil to 14 feet for the new development in both scenarios would lessen the difference in contaminant mass removal between these two alternatives and Alternative 3.

Implementability

This evaluation criterion addresses the technical and administrative feasibility of implementing an alternative and the availability of various services and materials required during its implementation, including technical feasibility of construction and operation, reliability of the selected technology, ease of undertaking remedial action, monitoring considerations, administrative feasibility (e.g. obtaining permits for remedial activities), and availability of services and materials.

The techniques, materials and equipment to implement each Alternative are readily available and have been proven to be effective in remediating the contaminants present on the Site. They use standard equipment and technologies that are well established in the industry. The reliability of each remedy is also high. There are no special difficulties associated with any of the activities proposed.

Cost Effectiveness

This evaluation criterion addresses the cost of alternatives, including capital costs (such as construction costs, equipment costs, and disposal costs, engineering expenses) and site management costs (costs incurred after remedial construction is complete) necessary to ensure the continued effectiveness of a remedial action.

Since historical fill at the Site was found to extend to a depth of several feet below grade during the RI, and the new building requires excavation of the entire Site to a depth of 14 feet, the costs associated with Alternative 1, Alternative 2 and Alternative 3 will likely be comparable.

However, long-term costs for Alternative 3 are likely higher than Alternative 1 and Alternative 2 based on the required implementation of a SMP as part of Alternative 3 (the need for implementation of a SMP for an active SSDS would likely limit the cost differences).

The remedial plan would couple the remedial action with the redevelopment of the Site, lowering total costs. The remedial plan will also consider the selection of the most appropriate disposal facilities to reduce transportation and disposal costs during cleanup and redevelopment of the Site.

Cost estimates for each Remedial Alternative are included as Appendix H.

Community Acceptance

This evaluation criterion addresses community opinion and support for the remedial action. Observations here will be supplemented by public comment received on the RAWP.

This RAWP will be subject to a public review under the NYS BCP and will provide the opportunity for detailed public input on the remedial alternatives and the selected remedy. This public comment will be considered by NYSDEC prior to approval of this plan. The Citizen Participation Plan for the project is provided in Appendix G. Observations here will be supplemented by public comment received on the RAWP. Under all alternatives, the overall goals of the remedial program, to protect public health and the environment and eliminate potential contaminant exposures, have been broadly supported by citizens in NYC communities.

Land Use

This evaluation criterion addresses the proposed use of the property. This evaluation has considered reasonably anticipated future uses of the Site and takes into account: current use and historical and/or recent development patterns; applicable zoning laws and maps; NYS Department of State's Brownfield Opportunity Areas (BOA) pursuant to section 970-r of the general municipal law; applicable land use plans; proximity to real property currently used for residential use, and to commercial, industrial, agricultural, and/or recreational areas; environmental justice impacts, Federal or State land use designations; population growth patterns and projections; accessibility to existing infrastructure; proximity of the site to important cultural resources and natural resources, potential vulnerability of groundwater to contamination that might emanate from the site, proximity to flood plains, geography and geology; and current Institutional Controls applicable to the site.

The current, intended, and reasonably anticipated future land use of the Site and its surroundings are compatible with the selected remedy of soil remediation. The proposed future use of the Site includes a twelve story affordable housing project to provide 102 dwelling units. All proposed Alternatives are protective of public health and the environment for the planned residential use. The proposed use is compliant with the property's zoning and is consistent with recent development patterns. The areas surrounding the site is urban and consists of predominantly mixed residential and commercial buildings in zoning districts designated for commercial and residential uses. The development would remediate a vacant contaminated lot and provide a modern residential building. The proposed development would clean up the property and make it safer, create new employment opportunities, living space for affordable housing and associated societal benefits to the community, and other economic benefits from land revitalization.

Temporary short-term project impacts are being mitigated through site management controls and truck traffic controls during remediation activities.

The Site is not in close proximity to important cultural resources, including federal or state historic or heritage sites or Native American religious sites, natural resources, waterways, wildlife refuges, wetlands, or critical habitats of endangered or threatened species. The Site is located in an urban area and not in proximity to fish or wildlife and neither alternative would result in any potential exposure pathways of contaminant migration affecting fish or wildlife.

The remedial action is also protective of groundwater natural resources. The Site does not lie in a Federal Emergency Management Agency (FEMA)-designated flood plain. Each of the alternatives are equally protective of natural resources and cultural resources. Improvements in the current environmental condition of the property achieved by each alternative considered in this plan are consistent with the City's goals for cleanup of contaminated land.

3.2 SELECTION OF THE PREFERRED REMEDY

The preferred remedy for the site is Alternative 2. Data generated during the site investigation support the conclusion that Alternative 1 may be achievable and, in the event that post remedial sampling confirm Alternative 1 cleanup levels have been achieved, that Alternative will be implemented. It is also possible that post-excavation site conditions may prevent achievement of Track 2, in which case the Track 4 remedy will be implemented.

The Alternative 2 remedy will remove all soil/fill exceeding Track 2 Restricted Use SCOs throughout the Site, which will be confirmed with post-excavation sampling. If soil/fill containing analytes at concentrations above Track 2 Restricted Use SCOs is still present at the base or walls of the excavation after removal of all soil required for construction of the new building's cellar level and slab are complete, additional excavation would be performed to ensure complete removal of soil/ fill that does not meet Track 2 Unrestricted Use SCOs.

No Engineering Controls are required for a Track 2 cleanup. A concrete slab covering the entire site and waterproofing membrane would be installed as part of standard building development and are not considered part of the remedy. Additional soil vapor management would not be required in areas on the first constructed floor where high volume air exchange is required by NYC Building Code to address indoor vehicle parking. However, an active SSDS would be considered to address soil vapor contamination if post-construction soil vapor sampling indicates that additional remedial action is warranted (use of the SSDS as a long-term engineering control for vapor contamination is permitted under Track 2).

Use restrictions will be imposed on the site (including prohibitions on any use higher than Restricted Residential, e.g. the use of groundwater from the Site; prohibitions of restricted Site uses, such as farming or vegetable gardening, to prevent future exposure pathways; and prohibition of a higher level of land use without NYSDEC approval). The property would

receive an environmental easement registered with the county clerk memorializing institutional controls. The Site would continue to be encumbered with an E-designation for hazardous material.

The following land use factor evaluation examines whether the selected alternative is acceptable based on the following criteria (below) as required by Article 27, Title 14 of the Environmental Conservation Law 27-1415.

3.2.1 Zoning

The current zoning designation is M1-1/R7-2, for manufacturing and residential use. The implementation of Alternative 2 and the proposed final use are consistent with existing zoning for the property.

3.2.2 Applicable Comprehensive Community Master Plans or Land Use Plans

Implementation of Alternative 2 is consistent with: current use, and historical and recent development patterns; applicable zoning laws and maps; NYS Department of State's Brownfield Opportunity Areas (BOA) pursuant to section 970-r of the general municipal law; applicable land use plans; and proximity to real property currently used for residential use, and to commercial, industrial, and recreational areas. The current, intended, and reasonably anticipated future land use of the Site and its surroundings are compatible with Alternative 2. The proposed future use of the Site includes construction of a twelve story residential building with commercial space on the ground floor. A full cellar, which extends to the property boundaries, will contain a laundry room, parking and utility rooms. Following remediation, the Site will meet Track 2 Restricted Residential SCOs, which are protective of public health and the environment for its planned residential use.

3.2.3 Surrounding Property Uses

The Site is located in an urban area comprised primarily of multi-family residential and commercial properties; the final use and the proposed remedial action are consistent with these surrounding property uses. Impacts to nearby sensitive receptors within 500 feet (two adjoining daycare facilities) during implementation of Alternative 2 will be minimized through strict

adherence to local regulations governing construction activities, and implementation of site-specific plans (see Section 4.1, Governing Documents), including Health and Safety and Community Air Monitoring Plans.

3.2.4 Citizen participation

This RAWP will be subject to a public review under the NYC VCP and will provide the opportunity for detailed public input on the remedial alternatives and the selected remedy. This public comment will be considered by NYSDEC prior to approval of this plan. The Citizen Participation Plan for the project is provided in Appendix G. Observations here will be supplemented by public comment received on the RAWP. Under Alternative 2, the overall goals of the remedial program, to protect public health and the environment and eliminate potential contaminant exposures, have been broadly supported by citizens in NYC communities.

3.2.5 Environmental justice concerns

Implementation of Alternative 2 would clean up the property and make it safer, create new employment opportunities, living space for affordable and supportive housing and associated societal benefits to the community, and other economic benefits from land revitalization.

3.2.6 Land Use Designations

The areas surrounding the site are comprised primarily of multi-family residential and commercial properties. The proposed use resulting from the implementation of Alternative 2 is consistent with these land uses.

3.2.7 Population growth patterns

Implementation of Alternative 2 and the proposed use is compliant with the property's zoning and is consistent with recent development patterns.

3.2.8 Accessibility to Existing Infrastructure

The site has ready access to NYC infrastructure including roads, mass transit and public utilities. Implementation of Alternative 2 is compatible with current and future access and utilization of existing infrastructure.

3.2.9 Proximity to Cultural Resources

The Site is not in close proximity to important cultural resources, including federal or state historic or heritage sites or Native American religious sites. Implementation of Alternative 2 would not negatively impact any important cultural resources.

3.2.10 Proximity to Natural Resources

The Site is located in an urban area and is not in proximity to significant natural resources. Implementation of Alternative 2 would not result in any potential exposure pathways of contaminant migration affecting fish or wildlife.

3.2.11 Off-Site Groundwater Impacts

Alternative 2 is protective of groundwater natural resources. There are no known uses of groundwater in the vicinity of the Site.

3.2.12 Proximity to Floodplains

The Site does not lie in a Federal Emergency Management Agency (FEMA)-designated flood plain. Implementation of Alternative 2 would not introduce a receptor sensitive to flooding into an area susceptible to flooding.

3.2.13 Geography and Geology of the Site

Poor quality urban fill is present at depths from the surface to 2 feet bsg across the site. Native sandy soil is present at depths from approximately 2 feet bsg to at least 25 feet bsg at the eastern side of the site. Shallow bedrock underlies the western portion of the site. Groundwater is at approximately 15 feet bsg. Construction excavations will require removal of all material to a depth of 14 feet bsg with the exception of the ramp down to the cellar parking garage and the elevator pits. Implementation of Alternative 2 is consistent with these Site conditions.

3.2.14 Current Institutional Controls

The site is currently encumbered with an E-designation (E-118) for Hazardous Materials. This designation would remain in place unless Track 1 SCOs are attained.

3.2.15 Sustainability of The Remedial Action

Alternative 2 takes into consideration NYC's sustainability goals defined in PLANYC: a greener, greater New York and would not result in significantly higher energy usage than would be incurred by normal construction. The remedial plan would take into consideration the shortest trucking routes during off-site disposal of historical fill and other soils, which would reduce greenhouse gas emissions and conserve energy used to fuel trucks. The New York City clean soil bank program is available for reuse of any clean native soils under either the alternative.

3.3 SUMMARY OF SELECTED REMEDIAL ACTIONS

The proposed plan achieves all of the remedial action goals established for the project. The proposed remedial action is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants and uses standard methods that are well established in the industry.

The proposed remedial action will consist of:

1. Performance of all required NYS BCP Citizen Participation activities according to an approved Citizen Participation Plan.
2. Implementation of a Community Air Monitoring Program for particulates and volatile organic carbon compounds.
3. Selection of Track 2 Restricted Residential SCOs. Due to deep excavation for development, large areas of the property are expected to achieve Track 1 Unrestricted Use SCOs.
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas.
5. Completion of a Waste Characterization Study prior to excavation activities. Waste characterization soil samples will be collected at a frequency dictated by disposal facility(s).

6. Removal of the two known concrete vaulted aboveground storage tanks in compliance with applicable local, State and Federal laws and regulations, with a contingency plan for the removal of any other tank(s) encountered during the excavation.

7. Excavation and removal of soil/fill exceeding Track 2 Restricted Residential SCOs to a depth of approximately 14 feet below grade for development purposes. A small portion of property will be excavated to a slightly deeper depth for elevator pits and a ramp down from an entrance on Third Avenue to the cellar parking lot will be excavated to a shallower depth. Approximately 8,000 cubic yards of soil/fill will be removed from the Site and properly disposed at an appropriately licensed or permitted facility.

8. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID and appropriate segregation of excavated media on-Site.

9. Management of excavated materials including temporarily stockpiling and segregating in accordance with defined material types and to prevent co-mingling of contaminated material and non-contaminated materials.

10. Transportation and off-Site disposal of all soil/fill material at licensed or permitted facilities in accordance with applicable laws and regulations. Sampling and analysis of excavated media as required by disposal facilities and appropriate segregation of excavated media on-Site.

11. Import of certified clean materials to be used for backfill (if required) in compliance with this plan and in accordance with applicable laws and regulations.

12. Installation of a minimum 20 mil vapor barrier under the entire structure, with the penetrations and joints/seams properly sealed in accordance with manufacturers specifications.

13. If contaminant concentrations above Restricted Residential SCOs remain at the conclusion of excavations, exposure to this residual soil/fill will be prevented by an engineered, composite cover system to be built over the entire Site. This composite cover system is comprised of a concrete slab and associated sub-base materials. A SMP would be required and the Track 4 remedy for the site would be achieved.

14. Collection and analysis of post-excavation vapor samples to determine the presence or absence of conditions likely to impact interior air quality. If post excavation vapor sampling documents elevated vapors in the floor and walls of the excavation, the Track 4 remedy will be implemented and a determination of the need for installation and operation of an active SSDS under the building slab in all areas of the building where parking is not present on the first constructed level of the building will be made after completion of soil vapor sampling following excavation and remediation of soil and fill. This decision will also include the efficacy of such a system where the building slab will rest directly on bedrock surface.

15. The subgrade parking area will be constructed and operated with high volume air exchange in compliance with the NYC Building Code and will not require active SSDS installation.

16. Performance of all activities required for the remedial action, including acquisition of required permits and attainment of pretreatment requirements, in compliance with applicable laws and regulations.

17. Dewatering in compliance with city, state, and federal laws and regulations. Extracted groundwater will either be containerized for off-site licensed or permitted disposal or will be treated under a permit from New York City Department of Environmental Protection (NYCDEP) to meet pretreatment requirements prior to discharge to the sewer system.

18. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations.

19. Submission of a Final Engineering Report (FER) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, lists any changes from this RAWP, and describes all Engineering and Institutional Controls to be implemented at the Site.

20. Submission of an approved SMP in the FER for long-term management of residual contamination, including plans for operation, maintenance, monitoring, inspection and certification of Engineering (if implemented) and Institutional Controls and reporting at a specified frequency.

21. Recording of an environmental easement that includes a listing of Engineering Controls and Institutional Controls and a requirement that management of these controls must be in compliance with an approved SMP. Institutional Controls will include prohibition of the following: (1) vegetable gardening and farming; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without NYSDEC approval.

Remedial activities will be performed at the Site in accordance with this NYSDEC-approved RAWP and the Department-issued Decision Document. All deviations from the RAWP and/or Decision Document will be promptly reported to NYSDEC for approval and fully explained in the FER.

4.0 REMEDIAL ACTION PROGRAM

4.1 GOVERNING DOCUMENTS

All remedial work performed under this plan will be in full compliance with the governing documents described in this section of the RAWP.

4.1.1 Site Specific Health & Safety Plan (HASP)

All remedial work performed under this plan will be in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA.

The Volunteer and associated parties preparing the remedial documents submitted to the State and those performing the construction work, are completely responsible for the preparation of an appropriate Health and Safety Plan and for the appropriate performance of work according to that plan and applicable laws.

The Health and Safety Plan (HASP) and requirements defined in this Remedial Action Work Plan pertain to all remedial and invasive work performed at the Site until the issuance of a Certificate of Completion. A copy of the HASP is provided as Appendix C.

The site-specific HASP will be reviewed with Site personnel and appropriate sub-contractors prior to the initiation of fieldwork. All proposed work will be performed in "Level D" personal protective equipment unless field condition warrant additional protection.

The Site Safety Coordinator will be Paul H. Ciminello unless otherwise specified (and approved by) the NYSDEC. A resume will be provided to NYSDEC prior to the start of remedial construction.

Confined space entry will comply with all OSHA requirements to address the potential risk posed by combustible and toxic gasses. Potential confined spaces on this project include utility trenches and other excavation areas.

4.1.2 Quality Assurance Project Plan (QAPP)

A QAPP, detailing procedures necessary to generate data of sufficient quality and quantity to represent successful performance of the Remedial Action at the Site, has been provided as Appendix L of this report. The QAPP includes a Sampling and Analysis Plan (SAP), detailing sampling and analysis of all media (endpoint samples, waste characterization samples, fill and soil cover samples, etc.), and which identifies methods for sample collection and handling.

4.1.3 Soil/Materials Management Plan (SoMP)

All soil removal will follow the SoMP plan as specified in Section 5.4, below. The SoMP includes detailed plans for managing all soils/materials that are disturbed at the Site, including excavation, handling, storage, transport and disposal, and includes all controls that will be applied to these efforts to assure effective, nuisance-free performance in compliance with all applicable Federal, State and local laws and regulations.

All contaminant source removal areas will be surveyed at the completion of excavation. This information will be provided on maps in the FER.

4.1.4 Storm-Water Pollution Prevention Plan (SWPPP)

The Volunteer is responsible for ensuring that a storm water pollution prevention plan (SWPPP) will be prepared for the Site prior to demolition and soil removal activities. The plan will address requirements of New York State Storm-Water Management Regulations including

physical methods to control and/or divert surface water flows and to limit the potential for erosion and migration of Site soils, via wind or water, and will accommodate the construction sequencing and staging areas. The erosion and sediment controls will be in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control.

4.1.5 Community Air Monitoring Plan (CAMP)

The NYSDOH Generic CAMP (provided in Appendix M) will be initiated during all ground intrusive activities, and during any other fieldwork that is reasonably likely to generate significant dust or vapors from known or suspected contaminated soils. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pit excavation or trenching, and the installation of soil borings or monitoring wells. The implementation of the CAMP will document the presence or absence of VOCs and dust in the air surrounding the work zone, which may migrate off-site due to fieldwork activities. This plan provides guidance on the need for implementing more stringent dust and emission controls based on air quality data.

Mitigation measures may include reducing the surface area of contaminated soil being disturbed at one time, watering exposed soils to reduce fugitive dust and odors, or stopping excavation activities. Dust suppression activities will be conducted during construction activities that will disturb on-site soils and may include misting, reduction in soil movement, or cessation of excavation.

Real-time air monitoring for VOCs and particulate levels at the perimeter of the exclusion zone or work area will be performed. Periodic monitoring for VOCs will be performed during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection, for instance, will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. Depending upon the proximity of potentially exposed individuals, continuous monitoring may be performed during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

Exceedances of action levels observed during performance of the CAMP will be reported to the NYSDEC Project Manager and included in the Daily Report.

VOC Monitoring, Response Levels, and Actions

VOCs will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis during invasive work. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.

If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shut down.

All 15-minute readings must be recorded and be available for NYSDEC personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings will be recorded and will be available for NYSDEC personnel to review.

4.1.6 Contractors Site Operations Plan (SOP)

The Remedial Engineer has reviewed all plans and submittals for this remedial project (including those listed above and contractor and sub-contractor document submittals) and confirms that they are in compliance with this RAWP. The Remedial Engineer is responsible to ensure that all later document submittals for this remedial project, including contractor and sub-contractor document submittals, are in compliance with this RAWP. All remedial documents will be submitted to NYSDEC and NYSDOH in a timely manner and prior to the start of work.

4.1.7 Citizen Participation Plan

A Citizen Participation Plan (CPP) including an overview of the BCP program, background of the Site, a summary of the investigative findings for the Site, and citizen participation activities is included as Appendix G.

A certification of mailing will be sent by the Volunteer to the NYSDEC project manager following the distribution of all Fact Sheets and notices that includes: (1) certification that the Fact Sheets were mailed, (2) the date they were mailed; (3) a copy of the Fact Sheet, (4) a list of recipients (contact list); and (5) a statement that the repository was inspected on (specific date) and that it contained all of applicable project documents.

No changes will be made to approved Fact Sheets authorized for release by NYSDEC without written consent of the NYSDEC. No other information, such as brochures and flyers, will be included with the Fact Sheet mailing.

The approved Citizen Participation Plan for this project is attached in Appendix G.

Document repositories have been established at the following locations and contain all applicable project documents:

Morrisania Public Library
610 East 169th Street,
Bronx, NY 10456
Call for hours: (718) 589-9268

NYSDEC, Region 2 Office
47-40 21st Street
Long Island City, NY 11101
Call in advance: (718) 482-4900

4.2 GENERAL REMEDIAL CONSTRUCTION INFORMATION

4.2.1 Project Organization

Principal personnel who will participate in the remedial action include the Professional Engineer (PE), Jolanda Jansen and the Qualified Environmental Professional (QEP), Paul H. Ciminello. NYSDEC will be notified of any change to principal personnel.

Resumes of key personnel involved in the Remedial Action are included in Appendix J.

4.2.2 Remedial Engineer and Qualified Environmental Professional

Remedial Engineer

The Remedial Engineer for this project will be Jolanda Jansen. The Remedial Engineer is a registered professional engineer licensed by the State of New York. The Remedial Engineer will have primary direct responsibility for implementation of the remedial program for the 3475 Third Avenue Site (NYSDEC Site No. C203080). The Remedial Engineer will certify in the Final Engineering Report that the remedial activities were observed by qualified environmental professionals under her supervision and that the remediation requirements set forth in the Remedial Action Work Plan and any other relevant provisions of ECL 27-1419 have been achieved in full conformance with that Plan. Other Remedial Engineer certification requirements are listed later in this RAWP.

The Remedial Engineer will coordinate the work of other contractors and subcontractors involved in all aspects of remedial construction, including soil excavation, stockpiling, characterization, removal and disposal, air monitoring, emergency spill response services, import of back fill material, and management of waste transport and disposal. The Remedial Engineer will be responsible for all appropriate communication with NYSDEC and NYSDOH.

The Remedial Engineer will review all pre-remedial plans submitted by contractors for compliance with this Remedial Action Work Plan and will certify compliance in the Final Engineering Report.

The Remedial Engineer will provide the certifications listed in Section 11.2 in the Final Engineering Report.

Qualified Environmental Professional

The Qualified Environmental Professional (QEP) for this project will be Paul Ciminello. The QEP will oversee environmental remedial activities on the Site, document the proper removal of contaminated soils, collect waste characterization as well as site integrity samples, inspect and certify the proper importation of approval fill soils, and assist the Remedial Engineer in the preparation of documents including the FER, the SMP, and periodic status reports.

4.2.3 Remedial Action Construction Schedule

A schedule for performance of the remedial work is provided in Section 12.

4.2.4 Work Hours

The hours for operation of remedial construction will be from 7 a.m. to 3 p.m. These hours conform to the New York City Department of Buildings construction code requirements or according to specific variances issued by that agency. NYSDEC will be notified by the Volunteer of any variances issued by the Department of Buildings. No remedial work will be conducted on the weekend (Saturday or Sunday) unless expressly permitted by NYSDEC. NYSDEC reserves the right to deny alternate remedial construction hours.

4.2.5 Site Security

The Site will be secured at a minimum with a six foot fence and locking gates to protect the public during all construction activities.

4.2.6 Traffic Control

Traffic control will be provided by the contractor during equipment entrance and egress from the Site. Trucks will follow the approved truck route in Section 5.4.4. Drivers of trucks leaving the Site with soil/fill will be instructed to proceed without stopping in the vicinity of the site to prevent neighborhood impacts. The planned route on local roads for trucks leaving the site is to drive north along Third Avenue until reaching I-95.

4.2.7 Contingency Plan

If unknown conditions are encountered on-site during sub-grade removal (e.g., discovery of a previously unidentified UST), the Contingency Plan (provided in Section 5.5) and all applicable NYSDEC guidelines will be followed to address the condition(s).

4.2.8 Worker Training and Monitoring

The Volunteer is responsible for insuring that all Site contractors provide their workers with applicable training (i.e. HAZWOPER, site safety training and medical monitoring, as necessary).

4.2.9 Agency Approvals

The Volunteer has addressed all SEQRA requirements for this Site. All permits or government approvals required for remedial construction have been, or will be, obtained prior to the start of remedial construction. Acceptance of this RAWP by NYSDEC does not constitute satisfaction of these requirements and will not be a substitute for any required permit.

The planned end use for the Site is in conformance with the current zoning for the property as determined by New York City Department of Planning [or: Evidence to show that the planned use conforms to zoning designations will be provided to the NYSDEC prior to issuance of a COC.] A Certificate of Completion will not be issued for the project unless conformance with zoning designation is demonstrated.

4.2.10 NYSDEC BCP Signage

A project sign will be erected at the main entrance to the Site prior to the start of any remedial activities. The sign will indicate that the project is being performed under the New York State Brownfield Cleanup Program. The sign will meet the detailed specifications provided by the NYSDEC Project Manager and contained in Appendix K.

4.2.11 Pre-Construction Meeting with NYSDEC

A pre-construction meeting among NYSDEC, the Volunteer, the RE and QEP, and the General Contractor will take place prior to the start of remedial construction activities.

4.2.12 Emergency Contact Information

An emergency contact list with names and telephone numbers that will define the specific project contacts for use by NYSDEC and NYSDOH in the case of a day or night emergency is provided below.

Table: Emergency Contact Information

Emergency Contact	Phone Number
EMERGENCY	**911**
Hospital: Bronx Lebanon Hospital Center 1650 Grand Concourse, Bronx, NY	(718)-590-1800
Police Department	(718) 402-3887 or 911
Fire Department	(718) 430-0273 or 911
Site Health and Safety Officer, Paul Ciminello, ESI	(845) 452-1658
Remedial Engineer, Jolanda Jansen, PE	(845) 505-0324
NYSDEC Project Manager, Man-tsz Yau	(718) 482-4599
NYSDOH Project Manager, Dawn Hettrick	(518) 402-7860
Construction Manager	TBD

4.2.13 Remedial Action Costs

The total estimated cost of the Remedial Action is $965,730. An itemized and detailed summary of estimated costs for all remedial activity is attached as Appendix H. This will be revised based on actual costs and submitted as an Appendix to the Final Engineering Report.

4.3 SITE PREPARATION

4.3.1 Agency Notification and Mobilization

Notifications

The NYSDEC will be notified in writing at least five (5) business days prior to the initiation of any of the on-site work and during the course of the fieldwork. Changes to fieldwork scheduling will be provided via facsimile transmission and/or email. All applicable local agencies will also be notified prior to the initiation of site work. NYSDEC will have the opportunity to participate in all remediation project status meetings (adequate notice of these meetings will be provided).

Prior to the implementation of any ground intrusive activities, a request for a complete utility markout of the subject property will be submitted as required by New York State Department of Labor regulations. Confirmation of underground utility locations will be secured, and a field check of the utility markout will be conducted prior to the initiation of work. Any utilities on the Site will be protected (as necessary) by the contractor or Volunteer.

Site Mobilization

Mobilization will be conducted as necessary for each phase of work at the Site. Mobilization includes field personnel orientation, equipment mobilization (including securing all sampling equipment needed for the field investigation), marking/staking sampling locations and utility mark-outs. Each field team member will attend an orientation meeting to become familiar with the general operation of the Site, health and safety requirements, and field procedures. Site mobilization will be conducted in a manner such that erosion and sedimentation control, utility marker and easement layout, and other site preparation tasks are fully instituted before construction begins.

4.3.2 Erosion and Sedimentation Controls

This section describes preventative measures that will be taken to protect the Site from soil erosion and sedimentation during remedial activities. A final ESCP, reflecting final Site development plans and any approved modifications to the scope of remedial work, will be submitted to the NYSDEC for review and approval prior to the start of construction activities.

The final ESCP will include the following elements:

- A location map including the proximity of the Site to relevant off-site features;
- An Existing Conditions Site Plan;
- A grading plan and construction timetable including finished elevations and addressing the sequencing of the project; and,
- The location and type of all erosion and sediment control measures (e.g., silt fence, hay bale checks, stabilized construction entrance, etc.) and sequencing of the measures, if needed.

The Site remediation will occur in such a way as to permit on-site stormwater to remain on the Site.

4.3.3 Stabilized Construction Entrance(s)

Steps will be taken to ensure that trucks departing the site will not track soil, fill or debris off-Site. Such actions may include use of cleaned asphalt or concrete roads or use of stone or other aggregate-based egress paths between the truck inspection station and the property exit. Measures will be taken to ensure that adjacent roadways will be kept clean of project related soils, fill and debris.

4.3.4 Utility Marker and Easements Layout

The Volunteer and its contractors are solely responsible for the identification of utilities that might be affected by work under the RAWP and implementation of all required, appropriate, or necessary health and safety measures during performance of work under this RAWP. The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this RAWP. The Volunteer and its contractors must obtain any local, State or Federal permits or approvals pertinent to such work that may be required to perform work under this RAWP. Approval of this RAWP by NYSDEC does not constitute satisfaction of these requirements.

The presence of utilities and easements on the Site has been investigated by the Remedial Engineer. It has been determined that no risk or impediment to the planned work under this Remedial Action Work Plan is posed by utilities or easements on the Site.

4.3.5 Sheeting and Shoring

Appropriate management of structural stability of on-Site or off-Site structures during on-Site activities include excavation is the sole responsibility of the Volunteer and its contractors. The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan. The Volunteer and its contractors must obtain any local, State or Federal permits or approvals that may be required to perform work under this Plan. Further, the Volunteer and its contractors are solely responsible for the implementation of all required,

appropriate, or necessary health and safety measures during performance of work under the approved Plan.

4.3.6 Equipment and Material Staging

Equipment and materials will be stored and staged in a manner that complies with applicable laws and regulations. Specific Site areas will be designated for the staging of equipment and materials. Staging areas will be located and managed such that: a) non-contaminated materials do not contact or become intermixed with contaminated materials; and, b) the likelihood of worker and/or visitor exposures to contaminated media is minimized.

4.3.7 Decontamination Area

Decontamination of field equipment will be conducted to prevent Site cross-contamination, minimize the potential for off-site contamination and to reduce exposures to contaminated media. All decontamination activities will be documented in field logbooks.

Trucks and other heavy equipment remaining on-site will be brushed to remove easily accessible gross accumulations of soil at the end of each work day, and prior to moving between excavation areas or moving toward the Site exit. A dedicated decontamination area will be provided as part of the erosion and sedimentation control for vehicles exiting the Site, and will be designed such that there is continuity between the equipment wash area and the clean egress path. Heavy equipment will be brushed and sprayed with high-pressure water and/or steam to remove soil adhering to surfaces (including wheels and vehicle undercarriages), prior to exiting the Site.

Any non-disposable sampling equipment or personal protective equipment requiring decontamination will be conducted on a decontamination line setup on plastic sheeting, proceeding from dirty to clean. All items (disassembled as needed) will be washed/brushed thoroughly in an Alconox (or similar) solution, then rinsed with clean water (and/or nitric acid and methanol, as appropriate) per established USEPA decontamination protocols. All down-hole gauging and pumping equipment will be allowed to run fully submerged in both soapy and clean water. Rinse blanks will be collected as per the requirements of the QAPP.

All decontamination stations will be placed in areas that will subsequently be covered by a barrier layer (likely to consist of both buildings/pavement and/or imported clean soil); no

decontamination activities will occur in areas where soil meets RRUSCOs and is not subject to an engineering control. Equipment known or suspected to be impacted by petroleum or solvent contamination, grossly contaminated media or materials subject to conditions specified in the Contingency Plan (Section 5.5), will be decontaminated on an engineered pad designed to capture and contain wash water, which will be containerized and characterized prior to off-site disposal at a permitted facility. Based on known contaminant conditions, decontamination rinse water generated during other decontamination activities will be allowed to infiltrate into on-site soils, either directly to the surface (for minor quantities of water that are not likely to exhibit sheet flow) or to the subsurface via engineered discharge pits.

4.3.8 Site Fencing

Site fencing (6 feet in height minimum with a locking gate) will be installed as part of Site preparation, as necessary.

4.3.9 Demobilization

Demobilization will include:

- As necessary, restoration of temporary access areas and areas that may have been disturbed to accommodate support areas (e.g., staging areas, decontamination areas, storage areas, temporary water management areas, and access area);
- Removal of sediment from erosion control measures and truck wash and disposal of materials in accordance with applicable laws and regulations;
- Equipment decontamination, and;
- General refuse disposal.

Equipment will be decontaminated and demobilized at the completion of all field activities. Investigation equipment and large equipment (e.g., soil excavators) will be washed at the truck inspection station as necessary. In addition, all investigation and remediation derived waste will be appropriately disposed.

4.3.10 Well Decommissioning

Any existing monitoring wells located within construction areas will be properly decommissioned according to technical guidance provided in NYSDEC CP-43: Groundwater Monitoring Well Decommissioning Policy. The monitoring well casing will be exposed to a depth corresponding to the depth of planned excavation in the immediate vicinity of the well, the exposed casing will be cut off at the level of the excavation floor and the remaining subsurface portion of the casing will be grouted in-place, as per CP-43 Section 6.0.

4.4 REPORTING

All daily and monthly Reports will be included in the Final Engineering Report.

4.4.1 Daily Reports

Daily reports will be submitted to NYSDEC and NYSDOH Project Managers by the end of each day following the reporting period and will include:

- An update of progress made during the reporting day;
- Locations of work and quantities of material imported and exported from the Site;
- References to alpha-numeric map for Site activities;
- A summary of any and all complaints with relevant details (names, phone numbers);
- A summary of CAMP finding, including excursions;
- An explanation of notable Site conditions.

Daily reports are not intended to be the mode of communication for notification to the NYSDEC of emergencies (accident, spill), requests for changes to the RAWP or other sensitive or time critical information. However, such conditions must also be included in the daily reports. Emergency conditions and changes to the RAWP will be addressed directly to NYSDEC Project Manager via personal communication.

Daily Reports will include a description of daily activities keyed to an alpha-numeric map for the Site that identifies work areas. These reports will include a summary of air sampling results, odor and dust problems and corrective actions, and all complaints received from the public.

A Site map that shows a predefined alpha-numeric grid for use in identifying locations described in reports submitted to NYSDEC is attached in Figure 9.

The NYSDEC assigned project number will appear on all reports.

4.4.2 Monthly Reports

Monthly reports prepared in accordance with DER-10 Section 5.7(b) will be submitted to NYSDEC and NYSDOH Project Managers within one week following the end of the month of the reporting period and will include, at a minimum:

- Activities relative to the Site during the previous reporting period and those anticipated for the next reporting period, including a quantitative presentation of work performed (i.e. tons of material exported and imported, etc.);
- Description of approved activity modifications, including changes of work scope and/or schedule;
- Sampling results received following internal data review and validation, as applicable; and,
- An update of the remedial schedule including the percentage of project completion, unresolved delays encountered or anticipated that may affect the future schedule, and efforts made to mitigate such delays.

4.4.3 Other Reporting

Photographs will be taken of all remedial activities and submitted to NYSDEC in digital (JPEG) format. Photos will illustrate all remedial program elements and will be of acceptable quality. Representative photos of the Site prior to any Remedial Actions will be provided. Representative photos will be provided of each contaminant source, source area and Site structures before, during and after remediation. Photos will be included in the daily reports as needed, and a comprehensive collection of photos will be included in the Final Engineering Report.

Job-site record keeping for all remedial work will be appropriately documented. These records will be maintained on-Site at all times during the project and be available for inspection by NYSDEC and NYSDOH staff.

4.4.4 Complaint Management Plan

All complaints from citizens will be promptly reported to NYSDEC. Complaints will be addressed and outcomes will also be reported to NYSDEC in daily reports. Notices to NYSDEC will include the nature of the complaint, the party providing the complaint, and the actions taken to resolve any problems.

Any complaints from the public regarding nuisances or other Site conditions will be handled as follows:

- Information from the person making the complaint (name, phone number, address, etc.) will be obtained, if possible, so follow-up can be completed.
- The nature of the complaint as well as the date, time, and weather conditions will be noted.
- The complaint will be addressed by on-site personnel.
- The person logging the complaint will be re-contacted (if contact information was provided), so that the resolution of the complaint can be documented.
- In the event that the complaint cannot be resolved, the NYSDEC project manager will be contacted in writing.

4.4.5 Deviations from the Remedial Action Work Plan

All changes to the RAWP will be reported to the NYSDEC Project Manager and will be documented in daily reports and reported in the FER. The process to be followed if there are any deviations from the RAWP will include a request for approval for the change from NYSDEC noting the following:

- Reasons for deviating from the approved RAWP;
- Effect of the deviations on overall remedy; and

- Determination that the remedial action with the deviation(s) is protective of public health and the environment.

Notification will be provided to the NYSDEC by telephone for conditions requiring immediate action (e.g., conditions judged to be a danger to on-site personnel or the surrounding community).

5.0 REMEDIAL ACTION: MATERIAL REMOVAL FROM SITE

5.1 SOIL CLEANUP OBJECTIVES

The Soil Cleanup Objectives for this Site are Restricted Residential Use SCOs.

In the event Track 2 Restricted Residential SCOs are not met, the Track 4 remedy will be implemented and will require implementation of ICs and Engineering Controls (ECs). The Track 4 SCOs for this Site are:

Arsenic	23 ppm
Barium	800 ppm
Lead	1200 ppm
Mercury	2.0 ppm

Soil and materials management on-Site and off-Site will be conducted in accordance with the Soil Management Plan as described below.

Tables 1 through 9 in Appendix B summarize all soil samples that exceed the SCOs proposed for this Remedial Action. A spider map that shows all soil samples that exceed the SCOs proposed for this Remedial Action is shown in Figure 5, Appendix A.

AST closures will, at a minimum, conform to criteria defined in DER-10.

5.2 REMEDIAL PERFORMANCE EVALUATION (POST EXCAVATION END-POINT SAMPLING)

5.2.1 End-Point Sampling Frequency

At a minimum, one soil sample will be collected from each 30 feet of wall (minimum of one sample per wall) and one sample will be collected from every 900 square feet of floor (minimum of one sample per floor). Samples will only be collected where soil remains at the conclusion of construction excavations, i.e. no samples will be collected from locations where the excavation terminates at bedrock. An Endpoint Sample Location Map is included as Figure 6.

5.2.2 Methodology

Underlying and surrounding soils will be visually inspected and screened with the PID after the removal of all soils necessary for construction.

Soil samples will be collected using decontaminated stainless steel trowels and dedicated, disposable latex gloves. Samples will be place in pre-cleaned jars provided by the laboratory. After sample collection, the sample containers will be placed in a cooler prior to overnight transport to a NYSDOH-certified laboratory for analysis. Appropriate chain of custody procedures will be followed.

5.2.3 Reporting of Results

5.2.4 QA/QC

Quality Assurance / Quality Control protocols are fully specified in the QAPP (Appendix L). QA/QC methodology includes the following:

- One duplicate sample for every 20 samples collected will be submitted to the approved laboratory for analysis of the same parameters.

- Collected endpoint samples will be appropriately packaged, placed in coolers and transferred under proper Chain of Custody to the analytical laboratory. Samples will be containerized in appropriate laboratory provided glassware and shipped in plastic coolers. Samples will be preserved through the use of ice or "cold-packs" to maintain a temperature of 4° C.
- Dedicated disposable sampling materials will be used for the collection endpoint samples, eliminating the need to prepare field equipment (rinsate) blanks. However, if non-disposable equipment is used, (stainless steel scoop, etc.) field rinsate blanks will be prepared at the rate of 1 for every eight samples collected.

5.2.5 DUSR

Complete laboratory data packages will provided to an independent, third-party data validator. A summary of the findings in the Data Usability Summary Reports (DUSRs) will be provided in the FER.

5.2.6 Reporting of End-Point Data in FER

Chemical analysis of end-point and contingency samples will be conducted by a NYSDOH ELAP certified laboratory. The FER will provide all end-point sample results and exceedances of SCOs.

5.3 ESTIMATED MATERIAL REMOVAL QUANTITIES

The estimated quantity of soil/fill to be removed from the Site is 8,000 cubic yards. No backfill importation to the site is anticipated. The need for relocation of soils on-site will be determined during construction and in consultation with the NYSDEC.

5.4 SOIL/MATERIALS MANAGEMENT PLAN

5.4.1 Soil Screening Methods

Visual, olfactory and PID soil screening and assessment will be performed by a qualified environmental professional or experienced field geologist under the direction of the Remedial Engineer during all remedial and development excavations into known or potentially

contaminated material. Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during the remedy and during development phase, such as excavations for foundations and utility work, prior to issuance of the COC.

Grossly contaminated soil will be identified by the presence of: non-aqueous phase liquids (NAPL); visual indications of staining, discoloration or the presence of other obvious signs of contamination; noticeable odors associated with petroleum, solvents or other chemicals; and/or elevated PID readings compared to background levels.

Soil screening will be used to establish temporary excavation end-points by: 1) establishing the absence of soil exhibiting significant field evidence of contamination (grossly contaminated media) or debris materials likely to be associated with contaminants of concern (e.g., urban fill); and, 2) identifying the presence of non-disturbed native soils. The use of direct-reading hand-held screening devices (e.g., PID) will be employed, as appropriate, to determine likely excavation boundaries; final endpoints, however, will only be established through laboratory analysis of confirmatory samples.

All primary contaminant sources (including but not limited to tanks and hotspots) identified during Site Characterization, Remedial Investigation, and Remedial Action will be surveyed by a surveyor licensed to practice in the State of New York. This information will be provided on maps in the Final Engineering Report.

Screening will be performed by qualified environmental professionals. Resumes will be provided for all personnel responsible for field screening (i.e. those representing the Remedial Engineer) of invasive work for unknown contaminant sources during remediation and development work.

5.4.2 Stockpile Methods

All stockpile activities will be compliant with applicable laws and regulations. Soil stockpile areas will be appropriately graded to control run-off in accordance with applicable laws and regulations and will be located in areas not subject to flooding or excessive sheet flow during storm events. Material to be stockpiled will be placed within an area designed and constructed to contain the materials from all sides and prevent runoff and dispersion. Stockpiles of excavated

soils and other materials shall be located at least of 50 feet from the property boundaries, where possible.

Excavated soil from suspected areas of contamination (e.g., hot spots, USTs, drains, etc.) will be stockpiled separately and will be segregated from clean soil and construction materials. Stockpiles will be used only when necessary and will be removed as soon as practicable. Excavated soils will be stockpiled on, at minimum, double layers of 8-mil minimum sheeting. Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC.

Soil stockpiles will be continuously encircled with silt fences. Hay bales (or equivalent) will be used as needed near catch basins, surface waters and other discharge points.

Water will be available on-site at suitable supply and pressure for use in dust control.

5.4.3 Materials Excavation and Load Out

The Remedial Engineer or a qualified environmental professional under his/her supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the Site has been investigated by the Remedial Engineer. It has been determined that no risk or impediment to the planned work under this Remedial Action Work Plan is posed by utilities or easements on the Site.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-Site. The Remedial Engineer will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the Site until the remedial construction is complete.

Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-Site sediment tracking.

The Remedial Engineer will be responsible for ensuring that all egress points for truck and equipment transport from the Site will be clean of dirt and other materials derived from the Site during Site remediation and development. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site -derived materials.

The Volunteer and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all invasive work, the structural integrity of excavations, and for structures that may be affected by excavations (such as building foundations and bridge footings).

The Remedial Engineer will ensure that Site development activities will not interfere with, or otherwise impair or compromise, remedial activities proposed in this Remedial Action Work Plan.

Each hotspot and structure to be remediated (USTs, vaults and associated piping, transformers, etc.) will be removed and end-point remedial performance sampling completed before excavations related to Site development commence proximal to the hotspot or structure.

Development-related grading cuts and fills will not be performed without NYSDEC approval and will not interfere with, or otherwise impair or compromise, the performance of remediation required by this plan.

Mechanical processing of historical fill and contaminated soil on-Site is prohibited.

All primary contaminant sources (including but not limited to tanks and hotspots) identified during Site Characterization, Remedial Investigation, and Remedial Action will be surveyed by a surveyor licensed to practice in the State of New York. The survey information will be shown on maps to be reported in the Final Engineering Report.

5.4.4 Materials Transport Off-Site

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Truck transport routes are as follows: north along Third Avenue to I-95. All trucks loaded with Site materials will exit the vicinity of the Site using only these approved truck routes.

Proposed in-bound and out-bound truck routes to the Site are shown in Figure 11. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off- Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport; [(g) community input [where necessary]]

Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.

Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development.

Queuing of trucks will be performed on-Site in order to minimize off-Site disturbance. Off-Site queuing will be prohibited.

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used. All trucks will be washed prior to leaving the Site. Truck wash waters will be collected and disposed of off-Site in an appropriate manner.

5.4.5 Materials Disposal Off-Site

Waste disposal locations, to be established at a later date, will be reported to the NYSDEC Project Manager prior to the start of remedial excavation. A sample Non-Hazardous Soil Disposal manifest is included as Appendix E. The total quantity of material expected to be disposed off-Site (excluding debris from building demolition) is anticipated to be approximately 8,000 cubic yards. It is anticipated that the excavated material will be comprised of three waste streams including: poor quality urban fill (2,600 cubic yards), bedrock (1,600 cubic yards), and native soils (3,800 cubic yards). Several separate disposal facilities may be secured (as warranted), based on the expected composition of known contaminated soils. Information from the disposal facilities will be sent to the NYSDEC before the initiation of soil removal at the Site.

All soil/fill/solid waste excavated and removed from the Site will be treated as contaminated and regulated material and will be disposed in accordance with all local, State (including 6NYCRR

Part 360) and Federal regulations. If disposal of soil/fill from this Site is proposed for unregulated disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to NYSDEC's Project Manager. Unregulated off-Site management of materials from this Site is prohibited without formal NYSDEC approval.

Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

The following documentation will be obtained and reported by the Remedial Engineer for each disposal location used in this project to fully demonstrate and document that the disposal of material derived from the Site conforms with all applicable laws: (1) a letter from the Remedial Engineer or BCP Volunteer to the receiving facility describing the material to be disposed and requesting formal written acceptance of the material. This letter will state that material to be disposed is contaminated material generated at an environmental remediation Site in New York State. The letter will provide the project identity and the name and phone number of the Remedial Engineer. The letter will include as an attachment a summary of all chemical data for the material being transported (including Site Characterization data); and (2) a letter from all receiving facilities stating it is in receipt of the correspondence (above) and is approved to accept the material. These documents will be included in the FER.

Non-hazardous historic fill and contaminated soils taken off-Site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2

Historical fill and contaminated soils from the Site are prohibited from being disposed at Part 360-16 Registration Facilities (also known as Soil Recycling Facilities).

Soils that are contaminated but non-hazardous and are being removed from the Site are considered by the Division of Materials Management (DMM) in NYSDEC to be Construction and Demolition (C/D) materials with contamination not typical of virgin soils. These soils may be sent to a permitted Part 360 landfill. They may be sent to a permitted C/D processing facility without permit modifications only upon prior notification of NYSDEC Region 2 DMM. This material is prohibited from being sent or redirected to a Part 360-16 Registration Facility. In this case, as dictated by DMM, special procedures will include, at a minimum, a letter to the C/D facility that provides a detailed explanation that the material is derived from a DER remediation Site, that the soil material is contaminated and that it must not be redirected to on-Site or off-Site

Soil Recycling Facilities. The letter will provide the project identity and the name and phone number of the Remedial Engineer. The letter will include as an attachment a summary of all chemical data for the material being transported.

The Final Engineering Report will include an accounting of the destination of all material removed from the Site during this Remedial Action, including excavated soil, contaminated soil, historic fill, solid waste, and hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. This information will also be presented in a tabular form in the FER.

Bill of Lading system or equivalent will be used for off-Site movement of non-hazardous wastes and contaminated soils. This information will be reported in the Final Engineering Report.

Hazardous wastes derived from on-Site will be stored, transported, and disposed of in full compliance with applicable local, State, and Federal regulations.

Appropriately licensed haulers will be used for material removed from this Site and will be in full compliance with all applicable local, State and Federal regulations.

Waste characterization will be performed for off-Site disposal in a manner suitable to the receiving facility and in conformance with applicable permits. Sampling and analytical methods, sampling frequency, analytical results and QA/QC will be reported in the FER. All data available for soil/material to be disposed at a given facility must be submitted to the disposal facility with suitable explanation prior to shipment and receipt.

5.4.6 Materials Reuse On-Site

Soil and fill that is derived from the property that meets the soil cleanup objectives established in this plan may be reused on-Site. "Reuse on-Site" means material that is excavated during the remedy or development, does not leave the property, and is relocated within the same property and on comparable soil/fill material, and addressed pursuant to Engineering Controls. The Remedial Engineer will ensure that procedures defined for materials reuse in this RAWP are followed and that unacceptable material will not remain on-Site.

Acceptable demolition material proposed for reuse on-Site, if any, will be sampled for asbestos.

Concrete crushing or processing on-Site is prohibited.

Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site is prohibited for reuse on-Site.

Contaminated on-Site material, including historic fill and contaminated soil, removed for grading or other purposes will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines. This will be expressed in the final SMP.

5.4.7 Fluids Management

The proposed maximum depth of excavation (14 feet bsg) will be across the entire area of the proposed structure. The known groundwater elevation (15 feet bsg) is below this proposed maximum depth and it is not anticipated that significant quantities of groundwater requiring management will be generated during Site development. Existing data support the conclusion that site groundwater is not significantly contaminated and, in the absence of overt evidence of contamination, any encountered groundwater will be managed on-site.

If any additional laboratory analysis of groundwater documents significant groundwater contamination (as determined in consultation with NYSDEC), or if fieldwork observations of encountered groundwater document any overt signs of contamination (e.g., strong odors, presence of free product, etc.), then dewatered fluids will not be recharged back to the land surface or subsurface of the Site and all dewatering fluids will be managed off-Site.

All liquids to be removed from the Site, including dewatering fluids, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Liquids discharged into the New York City sewer system will be addressed through approval by NYCDEP.

Discharge of water generated during remedial construction to surface waters (i.e. a local pond, stream or river) is prohibited without a SPDES permit.

5.4.8 Demarcation

After the completion of soil removal and any other invasive remedial activities and prior to backfilling, the top of the residual soil/fill will be defined by one of three methods: (1) placement of a demarcation layer. The demarcation layer will consist of geosynthetic fencing or equivalent material to be placed on the surface of residual soil/fill to provide an observable reference layer.

A description or map of the approximate depth of the demarcation layer will be provided in the FER; or (2) a land survey of the top elevation of residual soil/fill before the placement of cover soils, pavement and associated sub-soils, or other materials or structures; or, (3) all materials beneath the approved cover will be considered impacted and subject to site management after the remedy is complete. Demarcation may be established by one or any combination of these three methods. As appropriate, a map showing the method of demarcation for the Site and all associated documentation will be presented in the FER. This demarcation will constitute the top of the 'Residuals Management Zone', the zone that requires adherence to special conditions for disturbance of contaminated residual soils defined in the SMP.

5.4.9 Backfill from Off-Site Sources

The basement slab (and ramp down to the basement parking area) underlain by a waterproofing membrane will cover the entire site. No other types of cover are anticipated in the existing construction plans. In addition, it is anticipated that the Site will meet Track 2 cleanup objectives and any imported material will not therefore be utilized as an Engineering Control or other component of the Remedy. In the event that clean soil is imported to the site for construction purposes, the following protocols for the management and handling of such materials are included as a contingency.

The imported uncontaminated, clean soil cover will be from an approved source/facility and will be evaluated by the Remedial Engineer/QEP to ensure that:

- A segregated stockpile is properly maintained at the source and will not be comingled with any other material prior to importing and grading the clean soil material at the Site;
- Material does not include any prohibited material (e.g., solid waste, including construction and demolition material);
- Screening for evidence of contamination by visual, olfactory and PID soil screening practices prior to testing at the source as well as upon importing to the Site for grading is completed; and

- A grab sample (for VOCs) and a maximum five-part composite sample will be collected from the segregated stockpile at the source, with sampling frequency and laboratory analyses conforming to the requirements specified in DER-10 5.4(e), including soil analysis for the following parameters:

    TCL VOCs by EPA Method 8260C

    TCL SVOCs by EPA Method 8270D

    TCL Pesticides by EPA Method 8081B

    TCL PCBs by EPA Method 8082A

    TAL Metals by EPA Method 6010C/7471B

Upon receipt of the segregated stockpile analytical results collected at the source, a Clean Soil Sampling Report will be submitted to DEC for review/approval prior to importing. The report will include the following:

- Summary of number of samples collected and analyzed, tabulated data and comparison to the selected Site Use SCOs;
- Analytical data sheets and chain of custody documentation;
- Summary of the weight and volume of imported material;
- Photographs from the segregated stockpile at the source with sample point locations identified;
- An affidavit from the source/facility on company letterhead stating that the segregated stockpile of the weight and volume of material to be imported has been properly maintained at the source and complies with the requirements listed above; and
- A copy of source/facility NYSDEC permit;

The following documentation will be presented in the FER:

- Copies of purchase invoices;
- Truck transportation slips from the source to the Site;

- Confirmation of the weight and volume of NYSDEC approved clean soil imported;
- Site plan depicting all areas where the NYSDEC approved clean soil cover has been placed.

All materials proposed for import onto the Site will be approved by the Remedial Engineer and will be in compliance with provisions in this RAWP prior to receipt at the Site.

Material from industrial sites, spill sites, other environmental remediation sites or other potentially contaminated sites will not be imported to the Site.

The Final Engineering Report will include the following certification by the Remedial Engineer: "I certify that all import of soils from off-Site, including source evaluation, approval and sampling, has been performed in a manner that is consistent with the methodology defined in the Remedial Action Work Plan".

All imported soils will meet NYSDEC approved backfill or cover soil quality objectives for this Site. These NYSDEC approved backfill or cover soil quality objectives are the lower of the protection of groundwater or the protection of public health soil cleanup objectives for Restricted Residential Use as set forth in Table 375-6.8(b) of 6 NYCRR Part 375. Non-compliant soils will not be imported onto the Site without prior approval by NYSDEC. Nothing in the approved Remedial Action Work Plan or its approval by NYSDEC should be construed as an approval for this purpose.

Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Nothing in this Remedial Action Work Plan should be construed as an approval for this purpose.

Solid waste will not be imported onto the Site.

Trucks entering the Site with imported soils will be securely covered with tight fitting covers.

5.4.10 Stormwater Pollution Prevention

An ESCP that conforms to the requirements of the NYSDEC Division of Water guidelines and NYS regulations will be developed by the Contractor and approved by the RE. This plan will be provided to the NYSDEC prior to any remedial or development construction activities.

Silt fencing or hay bales will be installed around the entire perimeter of the remedial construction area and be inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the RAWP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

5.4.11 Community Air Monitoring Plan

A CAMP will be implemented during all ground intrusive activities. Exceedances observed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers and included in the Daily Report.

5.4.12 Odor, Dust and Nuisance Control Plan

Suppression of odors, dust and other nuisance conditions will be conducted during all invasive work performed during construction activities. The Final Engineering Report will include the following certification by the Remedial Engineer: “I certify that all invasive work during the remediation and all invasive development work were conducted in accordance with dust and odor suppression methodology defined in the Remedial Action Work Plan.”

Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-Site. Specific odor control methods to be used on a routine basis will include minimizing the generation of vapors and/or odors. If nuisance odors are identified at the Site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of all other complaints about the project. Implementation of all odor controls, including the halt of work, will be the responsibility of the Volunteer's Remedial Engineer, who is responsible for certifying the Final Engineering Report.

All necessary means will be employed to prevent on- and off-Site nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems.

Dust Control Plan

A dust suppression plan that addresses dust management during invasive on-Site work, will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-Site water truck or other equivalent equipment for road wetting capable of spraying water directly onto off-road areas including excavations and stockpiles (water will be available on-site at suitable supply and pressure for use in dust control if a dedicated water truck is not utilized).

- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-Site roads will be limited in total area to minimize the area required for water spraying.
- Materials will be hauled in properly tarped containers or vehicles, which will travel at restricted speeds while on-site.

All reasonable attempts will be made to keep visible and/or fugitive dust to a minimum and adhere to particulate emissions limits identified in the CAMP.

Other Nuisances

A plan for rodent control will be developed and utilized by the contractor prior to and during Site clearing and Site grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work and will conform, at a minimum, to NYCDEP noise control standards.

5.5 CONTINGENCY PLAN

This contingency plan is developed for the remedial construction to address the discovery of unknown structures or contaminated media during excavation. Identification of unknown contamination source areas during invasive Site work will be promptly communicated to NYSDEC's Project Manager. Petroleum spills will be reported to the NYSDEC Spill Hotline. These findings will be included in the daily report. If previously unidentified contaminant sources are found during on-Site remedial excavation or development-related excavation, sampling will be performed on contaminated source material and surrounding soils and reported to NYSDEC. Chemical analytical testing will be performed for TCL volatiles and semi-volatiles, pesticides/PCBs, and TAL metals, as appropriate.

This section describes actions that must occur upon the discovery of previously unknown contaminated material(s), USTs, demolition debris or other unknown unidentifiable material that requires special handling. On-site personnel should be prepared to respond appropriately if the

following previously unknown materials are encountered (if encountered, this material could result in a recommendation from the Remedial Engineer/QEP for an immediate, temporary shutdown of construction activities):

- Previously unknown tanks (including drums) containing a liquid product that is not likely to be water and is likely to present a threat to worker health or safety;
- Previously unknown demolition debris, which could contain significant quantities of asbestos, the disturbance of which is determined, based on field observations, to violate or likely to violate Federal, State, or local asbestos regulations; and,
- Material which cannot be readily identified.

5.5.1 Procedures for Encountered Underground Storage Tanks

Closure of any encountered USTs at the Site will be in accordance with the requirements of DER-10, Section 5.5. Any encountered, previously unknown USTs will be visually inspected to determine if liquids are present in the tank. Significant quantities of liquid remaining in the tanks will be drummed on the Site or removed by a properly licensed disposal company and the particular product (e.g., fuel oil, diesel, etc.) will be identified prior to off-site disposal at a permitted facility. All encountered USTs will be disposed of pursuant to applicable Petroleum Bulk Storage (PBS) and hazardous waste regulations.

5.5.2 Procedures for Encountered Demolition Debris

To the extent practical, all clearly identifiable material suspected of containing asbestos will be removed from the waste stream and handled separately (if encountered). The Remedial Engineer/QEP will recommend that asbestos material visible in the waste stream be separated and analyzed to determine the percent of asbestos present. All applicable Federal, State and local asbestos handling regulations will be followed.

Depending on the amount of asbestos material identified in the waste stream, the Remedial Engineer/QEP may recommend to the Volunteer's Representative that a licensed and accredited asbestos inspector be retained to manage the handling and disposition of asbestos material. Approval to retain an asbestos inspector will be made by the Volunteer's Representative. Samples will be collected by a properly licensed asbestos inspector and submitted to a NYSDOH

ELAP- certified laboratory for analysis, depending on the amount and type of material encountered.

Minor amounts of asbestos may be removed from the waste stream and disposed of in accordance with applicable State and local asbestos remediation requirements. An asbestos abatement firm will be retained to properly handle and remove minor amounts of asbestos.

The presence of significant quantities of asbestos will result in a temporary shutdown of the Site.

5.5.3 Procedures for Encountered Unknown Material

Material which cannot be readily identified but which is considered, based on field observations, to be material that needs further investigation before disposal will be properly stockpiled (as per the SoMP) in an area separate from all other stockpiled material.

5.5.4 Screening and Laboratory Analysis

Unknown material will be screened with a photo-ionization detector (PID) and all recorded levels will be documented. Samples will be collected and analyzed to identify the compounds present and to assist in determining appropriate disposal practices. Until determined by laboratory analysis otherwise, this material will be considered a hazardous substance. Specific materials known to require sampling and analysis prior to final disposition include all building components and debris containing painted surfaces and/or caulk. A plan to describe the handling and disposal of such materials will be submitted to NYSDEC for review and approval.

If previously unknown underground tanks or other previously unidentified contaminant sources are found during on-site remedial excavation or development related construction, sampling will be performed on product, sediment, and surrounding soils, etc. Chemical analytical work will be for full scan parameters (TAL metals, TCL volatiles and semi-volatiles, TCL pesticides, and PCBs). These analyses will not be limited to CP-51 petroleum list parameters where tanks are identified without prior approval by NYSDEC. Analyses will not be otherwise limited without NYSDEC approval.

6.0 RESIDUAL CONTAMINATION TO REMAIN ON-SITE

The intent of the chosen remedy is to remove contaminated material sufficient to achieve Track 2 Restricted Residential SCOs. Since residual contaminated soil (i.e. soil with contaminant concentrations above Unrestricted Use SCOs) may exist beneath the Site after the remedy is complete, use restrictions will be required to protect human health and the environment. The chosen remedy will therefore require Institutional Controls (ICs). In the event Track 2 Restricted Residential SCOs are not met, the Track 4 remedy will be implemented and will require implementation of ICs and Engineering Controls (ECs).

These ECs and ICs are described hereafter. If required, long-term management of ECs of residual contamination will be executed under a Site specific SMP that will be developed and included in the FER.

ECs (if required) would be implemented to protect public health and the environment by appropriately managing residual contamination. The Controlled Property (the Site) will have two or three primary EC systems. These are: (1) a composite cover system consisting of the concrete building slab (2) a 20 mil vapor barrier beneath the slab and subgrade walls 3 (3) if necessary, an active SSDS.

The FER will report residual contamination on the Site in tables and maps. This will include presentation of exceedances of both Track 1 and Track 2 SCOs.

7.0 INSTITUTIONAL CONTROLS

After the remedy is complete, the Site will have residual contamination remaining in place (i.e. soils with contaminant concentrations above Unrestricted Use SCOs). ICs for the residual contamination have been incorporated into the remedy as a contingency to render the overall Site remedy protective of public health and the environment. To ensure continual and proper management of residual contamination in perpetuity a Site-specific Environmental Easement will be recorded with Bronx County to provide an enforceable means of ensuring the continual and proper management of residual contamination and protection of public health and the environment in perpetuity or until released in writing by NYSDEC (the site will continue to be encumbered with an E-designation for hazardous materials). It requires that the grantor of the

Environmental Easement and the grantor's successors and assigns adhere to all Institutional Controls (ICs) placed on this Site by this NYSDEC-approved remedy.

In the event that the Track 4 remedy for the site is implemented, the Environmental Easement will provide restrictions on Site usage and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. A SMP will be prepared describing appropriate methods and procedures to ensure compliance with all ICs and ECs that are required by the Environmental Easement. Once the SMP has been approved by the NYSDEC, compliance with the SMP is required by the grantor of the Environmental Easement and grantor's successors and assigns.

7.1 ENVIRONMENTAL EASEMENT

An Environmental Easement, as defined in Article 71 Title 36 of the Environmental Conservation Law, is required when residual contamination is left on-Site after the Remedial Action is complete. As part of this remedy, an Environmental Easement approved by NYSDEC will be filed and recorded with the Bronx County Office of the City Register. The Environmental Easement will be submitted as part of the Final Engineering Report.

The Environmental Easement renders the Site a Controlled Property. The Environmental Easement must be recorded with the Bronx County Office of the City Register before the Certificate of Completion can be issued by NYSDEC. A series of Institutional Controls are required under this remedy to prevent future exposure to residual contamination by controlling disturbances of the subsurface soil and restricting the use of the Site to Restricted Residential Use only. These Institutional Controls are requirements or restrictions placed on the Site that are listed in, and required by, the Environmental Easement.

The Controlled Property (Site) will also have a series of Institutional Controls in the form of Site restrictions and requirements. The Site restrictions that apply to the Controlled Property are:

- Vegetable gardens and farming on the Controlled Property are prohibited;
- Use of groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for intended purpose;

- All future activities on the Controlled Property that will disturb residual contaminated material are prohibited unless they are conducted in accordance with the soil management provisions in the SMP;
- The Controlled Property may be used for Restricted Residential use only, provided the long-term Engineering and Institutional Controls included in the SMP are employed;
- The Controlled Property may not be used for a higher level of use, such as Unrestricted Use without an amendment or extinguishment of this Environmental Easement;
- Grantor agrees to submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow. This annual statement must be certified by an expert that the NYSDEC finds acceptable.

8.0 ENGINEERING CONTROLS

8.1 COMPOSITE COVER SYSTEM

In the event that the Track 4 remedy for the site is implemented, exposure to residual contaminated soils will be prevented by an engineered, composite cover system that will be built on the Site. This composite cover system will be comprised of a 20-mil vapor barrier and the concrete building slab covering the entire site.

Maintenance of this composite cover system will be described in the SMP in the FER.

8.2 SUB-SLAB DEPRESSURIZATION SYSTEM

If warranted, a SSDS system will be installed at the site as an Engineering Control. The SSDS will not be discontinued without written approval by NYSDEC and NYSDOH. A proposal to discontinue the active SSD system may be submitted by the property owner based on

confirmatory data that justifies such request. Systems will remain in place and operational until permission to discontinue use is granted in writing by NYSDEC and NYSDOH.

9.0 FINAL ENGINEERING REPORT

A Final Engineering Report (FER) will be submitted to NYSDEC following implementation of the Remedial Action defined in this RAWP.

9.1 FER ELEMENTS

The FER provides the documentation that the remedial work required under this RAWP has been completed and has been performed in compliance with this plan. The FER will provide a comprehensive account of the locations and characteristics of all material removed from the Site including the surveyed map(s) of all sources. The Final Engineering Report will include as-built drawings for all constructed elements, calculation and manufacturer documentation for treatment systems, certifications, manifests, bills of lading as well as the complete Site Management Plan (formerly the Operation and Maintenance Plan). The FER will provide a description of the changes in the Remedial Action from the elements provided in the RAWP and associated design documents. The FER will provide a tabular summary of all performance evaluation sampling results and all material characterization results and other sampling and chemical analysis performed as part of the Remedial Action. The FER will provide test results demonstrating that all mitigation and remedial systems are functioning properly. The FER will be prepared in conformance with DER-10.

Where determined to be necessary by NYSDEC, a Financial Assurance Plan will be required to ensure the sufficiency of revenue to perform long-term operations, maintenance and monitoring tasks defined in the SMP and Environmental Easement. This determination will be made by NYSDEC in the context of the Final Engineering Report review.

The Final Engineering Report will include written and photographic documentation of all remedial work performed under this remedy.

The FER will include an itemized tabular description of actual costs incurred during all aspects of the Remedial Action.

The FER will provide a thorough summary of all residual contamination left on the Site after the remedy is complete. Residual contamination includes all contamination that exceeds the Track 1 Unrestricted Use SCO in 6NYCRR Part 375-6. A table that shows exceedances from Track 1 Unrestricted SCOs for all soil/fill remaining at the Site after the Remedial Action and a map that shows the location and summarizes exceedances from Track 1 Unrestricted SCOs for all soil/fill remaining at the Site after the Remedial Action will be included in the FER.

The FER will provide a thorough summary of all residual contamination that exceeds the SCOs defined for the Site in the RAWP and must provide an explanation for why the material was not removed as part of the Remedial Action. A table that shows residual contamination in excess of Site SCOs and a map that shows residual contamination in excess of Site SCOs will be included in the FER.

The Final Engineering Report will include an accounting of the destination of all material removed from the Site, including excavated contaminated soil, historic fill, solid waste, hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. It will provide an accounting of the origin and chemical quality of all material imported onto the Site.

Before approval of a FER and issuance of a Certificate of Completion, all project reports must be submitted in digital form on electronic media (PDF).

9.2 SITE MANAGEMENT PLAN

If the Track 4 remedy is implemented, a SMP will be required. Its implementation will be the last phase of remediation and begins with the approval of the Final Engineering Report and issuance of the Certificate of Completion (COC) for the Remedial Action. The SMP is submitted as part of the FER but will be written in a manner that allows its removal and use as a complete and independent document. Site Management continues in perpetuity or until released in writing by NYSDEC. The property owner is responsible to ensure that all Site Management responsibilities defined in the Environmental Easement and the SMP are performed.

The SMP is intended to provide a detailed description of the procedures required to manage residual contamination left in place at the Site following completion of the Remedial Action in accordance with the BCA with the NYSDEC. This includes: (1) development, implementation,

and management of all Engineering and Institutional Controls; (2) development and implementation of monitoring systems and a Monitoring Plan; (3) development of a plan to operate and maintain any treatment, collection, containment, or recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual); (4) submittal of Site Management Reports, performance of inspections and certification of results, and demonstration of proper communication of Site information to NYSDEC; and (5) defining criteria for termination of treatment system operation.

To address these needs, this SMP will include four plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and Maintenance Plan for the active SSDS; and (4) a Site Management Reporting Plan for submittal of data, information, recommendations, and certifications to NYSDEC. The SMP will be prepared in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation and the guidelines provided by NYSDEC.

Site management activities, reporting, and EC/IC certification will be scheduled on a certification period basis. The certification period will be [annually]. The SMP will be based on a calendar year and will be due for submission to NYSDEC by March 1 of the year following the reporting period.

No exclusions for handling of residual contaminated soils will be provided in the SMP. All handling of residual contaminated material will be subject to provisions contained in the SMP.

9.3 CERTIFICATIONS

The following certification will appear in front of the Executive Summary of the Final Engineering Report. The certification will be signed by the Remedial Engineer Jolanda Jansen who is a Professional Engineer registered in New York State. This certification will be appropriately signed and stamped. The certification will include the following statements:

I, Jolanda Jansen, am currently a registered professional engineer licensed by the State of New York. I had primary direct responsibility for implementation of the remedial program for the 3475 Third Avenue Site (NYSDEC Site No. C203080).

I certify that the Site description presented in this FER is identical to the Site descriptions presented in the Environmental Easement, the Site Management Plan, and the Brownfield Cleanup Agreement for 3475 Third Avenue and related amendments.

I certify that the Remedial Action Work Plan dated October 2015 and approved by the NYSDEC were implemented and that all requirements in those documents have been substantively complied with.

I certify that the remedial activities were observed by qualified environmental professionals under my supervision and that the remediation requirements set forth in the Remedial Action Work Plan and any other relevant provisions of ECL 27-1419 have been achieved.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and all operation and maintenance requirements applicable to the Site are contained in an Environmental Easement created and recorded pursuant ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded. A Site Management Plan has been submitted by the Volunteer for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by the NYSDEC.

I certify that the export of all contaminated soil, fill, water or other material from the property was performed in accordance with the Remedial Action Work Plan, and were taken to facilities licensed to accept this material in full compliance with all Federal, State and local laws.

I certify that all import of soils from off-Site, including source approval and sampling, has been performed in a manner that is consistent with the methodology defined in the Remedial Action Work Plan.

I certify that all invasive work during the remediation and all invasive development work were conducted in accordance with dust and odor suppression methodology and soil screening methodology defined in the Remedial Action Work Plan.

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law.

It is a violation of Article 130 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 130, New York State Education Law.

10.0 SCHEDULE

This 100% affordable housing project is scheduled to close on construction funding with HPD and HDC in June 2015. Demolition of existing structures will commence October/November 2015.

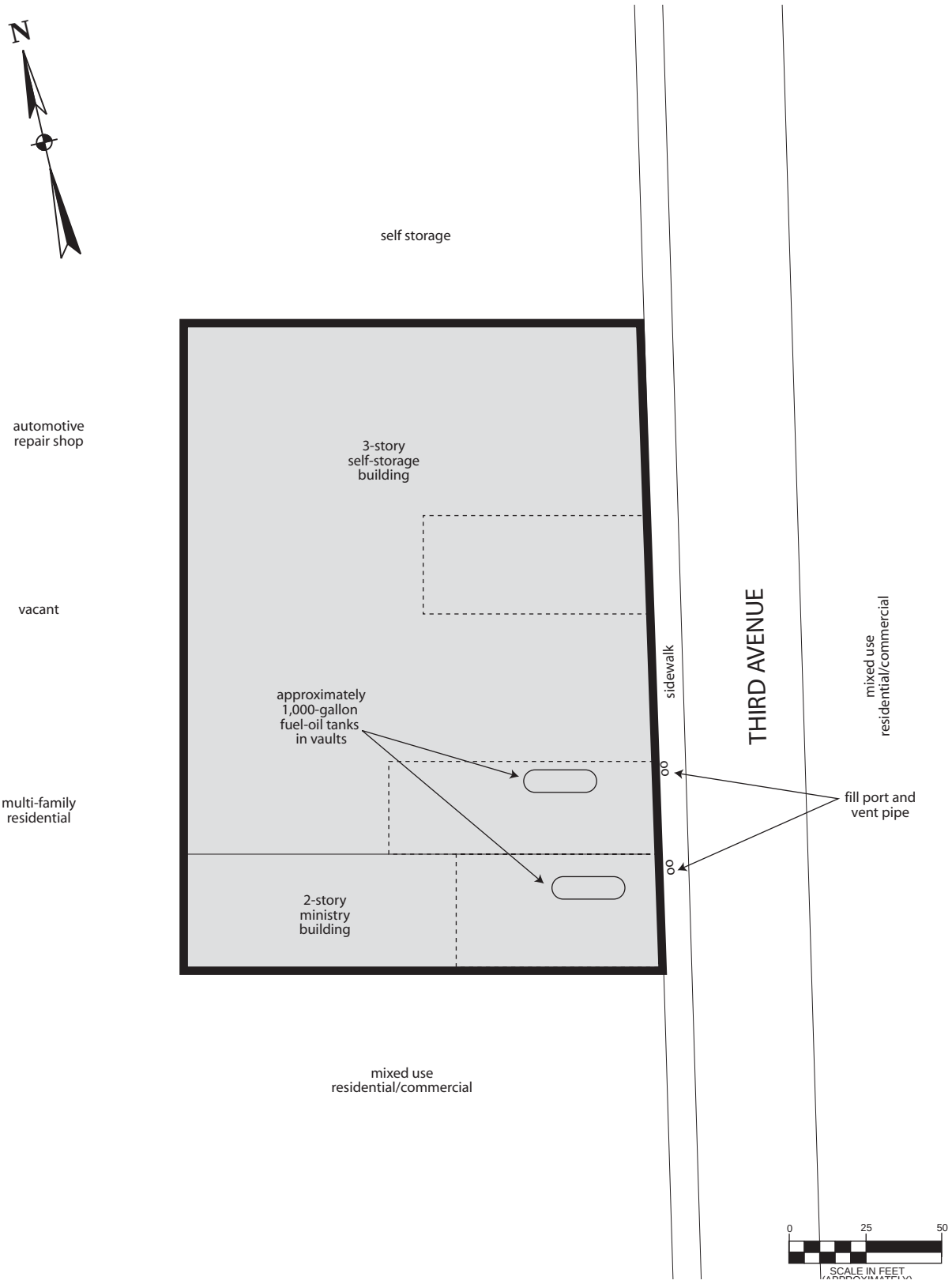
Currently, a 5 month remediation period is anticipated. If the schedule for remediation and development activities changes, it will be updated and submitted to NYSDEC.

It is anticipated that this Work Plan will be approved within four weeks of submission to the NYSDEC.

Week	**Action**
November 2015	NYSDEC review and approval of RAWP
November 2015	Contractor selection/mobilization
November 2015	Soil Excavation
May 2016	Preparation of FER

APPENDIX A

Figures



All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Figure 1: Site Map

3475 Third Avenue
Borough of Bronx
New York City, New York

Legend:

- subject property border
- cellars

ESI File: KB15012.40

October 2015

Scale as shown

Appendix A

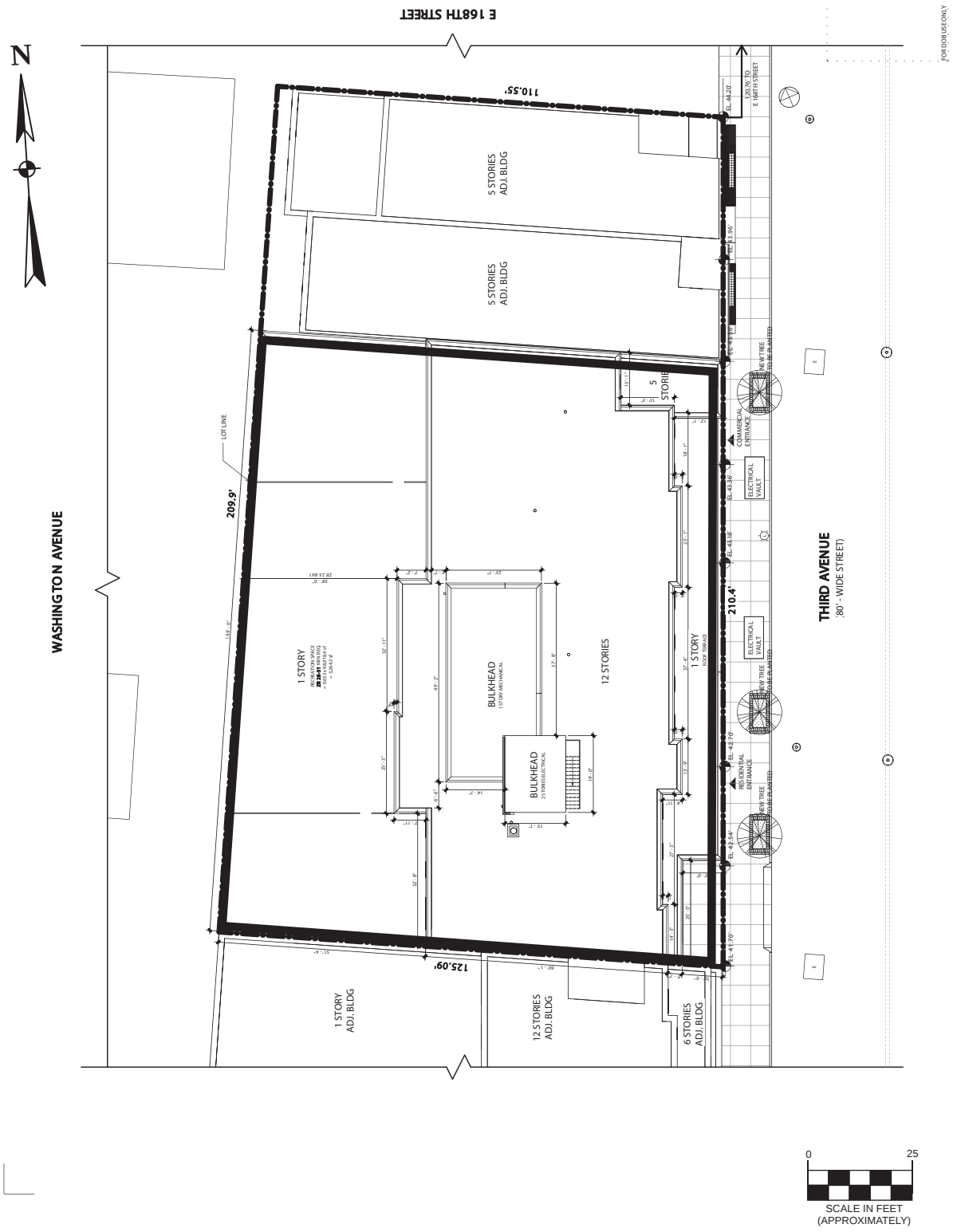
Figure 2: Site Location Map
3475 Third Avenue
Borough of Bronx
New York City, New York

N

ESI File: KB15012.40

October 2015

Appendix A



Base map provided by OCV Architects - Site Plan dated 3/16/15. All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Figure 3: Redevelopment Plan 3475 Third Avenue Borough of Bronx New York City, New York	Legend: subject property border	ESI File: KB15012.40 October 2015 Scale as shown Appendix A

Source Map provided by http://www.oasisnyc.net/map.aspx.

Figure 4: Surrounding Land Use Map

3475 Third Avenue
Borough of Bronx
New York City, New York

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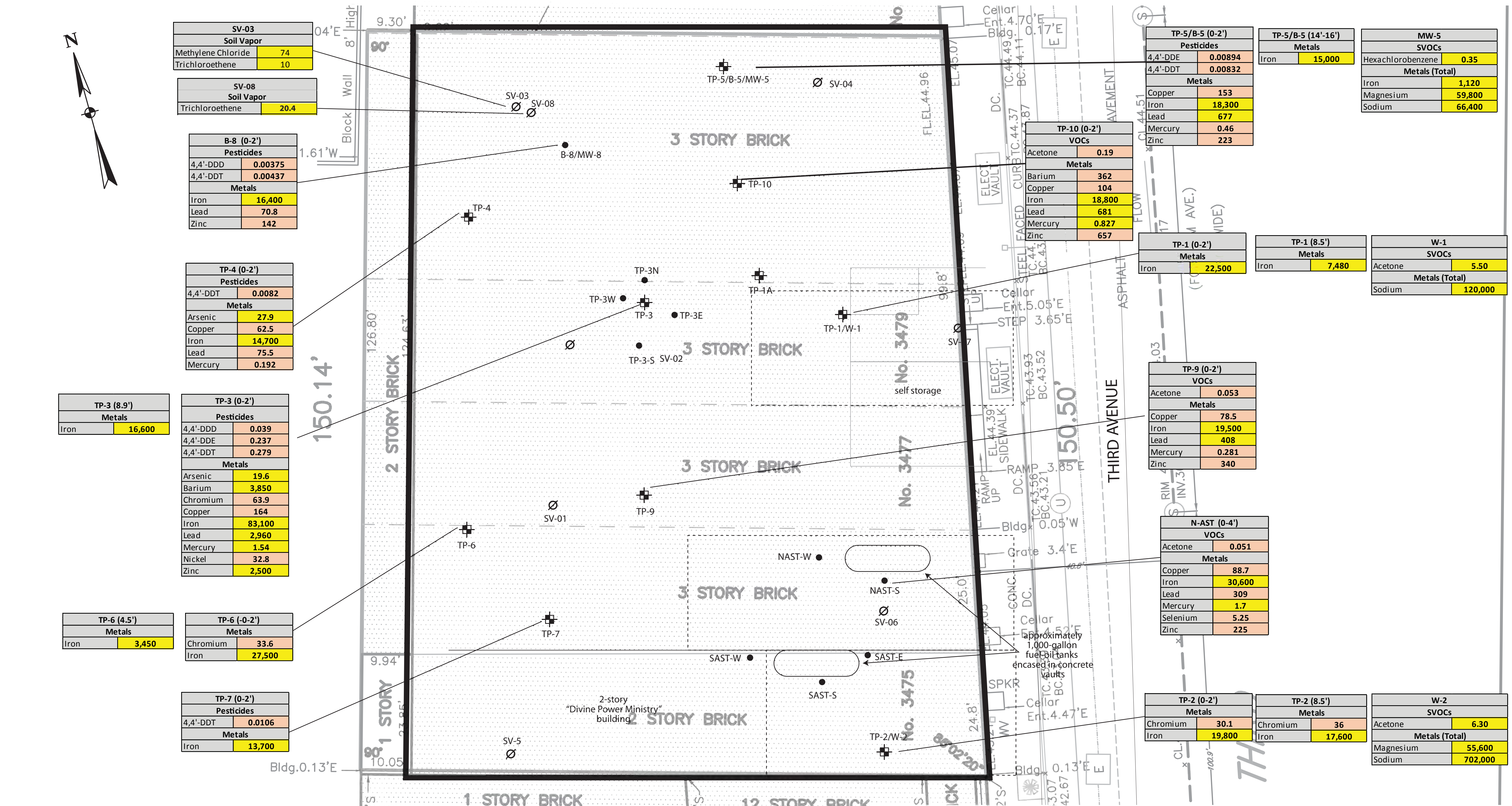
October 2015

Appendix A

Ecosystems Strategies, Inc.



SV-03	
Soil Vapor	
Methylene Chloride	74
Trichloroethene	10

SV-08	
Soil Vapor	
Trichloroethene	20.4

B-8 (0-2')	
Pesticides	
4,4'-DDD	0.00375
4,4'-DDT	0.00437
Metals	
Iron	16,400
Lead	70.8
Zinc	142

TP-4 (0-2')	
Pesticides	
4,4'-DDT	0.0082
Metals	
Arsenic	27.9
Copper	62.5
Iron	14,700
Lead	75.5
Mercury	0.192

TP-3 (8.9')	
Metals	
Iron	16,600

TP-3 (0-2')	
Pesticides	
4,4'-DDD	0.039
4,4'-DDE	0.237
4,4'-DDT	0.279
Metals	
Arsenic	19.6
Barium	3,850
Chromium	63.9
Copper	164
Iron	83,100
Lead	2,960
Mercury	1.54
Nickel	32.8
Zinc	2,500

TP-6 (4.5')	
Metals	
Iron	3,450

TP-6 (-0-2')	
Metals	
Chromium	33.6
Iron	27,500

TP-7 (0-2')	
Pesticides	
4,4'-DDT	0.0106
Metals	
Iron	13,700

TP-5/B-5 (0-2')	
Pesticides	
4,4'-DDE	0.00894
4,4'-DDT	0.00832
Metals	
Copper	153
Iron	18,300
Lead	677
Mercury	0.46
Zinc	223

TP-5/B-5 (14'-16')	
Metals	
Iron	15,000

MW-5	
SVOCs	
Hexachlorobenzene	0.35
Metals (Total)	
Iron	1,120
Magnesium	59,800
Sodium	66,400

TP-10 (0-2')	
VOCs	
Acetone	0.19
Metals	
Barium	362
Copper	104
Iron	18,800
Lead	681
Mercury	0.827
Zinc	657

TP-1 (0-2')	
Metals	
Iron	22,500

TP-1 (8.5')	
Metals	
Iron	7,480

W-1	
SVOCs	
Acetone	5.50
Metals (Total)	
Sodium	120,000

TP-9 (0-2')	
VOCs	
Acetone	0.053
Metals	
Copper	78.5
Iron	19,500
Lead	408
Mercury	0.281
Zinc	340

N-AST (0-4')	
VOCs	
Acetone	0.051
Metals	
Copper	88.7
Iron	30,600
Lead	309
Mercury	1.7
Selenium	5.25
Zinc	225

TP-2 (0-2')	
Metals	
Chromium	30.1
Iron	19,800

TP-2 (8.5')	
Metals	
Chromium	36
Iron	17,600

W-2	
SVOCs	
Acetone	6.30
Metals (Total)	
Magnesium	55,600
Sodium	702,000

0 25 50
SCALE IN FEET
(APPROXIMATELY)

Legend: subject property border; cellars
test pit location — TP-1 = Test pit sample; B-# = boring sample; MW-# and W-# = water sample
boring location; soil vapor location

Soil:
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs
(soil results in ppm)

Groundwater:
Concentrations > AWQS
(groundwater results in ppb)

Soil Vapor:
Concentrations > AGVs
(soil vapor results in ppm)

Base map provided by Autar land Surveying, P.C. Survey Map dated April 29, 2015. All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Figure 5: Exceedances in Soils, Groundwater and Soil Vapor

3475 Third Avenue
Borough of Bronx
New York City, New York

ESI File: KB15012.40
Scale as shown
October 2015 | Appendix A

All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Figure 6: Endpoint Sample Map

3475 Third Avenue
Borough of Bronx
New York City, New York

Legend:

- subject property border
- approximate bedrock/ soil boundary at 14' bsg per URS Geotechnical Investigation data, March 2015
- post excavation sample location

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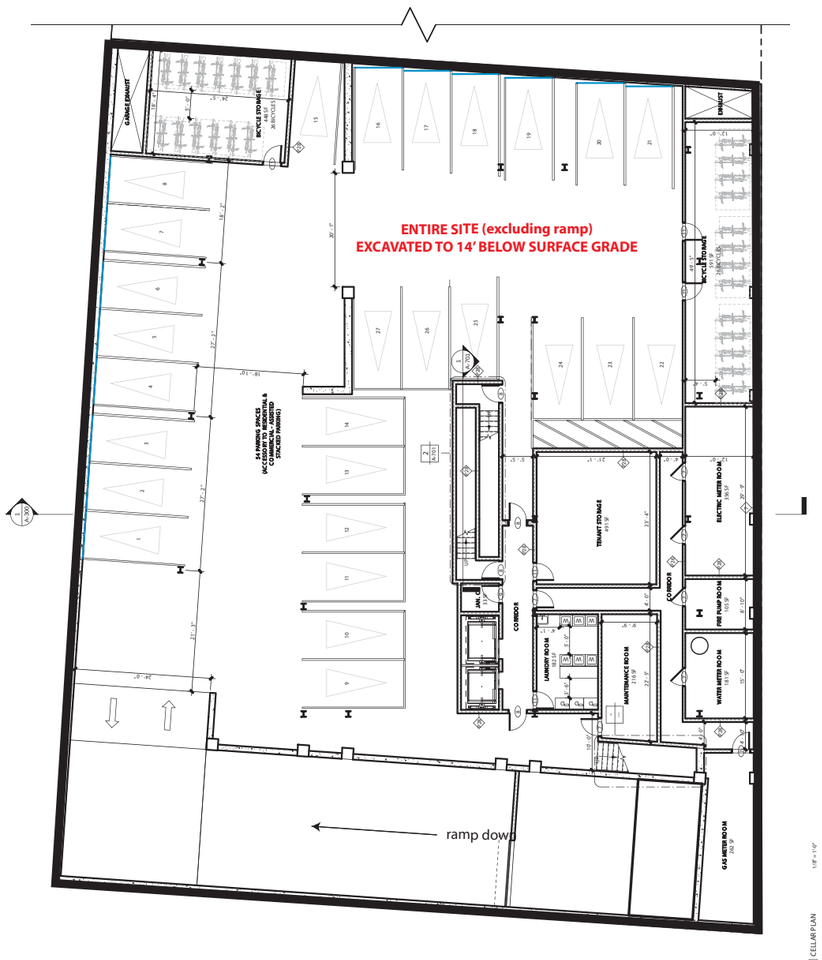
October 2015
Scale a shown
Appendix A

N

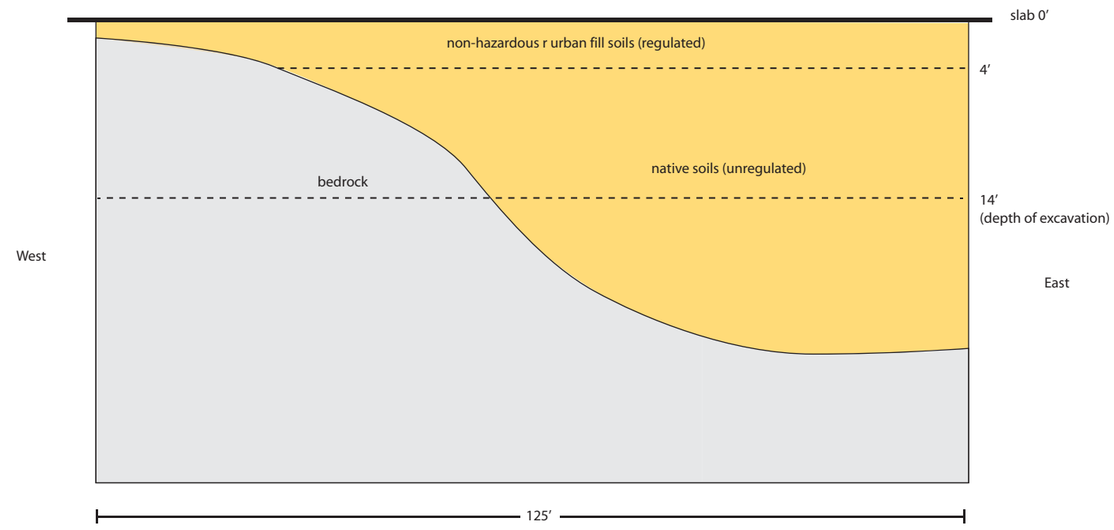
SITE EXCAVATION



0 25

SCALE IN FEET
(APPROXIMATELY)

GENERALIZED SOIL EXCAVATION CROSS SECTION
WEST TO EAST



Base map provided by OCV Architects - Cellar Plan dated 3/16/15. All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Legend:

subject property border

Figure 7: Site Excavation Map

3475 Third Avenue
Borough of Bronx
New York City, New York

ESI File: KB15012.40

Scale as shown

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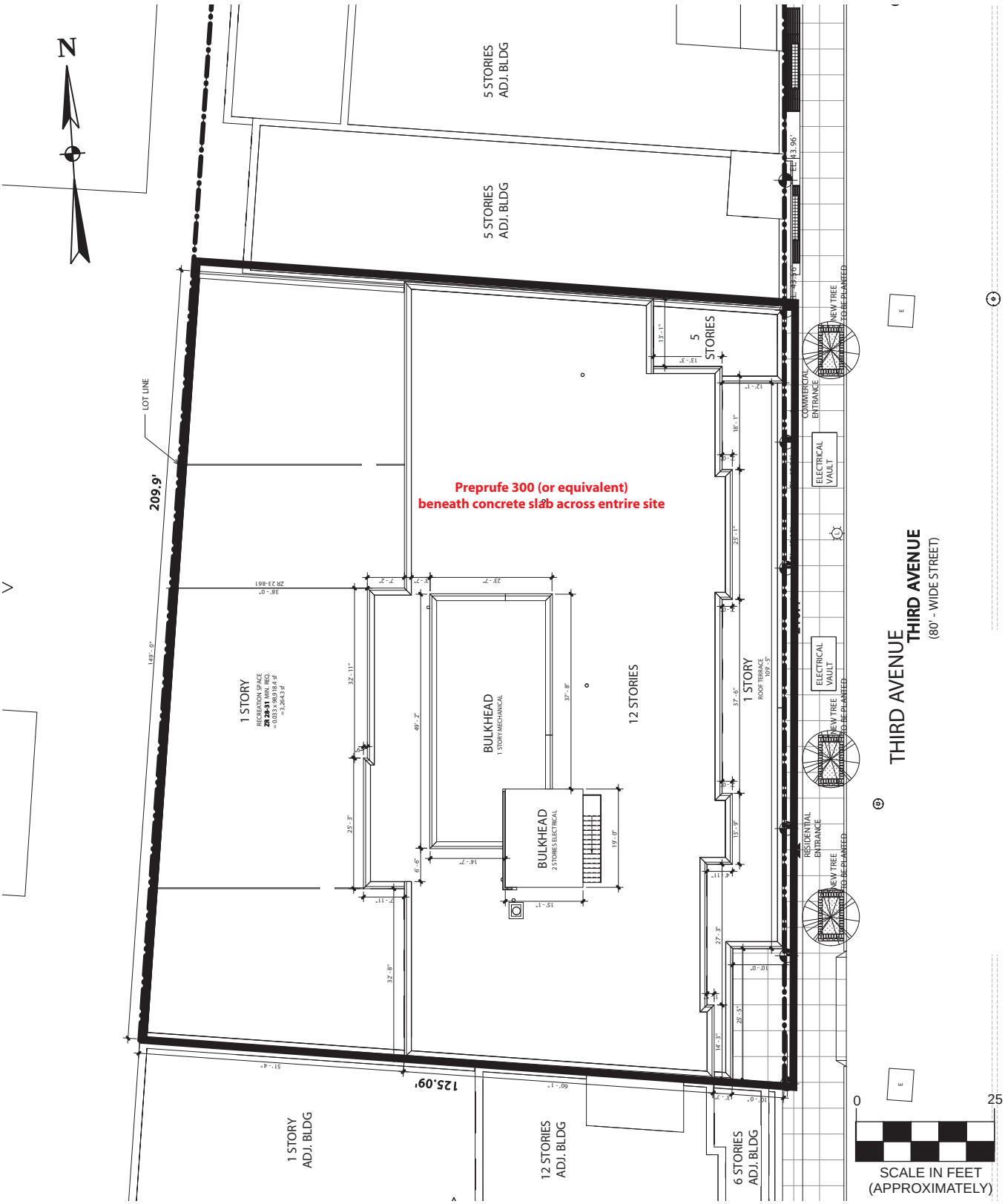
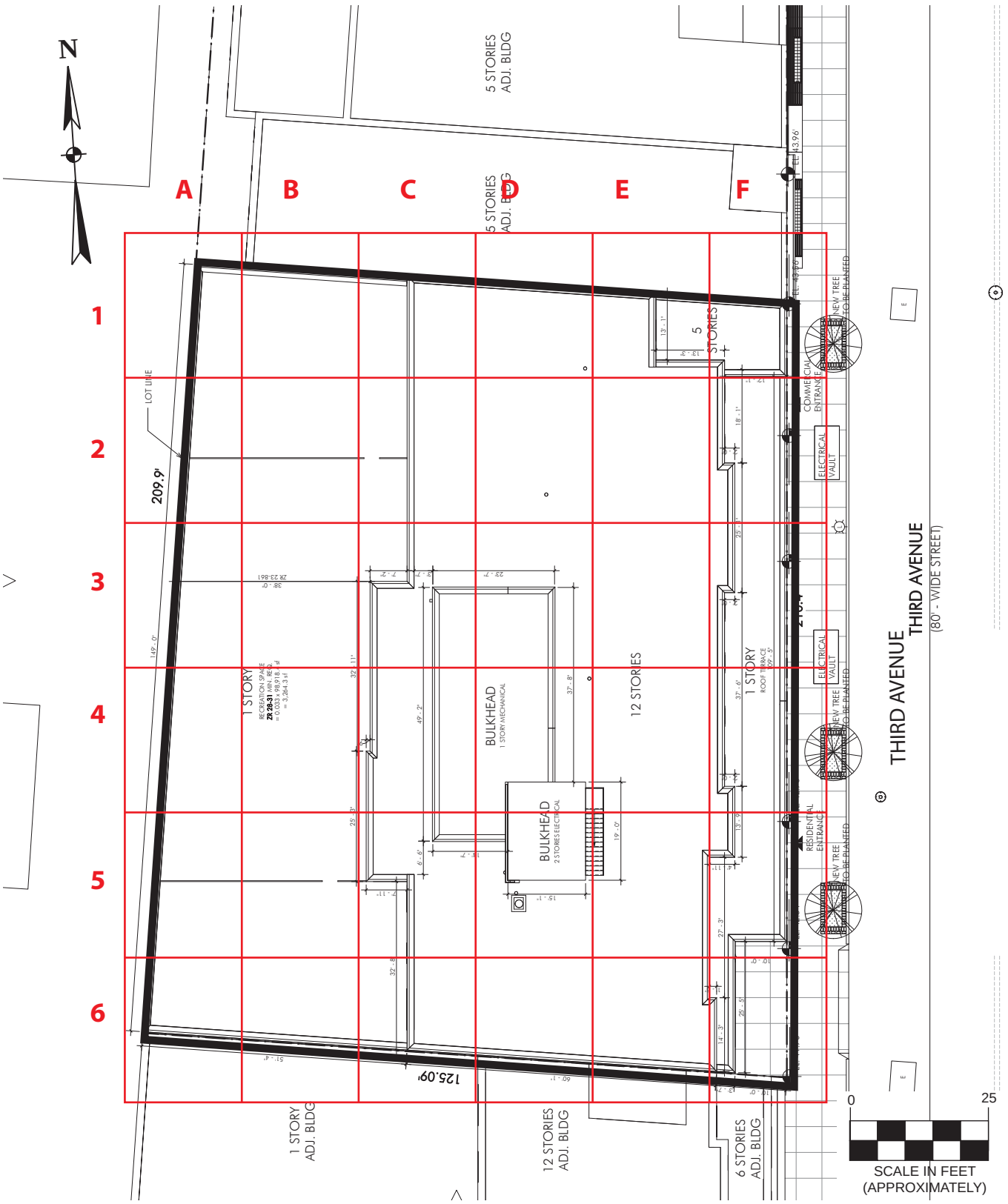


All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Figure 8: Site-Wide Basement Slab and Waterproofing Membrane Plan
3475 Third Avenue
Borough of Bronx
New York City, New York

Legend:
subject property border

ESI File: KB15012.40
October 2015
Scale as shown
Appendix A



All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

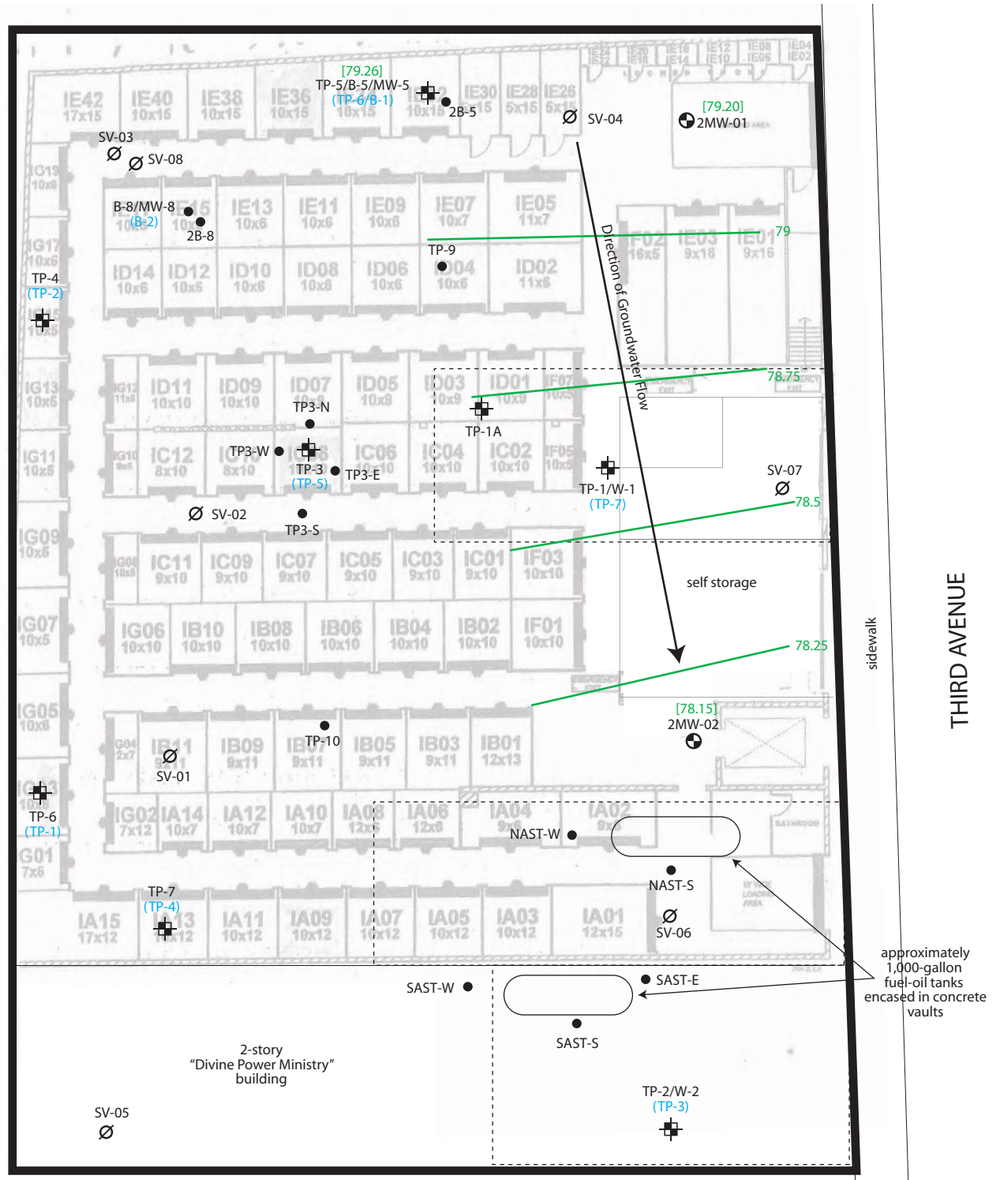
Figure 9: Alpha Numeric Grid Map

3475 Third Avenue
Borough of Bronx
New York City, New York

Legend:

subject property border

ESI File: KB15012.40
October2015
Scale as shown
Appendix A



0 25 50

SCALE IN FEET
(APPROXIMATELY)

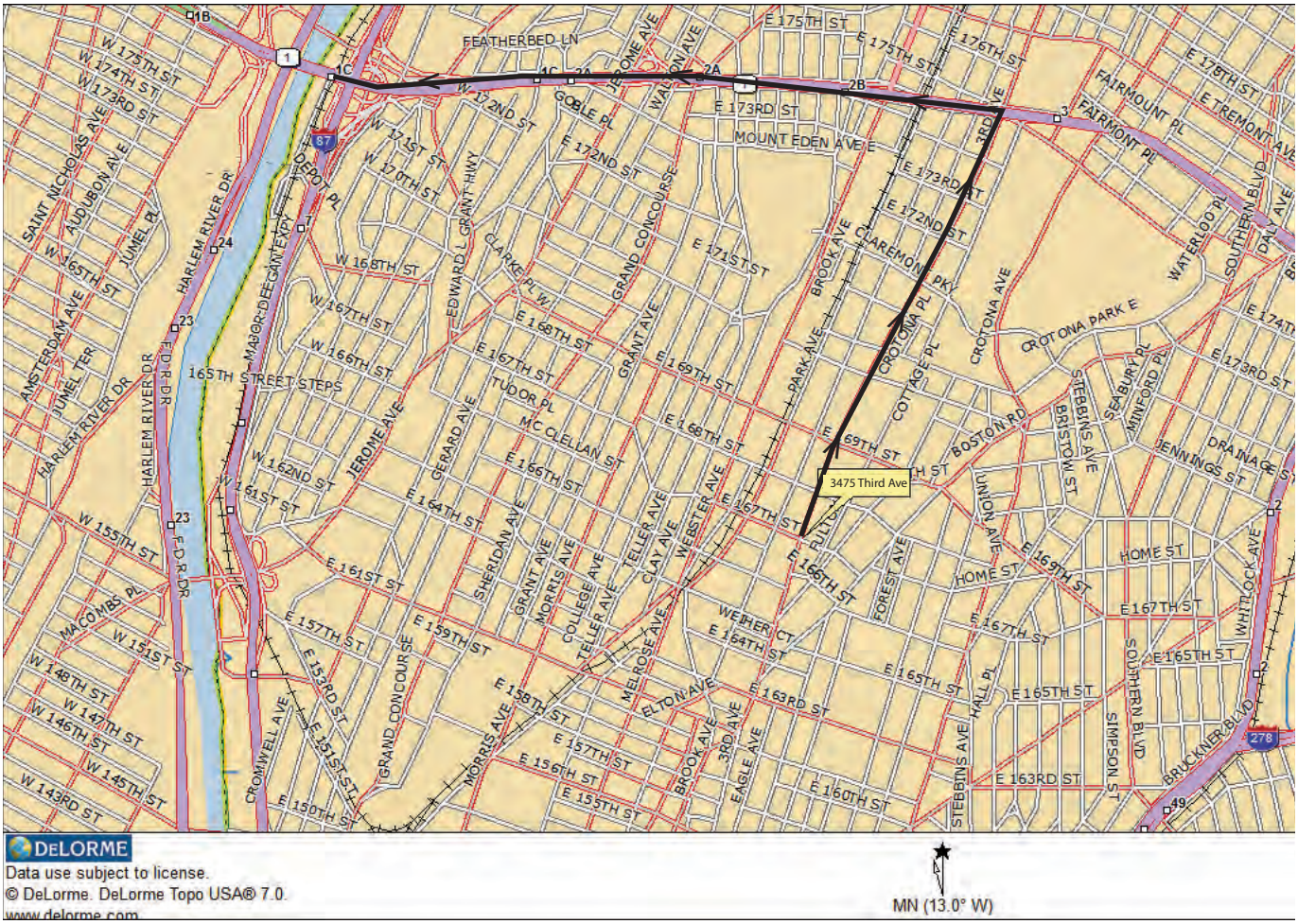
All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Legend:

- subject property border
- cellars
- test pit location — TP-1 = Test pit sample; B-# = boring sample; MW-# and W-# = water sample
- boring location
- soil vapor location
- (TP-#) URS sample identification
- monitoring well location [with relative groundwater elevation]
- groundwater contour lines

Figure 10: Groundwater Flow Map

3475 Third Avenue Borough of Bronx New York City, New York	ESI File: KB15012.50
	Scale as shown
	October 2015 | Appendix A



All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Figure 11: Truck Route Map

3475 Third Avenue
Bronx, New York

Legend:

truck route

ESI File: KB15012.50

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Appendix A

APPENDIX B

Tables

Table 1: VOCs in Surface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-1 (0-2')** [URS TP-7]		**TP-2 (0-2')** [URS TP-3]		**TP-3 (0-2')** [URS TP-5]		**TP-4 (0-2')** [URS TP-2]	
U= Not Detected at or above indicated value		Sample Date	03/02/15		03/02/15		03/02/15		03/02/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1		1	
VOCs, 8260	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,1,1,2-Tetrachloroethane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,1,1-Trichloroethane	0.68	100	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,1,2,2-Tetrachloroethane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,1,2-Trichloroethane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,1-Dichloroethane	0.27	26	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,1-Dichloroethylene	0.33	100	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,1-Dichloropropylene	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,2,3-Trichlorobenzene	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,2,3-Trichloropropane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,2,4-Trichlorobenzene	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,2,4-Trimethylbenzene	3.6	52	0.0035	*U*	0.0063	*U*	0.0067	*J*	0.01	*U*
1,2-Dibromo-3-chloropropane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,2-Dibromoethane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,2-Dichlorobenzene	1.1	100	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,2-Dichloroethane	0.2	31	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,2-Dichloropropane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,3,5-Trimethylbenzene	8.4	52	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,3-Dichlorobenzene	2.4	49	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,3-Dichloropropane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,4-Dichlorobenzene	1.8	13	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
1,4-Dioxane	0.1	13	0.071	*U*	0.13	*U*	0.085	*U*	0.2	*U*
2,2-Dichloropropane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
2-Butanone	0.12	100	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
2-Chlorotoluene	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
4-Chlorotoluene	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Acetone	0.05	100	0.0071	*U*	0.013	*J*	0.029		0.033	*J*
Benzene	0.06	48	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Bromobenzene	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Bromochloromethane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Bromodichloromethane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Bromoform	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Bromomethane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Carbon tetrachloride	0.76	24	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Chlorobenzene	1.1	100	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Chloroethane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Chloroform	0.37	49	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Chloromethane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
cis-1,2-Dichloroethylene	0.25	100	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
cis-1,3-Dichloropropylene	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Dibromochloromethane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Dibromomethane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Dichlorodifluoromethane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Ethyl Benzene	1	41	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Hexachlorobutadiene	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Isopropylbenzene	2.3	100	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Methyl tert-butyl ether (MTBE)	0.93	100	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Methylene chloride	0.05	500	0.0071	*U*	0.013	*U*	0.0085	*U*	0.02	*U*
Naphthalene	12	100	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
n-Butylbenzene	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
n-Propylbenzene	3.9	100	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
o-Xylene	0.26	100	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
p- & m- Xylenes	0.26	100	0.0071	*U*	0.013	*U*	0.0085	*U*	0.02	*U*
p-Isopropyltoluene	10	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
sec-Butylbenzene	11	100	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Styrene	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
tert-Butylbenzene	5.9	100	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Tetrachloroethylene	1.3	19	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Toluene	0.7	100	0.0035	*U*	0.0063	*U*	0.0046	*J*	0.01	*U*
trans-1,2-Dichloroethylene	0.19	100	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
trans-1,3-Dichloropropylene	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Trichloroethylene	0.47	21	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Trichlorofluoromethane	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Vinyl acetate	NA	NA	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Vinyl chloride	NA	0.9	0.0035	*U*	0.0063	*U*	0.0042	*U*	0.01	*U*
Xylenes, Total	0.26	100	0.011	*U*	0.019	*U*	0.013	*U*	0.03	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 1: VOCs in Surface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-5/B-5 (0-2')** [URS TP-6]		**TP-6 (-0-2')** [URS TP-1]		**TP-7 (0-2')** [URS TP-4]		**B-8 (0-2)** [URS B-2]	
U= Not Detected at or above indicated value		Sample Date	03/02/15		03/02/15		03/02/15		03/18/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1		1	
VOCs, 8260	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,1,1,2-Tetrachloroethane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,1,1-Trichloroethane	0.68	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,1,2,2-Tetrachloroethane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,1,2-Trichloroethane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,1-Dichloroethane	0.27	26	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,1-Dichloroethylene	0.33	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,1-Dichloropropylene	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,2,3-Trichlorobenzene	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,2,3-Trichloropropane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,2,4-Trichlorobenzene	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,2,4-Trimethylbenzene	3.6	52	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,2-Dibromo-3-chloropropane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,2-Dibromoethane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,2-Dichlorobenzene	1.1	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,2-Dichloroethane	0.2	31	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,2-Dichloropropane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,3,5-Trimethylbenzene	8.4	52	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,3-Dichlorobenzene	2.4	49	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,3-Dichloropropane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.068	*U*
1,4-Dichlorobenzene	1.8	13	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
1,4-Dioxane	0.1	13	0.097	*U*	0.12	*U*	0.23	*U*	0.0034	*U*
2,2-Dichloropropane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
2-Butanone	0.12	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0068	*U*
2-Chlorotoluene	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0068	*U*
4-Chlorotoluene	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Acetone	0.05	100	0.0097	*U*	0.02	*J*	0.039	*J*	0.0034	*U*
Benzene	0.06	48	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Bromobenzene	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Bromochloromethane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Bromodichloromethane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Bromoform	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Bromomethane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Carbon tetrachloride	0.76	24	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Chlorobenzene	1.1	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Chloroethane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Chloroform	0.37	49	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Chloromethane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
cis-1,2-Dichloroethylene	0.25	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
cis-1,3-Dichloropropylene	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Dibromochloromethane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Dibromomethane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Dichlorodifluoromethane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Ethyl Benzene	1	41	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Hexachlorobutadiene	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Isopropylbenzene	2.3	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Methyl tert-butyl ether (MTBE)	0.93	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Methylene chloride	0.05	500	0.0097	*U*	0.012	*U*	0.023	*U*	0.0034	*U*
Naphthalene	12	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
n-Butylbenzene	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0068	*U*
n-Propylbenzene	3.9	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
o-Xylene	0.26	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
p- & m- Xylenes	0.26	100	0.0097	*U*	0.012	*U*	0.023	*U*	0.0034	*U*
p-Isopropyltoluene	10	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0068	*U*
sec-Butylbenzene	11	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Styrene	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
tert-Butylbenzene	5.9	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Tetrachloroethylene	1.3	19	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0068	*U*
Toluene	0.7	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
trans-1,2-Dichloroethylene	0.19	100	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
trans-1,3-Dichloropropylene	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Trichloroethylene	0.47	21	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Trichlorofluoromethane	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Vinyl acetate	NA	NA	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Vinyl chloride	NA	0.9	0.0049	*U*	0.0058	*U*	0.012	*U*	0.0034	*U*
Xylenes, Total	0.26	100	0.015	*U*	0.017	*U*	0.035	*U*	0.0034	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 1: VOCs in Surface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**2B-8 (0'-2')**		**N-AST-S (0-4')**		**TP-9 (0-2')**		**TP-10 (0-2')**	
U= Not Detected at or above indicated value		Sample Date	08/12/15		03/11/15		04/15/15		04/15/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1		1	
VOCs, 8260	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,1,1,2-Tetrachloroethane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,1,1-Trichloroethane	0.68	100	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,1,2,2-Tetrachloroethane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,1,2-Trichloroethane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,1-Dichloroethane	0.27	26	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,1-Dichloroethylene	0.33	100	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,1-Dichloropropylene	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,2,3-Trichlorobenzene	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,2,3-Trichloropropane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,2,4-Trichlorobenzene	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,2,4-Trimethylbenzene	3.6	52	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,2-Dibromo-3-chloropropane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,2-Dibromoethane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,2-Dichlorobenzene	1.1	100	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,2-Dichloroethane	0.2	31	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,2-Dichloropropane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,3,5-Trimethylbenzene	8.4	52	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,3-Dichlorobenzene	2.4	49	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,3-Dichloropropane	NA	NA	*0.066*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,4-Dichlorobenzene	1.8	13	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
1,4-Dioxane	0.1	13	*0.0033*	*U*	0.099	*U*	0.16	*U*	0.22	*U*
2,2-Dichloropropane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
2-Butanone	0.12	100	*0.0066*	*U*	0.0072	*J*	0.0079	*U*	0.011	*U*
2-Chlorotoluene	NA	NA	*0.0066*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
4-Chlorotoluene	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Acetone	0.05	100	*0.0033*	*U*	0.051		0.053		0.19	
Benzene	0.06	48	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Bromobenzene	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Bromochloromethane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Bromodichloromethane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Bromoform	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Bromomethane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Carbon tetrachloride	0.76	24	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Chlorobenzene	1.1	100	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Chloroethane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Chloroform	0.37	49	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Chloromethane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
cis-1,2-Dichloroethylene	0.25	100	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
cis-1,3-Dichloropropylene	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Dibromochloromethane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Dibromomethane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Dichlorodifluoromethane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Ethyl Benzene	1	41	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Hexachlorobutadiene	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Isopropylbenzene	2.3	100	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Methyl tert-butyl ether (MTBE)	0.93	100	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Methylene chloride	0.05	500	*0.0033*	*U*	0.0099	*U*	0.016	*U*	0.022	*U*
Naphthalene	12	100	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
n-Butylbenzene	NA	NA	*0.0066*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
n-Propylbenzene	3.9	100	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
o-Xylene	0.26	100	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
p- & m- Xylenes	0.26	100	*0.0033*	*U*	0.0099	*U*	0.016	*U*	0.022	*U*
p-Isopropyltoluene	10	NA	*0.0066*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
sec-Butylbenzene	11	100	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Styrene	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
tert-Butylbenzene	5.9	100	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Tetrachloroethylene	1.3	19	*0.0066*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Toluene	0.7	100	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
trans-1,2-Dichloroethylene	0.19	100	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
trans-1,3-Dichloropropylene	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Trichloroethylene	0.47	21	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Trichlorofluoromethane	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Vinyl acetate	NA	NA	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Vinyl chloride	NA	0.9	*0.0033*	*U*	0.0049	*U*	0.0079	*U*	0.011	*U*
Xylenes, Total	0.26	100	*0.0033*	*U*	0.015	*U*	0.024	*U*	0.033	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 2: SVOCs in Surface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-1 (0-2')** [URS TP-7]		**TP-2 (0-2')** [URS TP-3]		**TP-3 (0-2')** [URS TP-5]		**TP-4 (0-2')** [URS TP-2]	
U= Not Detected at or above indicated value		Sample Date	03/02/15		03/02/15		03/02/15		03/02/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1		1	
SVOCs, 8270	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,2,4-Trichlorobenzene	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
1,2-Dichlorobenzene	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
1,3-Dichlorobenzene	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
1,4-Dichlorobenzene	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
2,4,5-Trichlorophenol	NA	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
2,4,6-Trichlorophenol	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
2,4-Dichlorophenol	NA	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
2,4-Dimethylphenol	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
2,4-Dinitrophenol	NA	100	0.0485	*U*	0.0456	*U*	0.085	*U*	0.0917	*U*
2,4-Dinitrotoluene	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
2,6-Dinitrotoluene	NA	1.03	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
2-Chloronaphthalene	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
2-Chlorophenol	NA	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
2-Methylnaphthalene	NA	0.41	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
2-Methylphenol	NA	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
2-Nitroaniline	NA	NA	0.0485	*U*	0.0456	*U*	0.085	*U*	0.0917	*U*
2-Nitrophenol	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
3- & 4-Methylphenols	NA	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
3,3'-Dichlorobenzidine	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
3-Nitroaniline	NA	NA	0.0485	*U*	0.0456	*U*	0.085	*U*	0.0917	*U*
4,6-Dinitro-2-methylphenol	NA	NA	0.0485	*U*	0.0456	*U*	0.085	*U*	0.0917	*U*
4-Bromophenyl phenyl ether	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
4-Chloro-3-methylphenol	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
4-Chloroaniline	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
4-Chlorophenyl phenyl ether	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
4-Nitroaniline	NA	NA	0.0485	*U*	0.0456	*U*	0.085	*U*	0.0917	*U*
4-Nitrophenol	NA	NA	0.0485	*U*	0.0456	*U*	0.085	*U*	0.0917	*U*
Acenaphthene	20	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Acenaphthylene	100	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Aniline	NA	100	0.0972	*U*	0.0913	*U*	0.17	*U*	0.184	*U*
Anthracene	100	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Benzo(a)anthracene	1	1	0.0243	*U*	0.0228	*U*	0.216	*D*	0.046	*U*
Benzo(a)pyrene	1	1	0.0243	*U*	0.0228	*U*	0.179	*D*	0.046	*U*
Benzo(b)fluoranthene	1	1	0.0243	*U*	0.0228	*U*	0.176	*D*	0.046	*U*
Benzo(g,h,i)perylene	100	100	0.0243	*U*	0.0228	*U*	0.161	*D*	0.046	*U*
Benzo(k)fluoranthene	0.8	3.9	0.0243	*U*	0.0228	*U*	0.22	*D*	0.046	*U*
Benzyl alcohol	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Benzyl butyl phthalate	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Bis(2-chloroethoxy)methane	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Bis(2-chloroethyl)ether	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Bis(2-chloroisopropyl)ether	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Bis(2-ethylhexyl)phthalate	NA	50	0.0243	*U*	0.0228	*U*	0.0426	*U*	4.98	*D*
Chrysene	1	3.9	0.0243	*U*	0.0228	*U*	0.279	*D*	0.046	*U*
Dibenzo(a,h)anthracene	0.33	0.33	0.0243	*U*	0.0228	*U*	0.0598	*JD*	0.046	*U*
Dibenzofuran	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Diethyl phthalate	NA	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Dimethyl phthalate	NA	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Di-n-butyl phthalate	NA	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Di-n-octyl phthalate	NA	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Fluoranthene	100	100	0.0243	*U*	0.0228	*U*	0.476	*D*	0.046	*U*
Fluorene	30	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Hexachlorobenzene	NA	0.41	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Hexachlorobutadiene	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Hexachlorocyclopentadiene	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Hexachloroethane	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.0243	*U*	0.0228	*U*	0.134	*D*	0.046	*U*
Isophorone	NA	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Naphthalene	12	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Nitrobenzene	NA	15	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
N-Nitrosodimethylamine	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
N-nitroso-di-n-propylamine	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
N-Nitrosodiphenylamine	NA	NA	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Pentachlorophenol	0.8	6.7	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Phenanthrene	100	100	0.0243	*U*	0.0228	*U*	0.262	*D*	0.046	*U*
Phenol	0.33	100	0.0243	*U*	0.0228	*U*	0.0426	*U*	0.046	*U*
Pyrene	100	100	0.0243	*U*	0.0228	*U*	0.421	*D*	0.046	*U*
Pyridine	NA	NA	0.0972	*U*	0.0913	*U*	0.17	*U*	0.184	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 2: SVOCs in Surface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-5/B-5 (0-2')** [URS TP-6]		**TP-6 (-0-2')** [URS TP-1]		**TP-7 (0-2')** [URS TP-4]		**B-8 (0-2)** [URS B-2]		**N-AST-S (0-4')**	
U= Not Detected at or above indicated value		Sample Date	03/02/15		03/02/15		03/02/15		03/18/15		03/11/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1		1		1	
SVOCs, 8270	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,2,4-Trichlorobenzene	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
1,2-Dichlorobenzene	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0484	*U*	0.036	*U*
1,3-Dichlorobenzene	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
1,4-Dichlorobenzene	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
2,4,5-Trichlorophenol	NA	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
2,4,6-Trichlorophenol	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
2,4-Dichlorophenol	NA	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
2,4-Dimethylphenol	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0484	*U*	0.036	*U*
2,4-Dinitrophenol	NA	100	0.0467	*U*	0.0447	*U*	0.0422	*U*	0.0243	*U*	0.071	*U*
2,4-Dinitrotoluene	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
2,6-Dinitrotoluene	NA	1.03	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
2-Chloronaphthalene	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
2-Chlorophenol	NA	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0484	*U*	0.036	*U*
2-Methylnaphthalene	NA	0.41	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
2-Methylphenol	NA	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
2-Nitroaniline	NA	NA	0.0467	*U*	0.0447	*U*	0.0422	*U*	0.0243	*U*	0.071	*U*
2-Nitrophenol	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
3- & 4-Methylphenols	NA	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
3,3'-Dichlorobenzidine	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
3-Nitroaniline	NA	NA	0.0467	*U*	0.0447	*U*	0.0422	*U*	0.0484	*U*	0.071	*U*
4,6-Dinitro-2-methylphenol	NA	NA	0.0467	*U*	0.0447	*U*	0.0422	*U*	0.0243	*U*	0.071	*U*
4-Bromophenyl phenyl ether	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
4-Chloro-3-methylphenol	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
4-Chloroaniline	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0484	*U*	0.036	*U*
4-Chlorophenyl phenyl ether	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0484	*U*	0.036	*U*
4-Nitroaniline	NA	NA	0.0467	*U*	0.0447	*U*	0.0422	*U*	0.0243	*U*	0.071	*U*
4-Nitrophenol	NA	NA	0.0467	*U*	0.0447	*U*	0.0422	*U*	0.0243	*U*	0.071	*U*
Acenaphthene	20	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Acenaphthylene	100	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Aniline	NA	100	0.0935	*U*	0.0895	*U*	0.0844	*U*	0.0484	*U*	0.14	*U*
Anthracene	100	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0484	*U*	0.082	
Benzo(a)anthracene	1	1	0.0922		0.0224	*U*	0.0211	*U*	0.0243	*U*	0.2	
Benzo(a)pyrene	1	1	0.094		0.0224	*U*	0.0211	*U*	0.0243	*U*	0.15	
Benzo(b)fluoranthene	1	1	0.0985		0.0224	*U*	0.0211	*U*	0.0243	*U*	0.15	
Benzo(g,h,i)perylene	100	100	0.0664		0.0224	*U*	0.0211	*U*	0.0969	*U*	0.076	
Benzo(k)fluoranthene	0.8	3.9	0.106		0.0224	*U*	0.0211	*U*	0.0243	*U*	0.16	
Benzyl alcohol	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Benzyl butyl phthalate	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Bis(2-chloroethoxy)methane	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0969	*U*	0.036	*U*
Bis(2-chloroethyl)ether	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0515		0.036	*U*
Bis(2-chloroisopropyl)ether	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0735		0.036	*U*
Bis(2-ethylhexyl)phthalate	NA	50	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0789		0.067	*J*
Chrysene	1	3.9	0.123		0.0224	*U*	0.0211	*U*	0.0565		0.23	
Dibenzo(a,h)anthracene	0.33	0.33	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0925		0.036	*U*
Dibenzofuran	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Diethyl phthalate	NA	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Dimethyl phthalate	NA	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Di-n-butyl phthalate	NA	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Di-n-octyl phthalate	NA	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Fluoranthene	100	100	0.22		0.03	*J*	0.0211	*U*	0.0243	*U*	0.56	
Fluorene	30	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.043	*J*
Hexachlorobenzene	NA	0.41	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0933	*J*	0.036	*U*
Hexachlorobutadiene	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Hexachlorocyclopentadiene	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.11		0.036	*U*
Hexachloroethane	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0282	*J*	0.036	*U*
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.0601		0.0224	*U*	0.0211	*U*	0.0243	*U*	0.085	
Isophorone	NA	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Naphthalene	12	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Nitrobenzene	NA	15	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
N-Nitrosodimethylamine	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
N-nitroso-di-n-propylamine	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.199		0.036	*U*
N-Nitrosodiphenylamine	NA	NA	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Pentachlorophenol	0.8	6.7	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Phenanthrene	100	100	0.117		0.0224	*U*	0.0211	*U*	0.0243	*U*	0.41	
Phenol	0.33	100	0.0234	*U*	0.0224	*U*	0.0211	*U*	0.0243	*U*	0.036	*U*
Pyrene	100	100	0.18		0.0224	*U*	0.0211	*U*	0.0243	*U*	0.32	
Pyridine	NA	NA	0.0935	*U*	0.0895	*U*	0.0844	*U*	0.0542		0.14	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 2: SVOCs in Surface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-9 (0-2')**		**TP-10 (0-2')**	
U= Not Detected at or above indicated value		Sample Date	04/15/15		04/15/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1	
SVOCs, 8270	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*
1,2,4-Trichlorobenzene	NA	NA	0.0222	*U*	0.0476	*U*
1,2-Dichlorobenzene	NA	NA	0.0222	*U*	0.0476	*U*
1,3-Dichlorobenzene	NA	NA	0.0222	*U*	0.0476	*U*
1,4-Dichlorobenzene	NA	NA	0.0222	*U*	0.0476	*U*
2,4,5-Trichlorophenol	NA	100	0.0222	*U*	0.0476	*U*
2,4,6-Trichlorophenol	NA	NA	0.0222	*U*	0.0476	*U*
2,4-Dichlorophenol	NA	100	0.0222	*U*	0.0476	*U*
2,4-Dimethylphenol	NA	NA	0.0222	*U*	0.0476	*U*
2,4-Dinitrophenol	NA	100	0.0443	*U*	0.095	*U*
2,4-Dinitrotoluene	NA	NA	0.0222	*U*	0.0476	*U*
2,6-Dinitrotoluene	NA	1.03	0.0222	*U*	0.0476	*U*
2-Chloronaphthalene	NA	NA	0.0222	*U*	0.0476	*U*
2-Chlorophenol	NA	100	0.0222	*U*	0.0476	*U*
2-Methylnaphthalene	NA	0.41	0.0222	*U*	0.0476	*U*
2-Methylphenol	NA	100	0.0222	*U*	0.0476	*U*
2-Nitroaniline	NA	NA	0.0443	*U*	0.095	*U*
2-Nitrophenol	NA	NA	0.0222	*U*	0.0476	*U*
3- & 4-Methylphenols	NA	100	0.0222	*U*	0.0476	*U*
3,3'-Dichlorobenzidine	NA	NA	0.0222	*U*	0.0476	*U*
3-Nitroaniline	NA	NA	0.0443	*U*	0.095	*U*
4,6-Dinitro-2-methylphenol	NA	NA	0.0443	*U*	0.095	*U*
4-Bromophenyl phenyl ether	NA	NA	0.0222	*U*	0.0476	*U*
4-Chloro-3-methylphenol	NA	NA	0.0222	*U*	0.0476	*U*
4-Chloroaniline	NA	NA	0.0222	*U*	0.0476	*U*
4-Chlorophenyl phenyl ether	NA	NA	0.0222	*U*	0.0476	*U*
4-Nitroaniline	NA	NA	0.0443	*U*	0.095	*U*
4-Nitrophenol	NA	NA	0.0443	*U*	0.095	*U*
Acenaphthene	20	100	0.0222	*U*	0.0919	*JD*
Acenaphthylene	100	100	0.0222	*U*	0.13	*D*
Aniline	NA	100	0.0887	*U*	0.19	*U*
Anthracene	100	100	0.0222	*U*	0.315	*D*
Benzo(a)anthracene	1	1	0.0222	*U*	**1.02**	*D*
Benzo(a)pyrene	1	1	0.0222	*U*	0.735	*D*
Benzo(b)fluoranthene	1	1	0.0222	*U*	0.713	*D*
Benzo(g,h,i)perylene	100	100	0.0222	*U*	0.447	*D*
Benzo(k)fluoranthene	0.8	3.9	0.0222	*U*	0.781	*D*
Benzyl alcohol	NA	NA	0.0222	*U*	0.0476	*U*
Benzyl butyl phthalate	NA	NA	0.0222	*U*	0.0476	*U*
Bis(2-chloroethoxy)methane	NA	NA	0.0222	*U*	0.0476	*U*
Bis(2-chloroethyl)ether	NA	NA	0.0222	*U*	0.0476	*U*
Bis(2-chloroisopropyl)ether	NA	NA	0.0222	*U*	0.0476	*U*
Bis(2-ethylhexyl)phthalate	NA	50	0.0222	*U*	0.0476	*U*
Chrysene	1	3.9	0.0222	*U*	1.07	*D*
Dibenzo(a,h)anthracene	0.33	0.33	0.0222	*U*	0.178	*D*
Dibenzofuran	NA	NA	0.0222	*U*	0.151	*D*
Diethyl phthalate	NA	100	0.0222	*U*	0.0476	*U*
Dimethyl phthalate	NA	100	0.0222	*U*	0.0476	*U*
Di-n-butyl phthalate	NA	100	0.0222	*U*	0.0476	*U*
Di-n-octyl phthalate	NA	100	0.0222	*U*	0.0476	*U*
Fluoranthene	100	100	0.0222	*U*	2.02	*D*
Fluorene	30	100	0.0222	*U*	0.223	*D*
Hexachlorobenzene	NA	0.41	0.0222	*U*	0.0476	*U*
Hexachlorobutadiene	NA	NA	0.0222	*U*	0.0476	*U*
Hexachlorocyclopentadiene	NA	NA	0.0222	*U*	0.0476	*U*
Hexachloroethane	NA	NA	0.0222	*U*	0.0476	*U*
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.0222	*U*	0.447	*D*
Isophorone	NA	100	0.0222	*U*	0.0476	*U*
Naphthalene	12	100	0.0222	*U*	0.0476	*U*
Nitrobenzene	NA	15	0.0222	*U*	0.0476	*U*
N-Nitrosodimethylamine	NA	NA	0.0222	*U*	0.0476	*U*
N-nitroso-di-n-propylamine	NA	NA	0.0222	*U*	0.0476	*U*
N-Nitrosodiphenylamine	NA	NA	0.0222	*U*	0.0476	*U*
Pentachlorophenol	0.8	6.7	0.0222	*U*	0.0476	*U*
Phenanthrene	100	100	0.0222	*U*	1.59	*D*
Phenol	0.33	100	0.0222	*U*	0.0476	*U*
Pyrene	100	100	0.0222	*U*	1.66	*D*
Pyridine	NA	NA	0.0887	*U*	0.19	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 3: Pesticides and PCBs in Surface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		Sample ID	TP-1 (0-2') [URS TP-7]		TP-2 (0-2') [URS TP-3]		TP-3 (0-2') [URS TP-5]		TP-4 (0-2') [URS TP-2]		TP-5/B-5 (0-2') [URS TP-6]	
U= Not Detected at or above indicated value		Sample Date	03/02/15		03/02/15		03/02/15		03/02/15		03/02/15	
Data above SCOs shown in **Bold**		Dilution Factor	5		5		5		5		5	
Pesticides, 8081	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
4,4'-DDD	0.0033	13	0.00288	*U*	0.0027	*U*	0.039	*D*	0.00272	*U*	0.00277	*U*
4,4'-DDE	0.0033	8.9	0.00288	*U*	0.0027	*U*	0.237	*D*	0.00272	*U*	0.00894	*D*
4,4'-DDT	0.0033	7.9	0.00288	*U*	0.0027	*U*	0.279	*D*	0.0082	*D*	0.00832	*D*
Aldrin	0.005	0.097	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
alpha-BHC	0.02	0.48	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
alpha-Chlordane	0.094	4.2	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
beta-BHC	0.036	0.36	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
Chlordane, total	NA	NA	0.115	*U*	0.108	*U*	0.101	*U*	0.109	*U*	0.111	*U*
delta-BHC	0.04	100	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
Dieldrin	0.005	0.2	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
Endosulfan I	2.4	200	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
Endosulfan II	2.4	200	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
Endosulfan sulfate	2.4	200	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
Endrin	0.014	11	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
Endrin aldehyde	NA	NA	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
Endrin ketone	NA	NA	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
gamma-BHC (Lindane)	0.1	1.3	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
gamma-Chlordane	NA	0.54	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
Heptachlor	0.042	2.1	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
Heptachlor Epoxide	NA	0.077	0.00288	*U*	0.0027	*U*	0.00252	*U*	0.00272	*U*	0.00277	*U*
Methoxychlor	NA	100	0.0144	*U*	0.0135	*U*	0.0126	*U*	0.0136	*U*	0.0139	*U*
Toxaphene	NA	NA	0.146	*U*	0.137	*U*	0.128	*U*	0.138	*U*	0.14	*U*

		Sample ID	TP-1 (0-2')		TP-2 (0-2')		TP-3 (0-2')		TP-4 (0-2')		TP-5/B-5 (0-2')	
		Sample Date	03/02/15		03/02/15		03/02/15		03/02/15		03/02/15	
		Dilution Factor	1		1		1		1		1	
PCBs, 8082	**UUSCO**	**RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aroclor 1016	0.1	1.00	0.0291	*U*	0.0273	*U*	0.0255	*U*	0.0275	*U*	0.028	*U*
Aroclor 1221	0.1	1.00	0.0291	*U*	0.0273	*U*	0.0255	*U*	0.0275	*U*	0.028	*U*
Aroclor 1232	0.1	1.00	0.0291	*U*	0.0273	*U*	0.0255	*U*	0.0275	*U*	0.028	*U*
Aroclor 1242	0.1	1.00	0.0291	*U*	0.0273	*U*	0.0255	*U*	0.0275	*U*	0.028	*U*
Aroclor 1248	0.1	1.00	0.0291	*U*	0.0273	*U*	0.0255	*U*	0.0275	*U*	0.028	*U*
Aroclor 1254	0.1	1.00	0.0291	*U*	0.0273	*U*	0.0255	*U*	0.0275	*U*	0.028	*U*
Aroclor 1260	0.1	1.00	0.0291	*U*	0.0273	*U*	0.0476		0.0367		0.028	*U*
Aroclor, Total	0.1	1.00	0.0291	*U*	0.0273	*U*	0.0476		0.0367		0.028	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 3: Pesticides and PCBs in Surface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-6 (-0-2')** [URS TP-1]		**TP-7 (0-2')** [URS TP-4]		**B-8 (0-2)** [URS B-2]		**N-AST-S (0-4')**		**TP-9 (0-2')**		**TP-10 (0-2')**	
U= Not Detected at or above indicated value		Sample Date	03/02/15		03/02/15		03/18/15		03/11/15		04/15/15		04/15/15	
Data above SCOs shown in **Bold**		Dilution Factor	5		5		5		5		5		5	
Pesticides, 8081	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
4,4'-DDD	0.0033	13	0.00265	*U*	0.0025	*U*	0.00375	*D*	0.0019	*U*	0.00175	*U*	0.00188	*U*
4,4'-DDE	0.0033	8.9	0.00265	*U*	0.0025	*U*	0.0023	*D*	0.0019	*U*	0.00175	*U*	0.00228	*D*
4,4'-DDT	0.0033	7.9	0.00265	*U*	0.0106	*D*	0.00437	*D*	0.0019	*U*	0.00175	*U*	0.00442	*D*
Aldrin	0.005	0.097	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
alpha-BHC	0.02	0.48	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
alpha-Chlordane	0.094	4.2	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
beta-BHC	0.036	0.36	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
Chlordane, total	NA	NA	0.106	*U*	0.1	*U*	0.0766	*U*	0.075	*U*	0.0701	*U*	0.0752	*U*
delta-BHC	0.04	100	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
Dieldrin	0.005	0.2	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
Endosulfan I	2.4	200	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
Endosulfan II	2.4	200	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
Endosulfan sulfate	2.4	200	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
Endrin	0.014	11	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
Endrin aldehyde	NA	NA	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
Endrin ketone	NA	NA	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
gamma-BHC (Lindane)	0.1	1.3	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
gamma-Chlordane	NA	0.54	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
Heptachlor	0.042	2.1	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
Heptachlor Epoxide	NA	0.077	0.00265	*U*	0.0025	*U*	0.00192	*U*	0.0019	*U*	0.00175	*U*	0.00188	*U*
Methoxychlor	NA	100	0.0133	*U*	0.0125	*U*	0.00958	*U*	0.0094	*U*	0.00876	*U*	0.0094	*U*
Toxaphene	NA	NA	0.134	*U*	0.127	*U*	0.0969	*U*	0.095	*U*	0.0887	*U*	0.0952	*U*

		Sample ID	**TP-6 (-0-2')**		**TP-7 (0-2')**		**B-8 (0-2)**		**N-AST-S (0-2')**		**TP-9 (0-2')**		**TP-10 (0-2')**	
		Sample Date	03/02/15		03/02/15		03/18/15		03/11/15		04/15/15		04/15/15	
		Dilution Factor	1		1		1		1		1		1	
PCBs, 8082	**UUSCO**	**RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aroclor 1016	0.1	1.00	0.0268	*U*	0.0253	*U*	0.0193	*U*	0.0017	*U*	0.0177	*U*	0.019	*U*
Aroclor 1221	0.1	1.00	0.0268	*U*	0.0253	*U*	0.0193	*U*	0.0017	*U*	0.0177	*U*	0.019	*U*
Aroclor 1232	0.1	1.00	0.0268	*U*	0.0253	*U*	0.0193	*U*	0.0017	*U*	0.0177	*U*	0.019	*U*
Aroclor 1242	0.1	1.00	0.0268	*U*	0.0253	*U*	0.0193	*U*	0.0017	*U*	0.0177	*U*	0.019	*U*
Aroclor 1248	0.1	1.00	0.0268	*U*	0.0253	*U*	0.0193	*U*	0.0017	*U*	0.0177	*U*	0.019	*U*
Aroclor 1254	0.1	1.00	0.0268	*U*	0.0253	*U*	0.0193	*U*	0.0017	*U*	0.0177	*U*	0.019	*U*
Aroclor 1260	0.1	1.00	0.0268	*U*	0.0253	*U*	0.0193	*U*	0.0017	*U*	0.0177	*U*	0.019	*U*
Aroclor, Total	0.1	1.00	0.0268	*U*	0.0253	*U*	0.0193	*U*	0.0017	*U*	0.0177	*U*	0.019	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 4: TAL Metals in Surface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-1 (0-2')** [URS TP-7]		**TP-2 (0-2')** [URS TP-3]		**TP-3 (0-2')** [URS TP-5]		**TP-4 (0-2')** [URS TP-2]	
U= Not Detected at or above indicated value		Sample Date	03/02/15		03/02/15		03/02/15		03/02/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1		1	
Metals, 6010 and 7473	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aluminum	NA	NA	15,800		14,300		20,400		3,790	
Antimony	NA	NA	0.582	*U*	0.546	*U*	3.35		1.08	
Arsenic	13	16	5.56		2.84		**19.6**		**27.9**	
Barium	350	400	57.3		41.2		**3,850**		150	
Beryllium	7.2	72	0.116	*U*	0.109	*U*	0.102	*U*	0.11	*U*
Cadmium	2.5	4.3	0.349	*U*	0.328	*U*	1.46		0.33	*U*
Calcium	NA	NA	1,660		1,710		22,400		12,500	
Chromium	30	180	23.8		30.1		63.9		16.1	
Cobalt	NA	30	6.92		8.4		15		16.3	
Copper	50	270	22.6		27.2		164		62.5	
Iron	NA	2,000	**22,500**		**19,800**		**83,100**	*D*	**14,700**	
Lead	63	400	10.5		7.06		**2,960**		75.5	
Magnesium	NA	NA	3,950		3,510		7,750		1,070	
Manganese	1,600	2,000	154		172		689		63.5	
Mercury	0.18	0.81	0.0473		0.0328	*U*	**1.54**		0.192	
Nickel	30	310	17.1		14.8		32.8		17.6	
Potassium	NA	NA	1,110		1,310		2,170		926	
Selenium	3.90	180	1.16	*U*	1.09	*U*	1.02	*U*	3.55	
Silver	2	180	0.582	*U*	0.546	*U*	0.51	*U*	0.55	*U*
Sodium	NA	NA	78.5		194		1,040		586	
Thallium	NA	NA	1.16	*U*	1.09	*U*	1.02	*U*	1.1	*U*
Vanadium	NA	100	33.2		35.3		51.9		21.5	
Zinc	109	2,200	48.4		38		**2,500**		62.5	

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 4: TAL Metals in Surface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-5/B-5 (0-2')** [URS TP-6]		**TP-6 (-0-2')** [URS TP-1]		**TP-7 (0-2')** [URS TP-4]		**B-8 (0-2)** [URS B-2]	
U= Not Detected at or above indicated value		Sample Date	03/02/15		03/02/15		03/02/15		03/18/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1		1	
Metals, 6010 and 7473	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aluminum	NA	NA	12,400		15,200		7,650		13,400	
Antimony	NA	NA	0.629		0.536	*U*	0.606		0.58	*U*
Arsenic	13	16	6.24		4.1		7.86		4.55	
Barium	350	400	159		96.5		261		118	
Beryllium	7.2	72	0.112	*U*	0.107	*U*	0.101	*U*	0.116	*U*
Cadmium	2.5	4.3	0.336	*U*	0.322	*U*	0.303	*U*	0.35	
Calcium	NA	NA	31,000		2,640		4,170		67,600	
Chromium	30	180	20.8		33.6		18.9		23.1	
Cobalt	NA	30	7.22		10.3		10.4		9.76	
Copper	50	270	153		32		47.1		20.3	
Iron	NA	2,000	**18,300**		**27,500**		**13,700**		**16,400**	
Lead	63	400	**677**		22.1		60		70.8	
Magnesium	NA	NA	13,500		3,240		1,410		38,500	
Manganese	1,600	2,000	279		392		165		265	
Mercury	0.18	0.81	0.46		0.0806		0.091		0.111	
Nickel	30	310	14.4		17.8		20.6		15.8	
Potassium	NA	NA	1,200		1,040		681		913	
Selenium	3.90	180	1.12	*U*	1.07	*U*	1.32		1.81	
Silver	2	180	0.56	*U*	0.536	*U*	0.506	*U*	0.58	*U*
Sodium	NA	NA	315		119		251		172	
Thallium	NA	NA	1.12	*U*	1.07	*U*	1.01	*U*	1.16	*U*
Vanadium	NA	100	27		45.3		36.3		25	
Zinc	109	2,200	223		61.3		92.7		142	

Detected Concentrations

Concentrations > Track 1 UUSCOs

Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 4: TAL Metals in Surface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**N-AST-S (0-2')**		**TP-9 (0-2')**		**TP-10 (0-2')**		**TP-3 N (0-2')**	
U= Not Detected at or above indicated value		Sample Date	03/11/15		04/15/15		04/15/15		04/15/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1		1	
Metals, 6010 and 7473	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aluminum	NA	NA	12,600		11,400		11,300		NA	
Antimony	NA	NA	0.568	*U*	10.7		0.57	*U*	NA	
Arsenic	13	16	4.53		8.67		7.53		NA	
Barium	350	400	104		254		362		NA	
Beryllium	7.2	72	0.114	*U*	0.106	*U*	0.114	*U*	NA	
Cadmium	2.5	4.3	0.53		0.878		0.907		NA	
Calcium	NA	NA	48,700		49,400		19,200		NA	
Chromium	30	180	28.6		24.1		22.3		NA	
Cobalt	NA	30	9.31		8.12		9.41		NA	
Copper	50	270	88.7		78.5		104		NA	
Iron	NA	2,000	**30,600**		**19,500**		**18,800**		NA	
Lead	63	400	309		**408**		**681**		370	
Magnesium	NA	NA	11,500		23,400		10,100		NA	
Manganese	1,600	2,000	354		325		386		NA	
Mercury	0.18	0.81	**1.7**		0.281		**0.827**		NA	
Nickel	30	310	24.4		19.1		18.2		NA	
Potassium	NA	NA	1,750		1,770		1,410		NA	
Selenium	3.90	180	5.25		2.97		2.39		NA	
Silver	2	180	0.568	*U*	0.531	*U*	0.57	*U*	NA	
Sodium	NA	NA	260		766		314		NA	
Thallium	NA	NA	1.14	*U*	1.06	*U*	1.14	*U*	NA	
Vanadium	NA	100	36.9		29.1		30.9		NA	
Zinc	109	2,200	225		340		657		NA	

Detected Concentrations

Concentrations > Track 1 UUSCOs

Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 4: TAL Metals in Surface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-3 N (4'-6')**		**TP-3 S (0-2')**		**TP-3 S (4'-6')**		**TP-3 E (0-2')**	
U= Not Detected at or above indicated value		Sample Date	04/15/15		04/15/15		04/15/15		04/15/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1		1	
Metals, 6010 and 7473	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aluminum	NA	NA	NA		NA		NA		NA	
Antimony	NA	NA	NA		NA		NA		NA	
Arsenic	13	16	NA		NA		NA		NA	
Barium	350	400	NA		NA		NA		NA	
Beryllium	7.2	72	NA		NA		NA		NA	
Cadmium	2.5	4.3	NA		NA		NA		NA	
Calcium	NA	NA	NA		NA		NA		NA	
Chromium	30	180	NA		NA		NA		NA	
Cobalt	NA	30	NA		NA		NA		NA	
Copper	50	270	NA		NA		NA		NA	
Iron	NA	2,000	NA		NA		NA		NA	
Lead	63	400	10.3		208		9.93		305	
Magnesium	NA	NA	NA		NA		NA		NA	
Manganese	1,600	2,000	NA		NA		NA		NA	
Mercury	0.18	0.81	NA		NA		NA		NA	
Nickel	30	310	NA		NA		NA		NA	
Potassium	NA	NA	NA		NA		NA		NA	
Selenium	3.90	180	NA		NA		NA		NA	
Silver	2	180	NA		NA		NA		NA	
Sodium	NA	NA	NA		NA		NA		NA	
Thallium	NA	NA	NA		NA		NA		NA	
Vanadium	NA	100	NA		NA		NA		NA	
Zinc	109	2,200	NA		NA		NA		NA	

Detected Concentrations

Concentrations > Track 1 UUSCOs

Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 4: TAL Metals in Surface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-3 E (4'-6')**		**TP-3 W (0-2')**		**TP-3 W (4'-6')**	
U= Not Detected at or above indicated value		Sample Date	04/15/15		04/15/15		04/15/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1	
Metals, 6010 and 7473	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aluminum	NA	NA	NA		NA		NA	
Antimony	NA	NA	NA		NA		NA	
Arsenic	13	16	NA		NA		NA	
Barium	350	400	NA		NA		NA	
Beryllium	7.2	72	NA		NA		NA	
Cadmium	2.5	4.3	NA		NA		NA	
Calcium	NA	NA	NA		NA		NA	
Chromium	30	180	NA		NA		NA	
Cobalt	NA	30	NA		NA		NA	
Copper	50	270	NA		NA		NA	
Iron	NA	2,000	NA		NA		NA	
Lead	63	400	8.07		334		8.43	
Magnesium	NA	NA	NA		NA		NA	
Manganese	1,600	2,000	NA		NA		NA	
Mercury	0.18	0.81	NA		NA		NA	
Nickel	30	310	NA		NA		NA	
Potassium	NA	NA	NA		NA		NA	
Selenium	3.90	180	NA		NA		NA	
Silver	2	180	NA		NA		NA	
Sodium	NA	NA	NA		NA		NA	
Thallium	NA	NA	NA		NA		NA	
Vanadium	NA	100	NA		NA		NA	
Zinc	109	2,200	NA		NA		NA	

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 5: VOCs in Suburface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-1 (8.5')** [URS TP-7]		**TP-2 (8.5')** [URS TP-3]		**TP-3 (8.9')** [URS TP-5]		**TP-6 (4.5')** [URS TP-1]	
U= Not Detected at or above indicated value		Sample Date	03/02/15		03/02/15		03/02/15		03/02/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1		1	
VOCs, 8260	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,1,1,2-Tetrachloroethane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,1,1-Trichloroethane	0.68	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,1,2,2-Tetrachloroethane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,1,2-Trichloroethane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,1-Dichloroethane	0.27	26	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,1-Dichloroethylene	0.33	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,1-Dichloropropylene	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,2,3-Trichlorobenzene	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,2,3-Trichloropropane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,2,4-Trichlorobenzene	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,2,4-Trimethylbenzene	3.6	52	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,2-Dibromo-3-chloropropane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,2-Dibromoethane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,2-Dichlorobenzene	1.1	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,2-Dichloroethane	0.2	31	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,2-Dichloropropane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,3,5-Trimethylbenzene	8.4	52	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,3-Dichlorobenzene	2.4	49	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,3-Dichloropropane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,4-Dichlorobenzene	1.8	13	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
1,4-Dioxane	0.1	13	0.084	*U*	0.07	*U*	0.11	*U*	0.094	*U*
2,2-Dichloropropane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
2-Butanone	0.12	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
2-Chlorotoluene	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
4-Chlorotoluene	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Acetone	0.05	100	0.0084	*U*	0.0074	*J*	0.011	*U*	0.019	*J*
Benzene	0.06	48	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Bromobenzene	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Bromochloromethane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Bromodichloromethane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Bromoform	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Bromomethane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Carbon tetrachloride	0.76	24	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Chlorobenzene	1.1	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Chloroethane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Chloroform	0.37	49	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Chloromethane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
cis-1,2-Dichloroethylene	0.25	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
cis-1,3-Dichloropropylene	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Dibromochloromethane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Dibromomethane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Dichlorodifluoromethane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Ethyl Benzene	1	41	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Hexachlorobutadiene	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Isopropylbenzene	2.3	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Methyl tert-butyl ether (MTBE)	0.93	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Methylene chloride	0.05	500	0.0084	*U*	0.007	*U*	0.011	*U*	0.0094	*U*
Naphthalene	12	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
n-Butylbenzene	12	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
n-Propylbenzene	3.9	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
o-Xylene	0.26	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
p- & m- Xylenes	0.26	100	0.0084	*U*	0.007	*U*	0.011	*U*	0.0094	*U*
p-Isopropyltoluene	10	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
sec-Butylbenzene	11	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Styrene	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
tert-Butylbenzene	5.9	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Tetrachloroethylene	1.3	19	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Toluene	0.7	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
trans-1,2-Dichloroethylene	0.19	100	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
trans-1,3-Dichloropropylene	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Trichloroethylene	0.47	21	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Trichlorofluoromethane	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Vinyl acetate	NA	NA	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Vinyl chloride	NA	0.9	0.0042	*U*	0.0035	*U*	0.0053	*U*	0.0047	*U*
Xylenes, Total	0.26	100	0.013	*U*	0.01	*U*	0.016	*U*	0.014	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 5: VOCs in Suburface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-5/B-5 (14'-16')** [URS TP-6]		**2B-5 (14'-16')**		**TP-9 (14'-15')**		**TP-10 (14'-15')**	
U= Not Detected at or above indicated value		Sample Date	03/18/15		8/12/2015		04/15/15		04/15/15	
Data above SCOs shown in **Bold**		Dilution Factor	1				1		1	
VOCs, 8260	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,1,1,2-Tetrachloroethane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,1,1-Trichloroethane	0.68	100	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,1,2,2-Tetrachloroethane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,1,2-Trichloroethane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,1-Dichloroethane	0.27	26	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,1-Dichloroethylene	0.33	100	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,1-Dichloropropylene	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,2,3-Trichlorobenzene	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,2,3-Trichloropropane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,2,4-Trichlorobenzene	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,2,4-Trimethylbenzene	3.6	52	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,2-Dibromo-3-chloropropane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,2-Dibromoethane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,2-Dichlorobenzene	1.1	100	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,2-Dichloroethane	0.2	31	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,2-Dichloropropane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,3,5-Trimethylbenzene	8.4	52	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,3-Dichlorobenzene	2.4	49	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,3-Dichloropropane	NA	NA	0.13	*U*	*0.045*	*U*	0.0066	*U*	0.0057	*U*
1,4-Dichlorobenzene	1.8	13	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
1,4-Dioxane	0.1	13	0.0067	*U*	*0.0022*	*U*	0.13	*U*	0.11	*U*
2,2-Dichloropropane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
2-Butanone	0.12	100	0.016	*J*	*0.0045*	*U*	0.0066	*U*	0.0057	*U*
2-Chlorotoluene	NA	NA	0.013	*U*	*0.0045*	*U*	0.0066	*U*	0.0057	*U*
4-Chlorotoluene	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Acetone	0.05	100	0.0067	*U*	*0.0022*	*U*	0.12		0.1	
Benzene	0.06	48	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Bromobenzene	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Bromochloromethane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Bromodichloromethane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Bromoform	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Bromomethane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Carbon tetrachloride	0.76	24	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Chlorobenzene	1.1	100	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Chloroethane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Chloroform	0.37	49	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Chloromethane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
cis-1,2-Dichloroethylene	0.25	100	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
cis-1,3-Dichloropropylene	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Dibromochloromethane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Dibromomethane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Dichlorodifluoromethane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Ethyl Benzene	1	41	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Hexachlorobutadiene	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Isopropylbenzene	2.3	100	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Methyl tert-butyl ether (MTBE)	0.93	100	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Methylene chloride	0.05	500	0.0067	*U*	*0.0022*	*U*	0.013	*U*	0.011	*U*
Naphthalene	12	100	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
n-Butylbenzene	12	100	0.013	*U*	*0.0045*	*U*	0.0066	*U*	0.0057	*U*
n-Propylbenzene	3.9	100	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
o-Xylene	0.26	100	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
p- & m- Xylenes	0.26	100	0.0067	*U*	*0.0022*	*U*	0.013	*U*	0.011	*U*
p-Isopropyltoluene	10	NA	0.013	*U*	*0.0045*	*U*	0.0066	*U*	0.0057	*U*
sec-Butylbenzene	11	100	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Styrene	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
tert-Butylbenzene	5.9	100	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Tetrachloroethylene	1.3	19	0.013	*U*	*0.0045*	*U*	0.0066	*U*	0.0057	*U*
Toluene	0.7	100	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
trans-1,2-Dichloroethylene	0.19	100	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
trans-1,3-Dichloropropylene	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Trichloroethylene	0.47	21	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Trichlorofluoromethane	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Vinyl acetate	NA	NA	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Vinyl chloride	NA	0.9	0.0067	*U*	*0.0022*	*U*	0.0066	*U*	0.0057	*U*
Xylenes, Total	0.26	100	0.0067	*U*	*0.0022*	*U*	0.02	*U*	0.017	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 6: SVOCs in Subsurface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-1 (8.5')** [URS TP-7]		**TP-2 (8.5')** [URS TP-3]		**TP-3 (8.9')** [URS TP-5]		**TP-6 (4.5')** [URS TP-1]	
U= Not Detected at or above indicated value		Sample Date	03/02/15		03/02/15		03/02/15		03/02/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1		1	
SVOCs, 8270	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,2,4-Trichlorobenzene	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
1,2-Dichlorobenzene	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
1,3-Dichlorobenzene	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
1,4-Dichlorobenzene	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
2,4,5-Trichlorophenol	NA	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
2,4,6-Trichlorophenol	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
2,4-Dichlorophenol	NA	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
2,4-Dimethylphenol	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
2,4-Dinitrophenol	NA	100	0.0457	*U*	0.0437	*U*	0.0466	*U*	0.0427	*U*
2,4-Dinitrotoluene	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
2,6-Dinitrotoluene	NA	1.03	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
2-Chloronaphthalene	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
2-Chlorophenol	NA	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
2-Methylnaphthalene	NA	0.41	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
2-Methylphenol	NA	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
2-Nitroaniline	NA	NA	0.0457	*U*	0.0437	*U*	0.0466	*U*	0.0427	*U*
2-Nitrophenol	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
3- & 4-Methylphenols	NA	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
3,3'-Dichlorobenzidine	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
3-Nitroaniline	NA	NA	0.0457	*U*	0.0437	*U*	0.0466	*U*	0.0427	*U*
4,6-Dinitro-2-methylphenol	NA	NA	0.0457	*U*	0.0437	*U*	0.0466	*U*	0.0427	*U*
4-Bromophenyl phenyl ether	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
4-Chloro-3-methylphenol	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
4-Chloroaniline	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
4-Chlorophenyl phenyl ether	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
4-Nitroaniline	NA	NA	0.0457	*U*	0.0437	*U*	0.0466	*U*	0.0427	*U*
4-Nitrophenol	NA	NA	0.0457	*U*	0.0437	*U*	0.0466	*U*	0.0427	*U*
Acenaphthene	20	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Acenaphthylene	100	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Aniline	NA	100	0.0916	*U*	0.0875	*U*	0.0933	*U*	0.0854	*U*
Anthracene	100	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Benzo(a)anthracene	1	1	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Benzo(a)pyrene	1	1	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Benzo(b)fluoranthene	1	1	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Benzo(g,h,i)perylene	100	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Benzo(k)fluoranthene	0.8	3.9	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Benzyl alcohol	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Benzyl butyl phthalate	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Bis(2-chloroethoxy)methane	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Bis(2-chloroethyl)ether	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Bis(2-chloroisopropyl)ether	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Bis(2-ethylhexyl)phthalate	NA	50	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Chrysene	1	3.9	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Dibenzo(a,h)anthracene	0.33	0.33	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Dibenzofuran	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Diethyl phthalate	NA	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Dimethyl phthalate	NA	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Di-n-butyl phthalate	NA	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Di-n-octyl phthalate	NA	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Fluoranthene	100	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Fluorene	30	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Hexachlorobenzene	NA	0.41	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Hexachlorobutadiene	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Hexachlorocyclopentadiene	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Hexachloroethane	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Isophorone	NA	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Naphthalene	12	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Nitrobenzene	NA	15	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
N-Nitrosodimethylamine	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
N-nitroso-di-n-propylamine	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
N-Nitrosodiphenylamine	NA	NA	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Pentachlorophenol	0.8	6.7	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Phenanthrene	100	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Phenol	0.33	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Pyrene	100	100	0.0229	*U*	0.0219	*U*	0.0233	*U*	0.0214	*U*
Pyridine	NA	NA	0.0916	*U*	0.0875	*U*	0.0933	*U*	0.0854	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 6: SVOCs in Subsurface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-5/B-5 (14'-16')** [URS TP-6]		**TP-9 (14'-15')**		**TP-10 (14'-15')**	
U= Not Detected at or above indicated value		Sample Date	03/18/15		04/15/15		04/15/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1	
SVOCs, 8270	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,2,4-Trichlorobenzene	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
1,2-Dichlorobenzene	NA	NA	0.0503	*U*	0.0241	*U*	0.0238	*U*
1,3-Dichlorobenzene	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
1,4-Dichlorobenzene	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
2,4,5-Trichlorophenol	NA	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
2,4,6-Trichlorophenol	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
2,4-Dichlorophenol	NA	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
2,4-Dimethylphenol	NA	NA	0.0503	*U*	0.0241	*U*	0.0238	*U*
2,4-Dinitrophenol	NA	100	0.0252	*U*	0.0481	*U*	0.0474	*U*
2,4-Dinitrotoluene	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
2,6-Dinitrotoluene	NA	1.03	0.0252	*U*	0.0241	*U*	0.0238	*U*
2-Chloronaphthalene	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
2-Chlorophenol	NA	100	0.0503	*U*	0.0241	*U*	0.0238	*U*
2-Methylnaphthalene	NA	0.41	0.0252	*U*	0.0241	*U*	0.0238	*U*
2-Methylphenol	NA	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
2-Nitroaniline	NA	NA	0.0252	*U*	0.0481	*U*	0.0474	*U*
2-Nitrophenol	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
3- & 4-Methylphenols	NA	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
3,3'-Dichlorobenzidine	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
3-Nitroaniline	NA	NA	0.0503	*U*	0.0481	*U*	0.0474	*U*
4,6-Dinitro-2-methylphenol	NA	NA	0.0252	*U*	0.0481	*U*	0.0474	*U*
4-Bromophenyl phenyl ether	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
4-Chloro-3-methylphenol	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
4-Chloroaniline	NA	NA	0.0503	*U*	0.0241	*U*	0.0238	*U*
4-Chlorophenyl phenyl ether	NA	NA	0.0503	*U*	0.0241	*U*	0.0238	*U*
4-Nitroaniline	NA	NA	0.0252	*U*	0.0481	*U*	0.0474	*U*
4-Nitrophenol	NA	NA	0.0252	*U*	0.0481	*U*	0.0474	*U*
Acenaphthene	20	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
Acenaphthylene	100	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
Aniline	NA	100	0.0503	*U*	0.0963	*U*	0.095	*U*
Anthracene	100	100	0.0503	*U*	0.0241	*U*	0.0238	*U*
Benzo(a)anthracene	1	1	0.0252	*U*	0.0241	*U*	0.0238	*U*
Benzo(a)pyrene	1	1	0.0252	*U*	0.0241	*U*	0.0238	*U*
Benzo(b)fluoranthene	1	1	0.0252	*U*	0.0241	*U*	0.0238	*U*
Benzo(g,h,i)perylene	100	100	0.101	*U*	0.0241	*U*	0.0238	*U*
Benzo(k)fluoranthene	0.8	3.9	0.0252	*U*	0.0241	*U*	0.0238	*U*
Benzyl alcohol	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
Benzyl butyl phthalate	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
Bis(2-chloroethoxy)methane	NA	NA	0.101	*U*	0.0241	*U*	0.0238	*U*
Bis(2-chloroethyl)ether	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
Bis(2-chloroisopropyl)ether	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
Bis(2-ethylhexyl)phthalate	NA	50	0.0252	*U*	0.0241	*U*	0.0238	*U*
Chrysene	1	3.9	0.0252	*U*	0.0241	*U*	0.0238	*U*
Dibenzo(a,h)anthracene	0.33	0.33	0.0252	*U*	0.0241	*U*	0.0238	*U*
Dibenzofuran	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
Diethyl phthalate	NA	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
Dimethyl phthalate	NA	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
Di-n-butyl phthalate	NA	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
Di-n-octyl phthalate	NA	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
Fluoranthene	100	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
Fluorene	30	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
Hexachlorobenzene	NA	0.41	0.0503	*U*	0.0241	*U*	0.0238	*U*
Hexachlorobutadiene	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
Hexachlorocyclopentadiene	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
Hexachloroethane	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.0252	*U*	0.0241	*U*	0.0238	*U*
Isophorone	NA	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
Naphthalene	12	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
Nitrobenzene	NA	15	0.0252	*U*	0.0241	*U*	0.0238	*U*
N-Nitrosodimethylamine	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
N-nitroso-di-n-propylamine	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
N-Nitrosodiphenylamine	NA	NA	0.0252	*U*	0.0241	*U*	0.0238	*U*
Pentachlorophenol	0.8	6.7	0.0252	*U*	0.0241	*U*	0.0238	*U*
Phenanthrene	100	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
Phenol	0.33	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
Pyrene	100	100	0.0252	*U*	0.0241	*U*	0.0238	*U*
Pyridine	NA	NA	0.0252	*U*	0.0963	*U*	0.095	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 7: Pesticides and PCBs in Subsurface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-1 (8.5')** [URS TP-7]		**TP-2 (8.5')** [URS TP-3]		**TP-3 (8.9')** [URS TP-5]		**TP-6 (4.5')** [URS TP-1]		**TP-5/B-5 (14'-16')** [URS TP-6]		**TP-9 (14'-15')**	
U= Not Detected at or above indicated value		Sample Date	03/02/15		03/02/15		03/02/15		03/02/15		03/18/15		04/15/15	
Data above SCOs shown in **Bold**		Dilution Factor	5		5		5		5		5		5	
Pesticides, 8081	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
4,4'-DDD	0.0033	13	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
4,4'-DDE	0.0033	8.9	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
4,4'-DDT	0.0033	7.9	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
Aldrin	0.005	0.097	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
alpha-BHC	0.02	0.48	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
alpha-Chlordane	0.094	4.2	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
beta-BHC	0.036	0.36	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
Chlordane, total	NA	NA	0.109	*U*	0.104	*U*	0.111	*U*	0.101	*U*	0.0797	*U*	0.0761	*U*
delta-BHC	0.04	100	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
Dieldrin	0.005	0.2	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
Endosulfan I	2.4	200	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
Endosulfan II	2.4	200	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
Endosulfan sulfate	2.4	200	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
Endrin	0.014	11	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
Endrin aldehyde	NA	NA	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
Endrin ketone	NA	NA	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
gamma-BHC (Lindane)	0.1	1.3	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
gamma-Chlordane	NA	0.54	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
Heptachlor	0.042	2.1	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
Heptachlor Epoxide	NA	0.077	0.00271	*U*	0.00259	*U*	0.00276	*U*	0.00253	*U*	0.00199	*U*	0.0019	*U*
Methoxychlor	NA	100	0.0136	*U*	0.013	*U*	0.0138	*U*	0.0127	*U*	0.00996	*U*	0.00952	*U*
Toxaphene	NA	NA	0.137	*U*	0.131	*U*	0.14	*U*	0.128	*U*	0.101	*U*	0.0963	*U*

		Sample ID	**TP-1 (8.5')** [URS TP-7]		**TP-2 (8.5')** [URS TP-3]		**TP-3 (8.9')** [URS TP-5]		**TP-6 (4.5')** [URS TP-1]		**TP-5/B-5 (14'-16')** [URS TP-6]		**TP-9 (14'-15')**	
		Sample Date	03/02/15		03/02/15		03/02/15		03/02/15		03/18/15		04/15/15	
		Dilution Factor	1		1		1		1		1		1	
PCBs, 8082	**UUSCO**	**RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aroclor 1016	0.1	1.00	0.0274	*U*	0.0262	*U*	0.0279	*U*	0.0256	*U*	0.0201	*U*	0.0192	*U*
Aroclor 1221	0.1	1.00	0.0274	*U*	0.0262	*U*	0.0279	*U*	0.0256	*U*	0.0201	*U*	0.0192	*U*
Aroclor 1232	0.1	1.00	0.0274	*U*	0.0262	*U*	0.0279	*U*	0.0256	*U*	0.0201	*U*	0.0192	*U*
Aroclor 1242	0.1	1.00	0.0274	*U*	0.0262	*U*	0.0279	*U*	0.0256	*U*	0.0201	*U*	0.0192	*U*
Aroclor 1248	0.1	1.00	0.0274	*U*	0.0262	*U*	0.0279	*U*	0.0256	*U*	0.0201	*U*	0.0192	*U*
Aroclor 1254	0.1	1.00	0.0274	*U*	0.0262	*U*	0.0279	*U*	0.0256	*U*	0.0201	*U*	0.0192	*U*
Aroclor 1260	0.1	1.00	0.0274	*U*	0.0262	*U*	0.0279	*U*	0.0256	*U*	0.0201	*U*	0.0192	*U*
Aroclor, Total	0.1	1.00	0.0274	*U*	0.0262	*U*	0.0279	*U*	0.0256	*U*	0.0201	*U*	0.0192	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 7: Pesticides and PCBs in Subsurface Soils

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-10 (14'-15')**	
U= Not Detected at or above indicated value		Sample Date	04/15/15	
Data above SCOs shown in **Bold**		Dilution Factor	5	
Pesticides, 8081	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*
4,4'-DDD	0.0033	13	0.00188	*U*
4,4'-DDE	0.0033	8.9	0.026	*D*
4,4'-DDT	0.0033	7.9	0.00188	*U*
Aldrin	0.005	0.097	0.00188	*U*
alpha-BHC	0.02	0.48	0.00188	*U*
alpha-Chlordane	0.094	4.2	0.00188	*U*
beta-BHC	0.036	0.36	0.00188	*U*
Chlordane, total	NA	NA	0.0751	*U*
delta-BHC	0.04	100	0.00188	*U*
Dieldrin	0.005	0.2	0.00188	*U*
Endosulfan I	2.4	200	0.00188	*U*
Endosulfan II	2.4	200	0.00188	*U*
Endosulfan sulfate	2.4	200	0.00188	*U*
Endrin	0.014	11	0.00188	*U*
Endrin aldehyde	NA	NA	0.00188	*U*
Endrin ketone	NA	NA	0.00188	*U*
gamma-BHC (Lindane)	0.1	1.3	0.00188	*U*
gamma-Chlordane	NA	0.54	0.00188	*U*
Heptachlor	0.042	2.1	0.00188	*U*
Heptachlor Epoxide	NA	0.077	0.00188	*U*
Methoxychlor	NA	100	0.00939	*U*
Toxaphene	NA	NA	0.095	*U*

		Sample ID	**TP-10 (14'-15')**	
		Sample Date	04/15/15	
		Dilution Factor	1	
PCBs, 8082	**UUSCO**	**RRUSCO**	*Result*	*Qualifier*
Aroclor 1016	0.1	1.00	0.019	*U*
Aroclor 1221	0.1	1.00	0.019	*U*
Aroclor 1232	0.1	1.00	0.019	*U*
Aroclor 1242	0.1	1.00	0.019	*U*
Aroclor 1248	0.1	1.00	0.019	*U*
Aroclor 1254	0.1	1.00	0.019	*U*
Aroclor 1260	0.1	1.00	0.019	*U*
Aroclor, Total	0.1	1.00	0.019	*U*

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 8: TAL Metals in Subsurface Soils

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)		**Sample ID**	**TP-1 (8.5')** [URS TP-7]		**TP-2 (8.5')** [URS TP-3]		**TP-3 (8.9')** [URS TP-5]		**TP-6 (4.5')** [URS TP-1]		**TP-5/B-5 (14'-16')** [URS TP-6]		**TP-9 (14'-15')**		**TP-10 (14'-15')**	
U= Not Detected at or above indicated value		Sample Date	03/02/15		03/02/15		03/02/15		03/02/15		03/18/15		04/15/15		04/15/15	
Data above SCOs shown in **Bold**		Dilution Factor	1		1		1		1		1		1		1	
Metals, 6010 and 7473	**Track 1 UUSCO**	**Track 2 RRUSCO**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aluminum	NA	NA	5,270		8,880		14,700		8,380		3,320		13,600		14,900	
Antimony	NA	NA	0.548	*U*	0.524	*U*	0.558	*U*	0.512	*U*	0.604	*U*	0.577	*U*	0.569	*U*
Arsenic	13	16	1.1	*U*	2.01		4.63		2.1		1.21	*U*	1.77		1.63	
Barium	350	400	28.3		138		69.9		8.97		9.31		55.7		53.3	
Beryllium	7.2	72	0.11	*U*	0.105	*U*	0.112	*U*	0.102	*U*	0.121	*U*	0.115	*U*	0.114	*U*
Cadmium	2.5	4.3	0.329	*U*	0.314	*U*	0.335	*U*	0.307	*U*	0.362	*U*	0.346	*U*	0.341	*U*
Calcium	NA	NA	1,600		1,960		2,660		159,000	*D*	2,180		2,210		1,670	
Chromium	30	180	22		36		25.7		7.11		5.86		19.6		21.3	
Cobalt	NA	30	4.53		8.66		8.84		2.4		2.91		7.86		7.11	
Copper	50	270	9.41		30		21.2		6.4		6.34		12.3		10.6	
Iron	NA	2,000	**7,480**		**17,600**		**16,600**		**3,450**		**15,000**		**17,900**		**18,500**	
Lead	63	400	2.68		5.77		17.2		6.36		1.31		23.7		10.8	
Magnesium	NA	NA	1,370		4,770		6,850		108,000	*D*	15,200		4,170		4,400	
Manganese	1,600	2,000	49.1		178		218		124		183		230		189	
Mercury	0.18	0.81	0.0329	*U*	0.0314	*U*	0.0409		0.0537		0.0362	*U*	0.0346	*U*	0.0341	*U*
Nickel	30	310	11		18.5		17.7		4.2		3.2		16.4		16.3	
Potassium	NA	NA	534		1,950		1,770		316		248		907		938	
Selenium	3.90	180	1.1	*U*	1.05	*U*	1.12	*U*	1.02	*U*	1.21	*U*	1.15	*U*	1.31	
Silver	2	180	0.548	*U*	0.524	*U*	0.558	*U*	0.512	*U*	0.604	*U*	0.577	*U*	0.569	*U*
Sodium	NA	NA	100		675		362		10.2	*U*	142		96.1		100	
Thallium	NA	NA	1.1	*U*	1.05	*U*	1.12	*U*	1.02	*U*	1.21	*U*	1.15	*U*	1.14	*U*
Vanadium	NA	100	13.7		32		29.8		7.12		5.46		23.7		25.1	
Zinc	109	2,200	18.2		37.6		49.8		19.5		11.4		70.3		53.3	

Detected Concentrations
Concentrations > Track 1 UUSCOs
Concentrations > Track 2 RRUSCOs

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 9: VOCs in Groundwater

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in µg/L (parts per billion, ppb)	**Sample ID**	**W-1** [URS TP-7]		**W-2** [URS TP-3]		**B-5/MW-5** [URS TP-6]		**2MW-01**	
U= Not Detected at or above indicated value	Sample Date	3/11/2015		3/11/2015		3/25/2015		8/12/2015	
Data above AWQS shown in **Bold**	Dilution Factor	1		1		1		1	
VOCs, 8260	**AWQS**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,1,1,2-Tetrachloroethane	5	0.20	U	0.20	U	2.5	*U*	0.2	U
1,1,1-Trichloroethane	5	0.20	U	0.20	U	2.5	*U*	0.2	U
1,1,2,2-Tetrachloroethane	5	0.20	U	0.20	U	2.5	*U*	0.2	U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5	0.20	U	0.20	U	2.5	*U*	0.2	U
1,1,2-Trichloroethane	1	0.20	U	0.20	U	2.5	*U*	0.2	U
1,1-Dichloroethane	5	0.20	U	0.20	U	2.5	*U*	0.2	U
1,1-Dichloroethylene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
1,2,3-Trichlorobenzene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
1,2,3-Trichloropropane	0.04	0.20	U	0.20	U	2.5	*U*	0.2	U
1,2,4-Trichlorobenzene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
1,2,4-Trimethylbenzene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
1,2-Dibromo-3-chloropropane	55	0.80	U	0.80	U	2.5	*U*	0.2	U
1,2-Dibromoethane	5	0.20	U	0.20	U	2.5	*U*	0.2	U
1,2-Dichlorobenzene	3	0.20	U	0.20	U	2.5	*U*	0.2	U
1,2-Dichloroethane	0.6	0.20	U	0.20	U	2.5	*U*	0.2	U
1,2-Dichloropropane	1	0.20	U	0.20	U	2.5	*U*	0.2	U
1,3,5-Trimethylbenzene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
1,3-Dichlorobenzene	3	0.20	U	0.20	U	2.5	*U*	0.2	U
1,4-Dichlorobenzene	3	0.20	U	0.20	U	2.5	*U*	0.2	U
2-Butanone	5	0.80	U	0.80	U	2.5	*U*	0.57	J
2-Hexanone	5	0.20	U	0.20	U	2.5	*U*	0.2	U
4-Methyl-2-pentanone	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Acetone	50	5.50		6.30		2.5	*U*	1.3	JB
Benzene	1	0.20	U	0.20	U	2.5	*U*	0.2	U
Bromobenzene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Bromochloromethane	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Bromodichloromethane	50	0.20	U	0.20	U	2.5	*U*	0.2	U
Bromoform	50	0.20	U	0.20	U	2.5	*U*	0.2	U
Bromomethane	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Carbon disulfide	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Carbon tetrachloride	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Chlorobenzene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Chloroethane	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Chloroform	7	0.20	U	0.20	U	2.5	*U*	0.2	U
Chloromethane	5	0.20	U	0.20	U	2.5	*U*	0.2	U
cis-1,2-Dichloroethylene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
cis-1,3-Dichloropropylene	0.4	0.20	U	0.20	U	2.5	*U*	0.2	U
Dibromochloromethane	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Dibromomethane	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Dichlorodifluoromethane	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Ethyl Benzene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Hexachlorobutadiene	0.5	0.20	U	0.20	U	2.5	*U*	0.2	U
Isopropylbenzene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Methyl tert-butyl ether (MTBE)	10	0.20	U	0.20	U	2.5	*U*	0.2	U
Methylene chloride	5	1	U	1	U	2.5	*U*	1	U
n-Butylbenzene	5	0.20	U	0.20	U	5	*U*	0.2	U
n-Propylbenzene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
o-Xylene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
p- & m- Xylenes	5	0.50	U	0.50	U	2.5	*U*	0.5	U
p-Isopropyltoluene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
sec-Butylbenzene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Styrene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
tert-Butylbenzene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Tetrachloroethylene	5	0.33	J	0.20	U	2.5	*U*	0.2	U
Toluene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
trans-1,2-Dichloroethylene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
trans-1,3-Dichloropropylene	0.4	0.20	U	0.20	U	2.5	*U*	0.2	U
Trichloroethylene	5	0.20	U	0.20	U	2.5	*U*	0.2	U
Trichlorofluoromethane	5	0.20	U	0.20	U	7.5	*U*	0.2	U
Vinyl chloride	2	0.20	U	0.20	U	2.5	*U*	0.2	U
Xylenes, Total	5	0.60	U	0.60	U	2.5	*U*	0.6	U

Detected concentrations

Concentrations above AWQS

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 9: VOCs in Groundwater

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in µg/L (parts per billion, ppb)	**Sample ID**	**2MW-02**	
U= Not Detected at or above indicated value	Sample Date	8/12/2015	
Data above AWQS shown in **Bold**	Dilution Factor	1	
VOCs, 8260	**AWQS**	*Result*	*Qualifier*
1,1,1,2-Tetrachloroethane	5	0.2	*U*
1,1,1-Trichloroethane	5	0.2	*U*
1,1,2,2-Tetrachloroethane	5	0.2	*U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5	0.2	*U*
1,1,2-Trichloroethane	1	0.2	*U*
1,1-Dichloroethane	5	0.2	*U*
1,1-Dichloroethylene	5	0.2	*U*
1,2,3-Trichlorobenzene	5	0.2	*U*
1,2,3-Trichloropropane	0.04	0.2	*U*
1,2,4-Trichlorobenzene	5	0.2	*U*
1,2,4-Trimethylbenzene	5	0.2	*U*
1,2-Dibromo-3-chloropropane	55	0.2	*U*
1,2-Dibromoethane	5	0.2	*U*
1,2-Dichlorobenzene	3	0.2	*U*
1,2-Dichloroethane	0.6	0.2	*U*
1,2-Dichloropropane	1	0.2	*U*
1,3,5-Trimethylbenzene	5	0.2	*U*
1,3-Dichlorobenzene	3	0.2	*U*
1,4-Dichlorobenzene	3	0.2	*U*
2-Butanone	5	0.2	*U*
2-Hexanone	5	0.2	*U*
4-Methyl-2-pentanone	5	0.2	*U*
Acetone	50	2	*JB*
Benzene	1	0.2	*U*
Bromobenzene	5	0.2	*U*
Bromochloromethane	5	0.2	*U*
Bromodichloromethane	50	0.2	*U*
Bromoform	50	0.2	*U*
Bromomethane	5	0.2	*U*
Carbon disulfide	5	0.2	*U*
Carbon tetrachloride	5	0.2	*U*
Chlorobenzene	5	0.2	*U*
Chloroethane	5	0.2	*U*
Chloroform	7	0.38	*J*
Chloromethane	5	0.2	*U*
cis-1,2-Dichloroethylene	5	0.27	*J*
cis-1,3-Dichloropropylene	0.4	0.2	*U*
Dibromochloromethane	5	0.2	*U*
Dibromomethane	5	0.2	*U*
Dichlorodifluoromethane	5	0.2	*U*
Ethyl Benzene	5	0.2	*U*
Hexachlorobutadiene	0.5	0.2	*U*
Isopropylbenzene	5	0.2	*U*
Methyl tert-butyl ether (MTBE)	10	0.47	*J*
Methylene chloride	5	1	*U*
n-Butylbenzene	5	0.2	*U*
n-Propylbenzene	5	0.2	*U*
o-Xylene	5	0.2	*U*
p- & m- Xylenes	5	0.5	*U*
p-Isopropyltoluene	5	0.2	*U*
sec-Butylbenzene	5	0.2	*U*
Styrene	5	0.2	*U*
tert-Butylbenzene	5	0.2	*U*
Tetrachloroethylene	5	0.2	*U*
Toluene	5	0.2	*U*
trans-1,2-Dichloroethylene	5	0.2	*U*
trans-1,3-Dichloropropylene	0.4	0.2	*U*
Trichloroethylene	5	0.2	*U*
Trichlorofluoromethane	5	0.2	*U*
Vinyl chloride	2	0.2	*U*
Xylenes, Total	5	0.6	*U*

Detected concentrations

Concentrations above AWQS

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 10: SVOCs in Groundwater

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in µg/L (parts per billion, ppb)	Sample ID	W-1 [URS TP-7]		W-2 [URS TP-3]		B-5/MW-5 [URS TP-6]		2MW-01	
U= Not Detected at or above indicated value	Sample Date	3/2/2015		3/2/2015		3/25/2015		8/12/2015	
Data above AWQS shown in **Bold**	Dilution Factor	1		1		1		1	
SVOCs, 8270	**AWQS**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,2,4-Trichlorobenzene	5	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
1,2-Dichlorobenzene	3	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
1,3-Dichlorobenzene	3	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
1,4-Dichlorobenzene	3	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
2,4,5-Trichlorophenol	NA	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
2,4,6-Trichlorophenol	NA	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
2,4-Dichlorophenol	5	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
2,4-Dimethylphenol	50	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
2,4-Dinitrophenol	10	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
2,4-Dinitrotoluene	5	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
2,6-Dinitrotoluene	5	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
2-Chloronaphthalene	10	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
2-Chlorophenol	NA	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
2-Methylnaphthalene	NA	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
2-Methylphenol	NA	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
2-Nitroaniline	5	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
2-Nitrophenol	NA	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
3- & 4-Methylphenols	NA	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
3,3'-Dichlorobenzidine	5	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
3-Nitroaniline	5	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
4,6-Dinitro-2-methylphenol	NA	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
4-Bromophenyl phenyl ether	NA	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
4-Chloro-3-methylphenol	NA	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
4-Chloroaniline	5	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
4-Chlorophenyl phenyl ether	NA	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
4-Nitroaniline	5	2.56	*U*	2.63	*U*	0.05	*U*	2.5	*U*
4-Nitrophenol	5	2.56	*U*	2.63	*U*	0.05	*U*	2.5	*U*
Acenaphthene	20	0.0513	*U*	0.0526	*U*	2.5	*U*	0.05	*U*
Acenaphthylene	NA	0.0513	*U*	0.0526	*U*	0.05	*U*	0.05	*U*
Aniline	5	2.56	*U*	2.63	*U*	0.5	*U*	2.5	*U*
Anthracene	50	0.0513	*U*	0.0526	*U*	2.5	*U*	0.05	*U*
Benzo(a)anthracene	0.002	0.0513	*U*	0.0526	*U*	0.05	*U*	0.05	*U*
Benzo(a)pyrene	NA	0.0513	*U*	0.0526	*U*	0.05	*U*	0.05	*U*
Benzo(b)fluoranthene	0.002	0.0513	*U*	0.0526	*U*	0.05	*U*	0.05	*U*
Benzo(g,h,i)perylene	NA	0.0513	*U*	0.0526	*U*	0.05	*U*	0.05	*U*
Benzo(k)fluoranthene	0.002	0.0513	*U*	0.0526	*U*	0.05	*U*	0.05	*U*
Benzyl alcohol	NA	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
Benzyl butyl phthalate	50	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
Bis(2-chloroethoxy)methane	5	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
Bis(2-chloroethyl)ether	1	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
Bis(2-chloroisopropyl)ether	NA	2.56	*U*	2.63	*U*	0.5	*U*	2.5	*U*
Bis(2-ethylhexyl)phthalate	5	0.574		0.526	*U*	2.5	*U*	0.85	
Chrysene	0.002	0.0513	*U*	0.0526	*U*	2.5	*U*	0.05	*U*
Dibenzo(a,h)anthracene	NA	0.0513	*U*	0.0526	*U*	0.05	*U*	0.05	*U*
Dibenzofuran	NA	2.56	*U*	2.63	*U*	0.05	*U*	2.5	*U*
Diethyl phthalate	50	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
Dimethyl phthalate	50	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
Di-n-butyl phthalate	50	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
Di-n-octyl phthalate	50	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
Fluoranthene	50	0.0513	*U*	0.0526	*U*	2.5	*U*	0.05	*U*
Fluorene	50	0.0513	*U*	0.0526	*U*	0.05	*U*	0.05	*U*
Hexachlorobenzene	0.04	0.0205	*U*	0.0211	*U*	**0.35**		0.02	*U*
Hexachlorobutadiene	0.5	0.513	*U*	0.526	*U*	0.02	*U*	0.5	*U*
Hexachlorocyclopentadiene	5	2.56	*U*	2.63	*U*	0.5	*U*	2.5	*U*
Hexachloroethane	5	0.513	*U*	0.526	*U*	2.5	*U*	0.5	*U*
Indeno(1,2,3-cd)pyrene	0.002	0.0513	*U*	0.0526	*U*	0.5	*U*	0.05	*U*
Isophorone	50	2.56	*U*	2.63	*U*	0.05	*U*	2.5	*U*
Naphthalene	10	0.0513	*U*	0.0526	*U*	2.5	*U*	0.07	
Nitrobenzene	0.4	0.256	*U*	0.263	*U*	0.05	*U*	0.25	*U*
N-Nitrosodimethylamine	50	0.513	*U*	0.526	*U*	0.25	*U*	0.5	*U*
N-nitroso-di-n-propylamine	NA	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
N-Nitrosodiphenylamine	50	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
Pentachlorophenol	1	0.256	*U*	0.263	*U*	0.25	*U*	0.25	*U*
Phenanthrene	50	0.0513	*U*	0.0526	*U*	0.05	*U*	0.05	*U*
Phenol	1	2.56	*U*	2.63	*U*	2.5	*U*	2.5	*U*
Pyrene	50	0.0513	*U*	0.0526	*U*	0.11		0.05	*U*

Detected concentrations

Concentrations above AWQS

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 10: SVOCs in Groundwater

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in µg/L (parts per billion, ppb)	**Sample ID**	**2MW-02**	
U= Not Detected at or above indicated value	Sample Date	8/12/2015	
Data above AWQS shown in **Bold**	Dilution Factor	1	
SVOCs, 8270	**AWQS**	*Result*	*Qualifier*
1,2,4-Trichlorobenzene	5	2.7	*U*
1,2-Dichlorobenzene	3	2.7	*U*
1,3-Dichlorobenzene	3	2.7	*U*
1,4-Dichlorobenzene	3	2.7	*U*
2,4,5-Trichlorophenol	NA	2.7	*U*
2,4,6-Trichlorophenol	NA	2.7	*U*
2,4-Dichlorophenol	5	2.7	*U*
2,4-Dimethylphenol	50	2.7	*U*
2,4-Dinitrophenol	10	2.7	*U*
2,4-Dinitrotoluene	5	2.7	*U*
2,6-Dinitrotoluene	5	2.7	*U*
2-Chloronaphthalene	10	2.7	*U*
2-Chlorophenol	NA	2.7	*U*
2-Methylnaphthalene	NA	2.7	*U*
2-Methylphenol	NA	2.7	*U*
2-Nitroaniline	5	2.7	*U*
2-Nitrophenol	NA	2.7	*U*
3- & 4-Methylphenols	NA	2.7	*U*
3,3'-Dichlorobenzidine	5	2.7	*U*
3-Nitroaniline	5	2.7	*U*
4,6-Dinitro-2-methylphenol	NA	2.7	*U*
4-Bromophenyl phenyl ether	NA	2.7	*U*
4-Chloro-3-methylphenol	NA	2.7	*U*
4-Chloroaniline	5	2.7	*U*
4-Chlorophenyl phenyl ether	NA	2.7	*U*
4-Nitroaniline	5	2.7	*U*
4-Nitrophenol	5	2.7	*U*
Acenaphthene	20	0.0541	*U*
Acenaphthylene	NA	0.0541	*U*
Aniline	5	2.7	*U*
Anthracene	50	0.0541	*U*
Benzo(a)anthracene	0.002	0.0541	*U*
Benzo(a)pyrene	NA	0.0541	*U*
Benzo(b)fluoranthene	0.002	0.0541	*U*
Benzo(g,h,i)perylene	NA	0.0541	*U*
Benzo(k)fluoranthene	0.002	0.0541	*U*
Benzyl alcohol	NA	2.7	*U*
Benzyl butyl phthalate	50	2.7	*U*
Bis(2-chloroethoxy)methane	5	2.7	*U*
Bis(2-chloroethyl)ether	1	2.7	*U*
Bis(2-chloroisopropyl)ether	NA	2.7	*U*
Bis(2-ethylhexyl)phthalate	5	1.15	
Chrysene	0.002	0.0541	*U*
Dibenzo(a,h)anthracene	NA	0.0541	*U*
Dibenzofuran	NA	2.7	*U*
Diethyl phthalate	50	2.7	*U*
Dimethyl phthalate	50	2.7	*U*
Di-n-butyl phthalate	50	2.7	*U*
Di-n-octyl phthalate	50	2.7	*U*
Fluoranthene	50	0.0541	*U*
Fluorene	50	0.0541	*U*
Hexachlorobenzene	0.04	0.0216	*U*
Hexachlorobutadiene	0.5	0.541	*U*
Hexachlorocyclopentadiene	5	2.7	*U*
Hexachloroethane	5	0.541	*U*
Indeno(1,2,3-cd)pyrene	0.002	0.0541	*U*
Isophorone	50	2.7	*U*
Naphthalene	10	0.0973	
Nitrobenzene	0.4	0.27	*U*
N-Nitrosodimethylamine	50	0.541	*U*
N-nitroso-di-n-propylamine	NA	2.7	*U*
N-Nitrosodiphenylamine	50	2.7	*U*
Pentachlorophenol	1	0.27	*U*
Phenanthrene	50	0.0541	*U*
Phenol	1	2.7	*U*
Pyrene	50	0.0541	*U*

Detected concentrations

Concentrations above AWQS

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 11: Pesticides and PCBs in Groundwater

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in µg/L (parts per billion, ppb)	**Sample ID**	**W-1** [URS TP-7]		**W-2** [URS TP-3]		**B-5/MW-5** [URS TP-6]		**2MW-01**		**2MW-02**	
U= Not Detected at or above indicated value	Sample Date	3/2/2015		3/2/2015		3/25/2015		8/12/2015		8/12/2015	
Data above AWQS shown in **Bold**	Dilution Factor	1		1		1		1		1	
Pesticides, 8081	**AWQS**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
4,4'-DDD	0.3	0.00421	*U*	0.0041	*U*	0.004	*U*	0.004	*U*	0.004	*U*
4,4'-DDE	0.2	0.00421	*U*	0.0041	*U*	0.004	*U*	0.004	*U*	0.004	*U*
4,4'-DDT	0.2	0.00421	*U*	0.0041	*U*	0.004	*U*	0.004	*U*	0.004	*U*
Aldrin	NE	0.00421	*U*	0.0041	*U*	0.004	*U*	0.004	*U*	0.004	*U*
alpha-BHC	0.01	0.00421	*U*	0.0041	*U*	0.004	*U*	0.004	*U*	0.004	*U*
alpha-Chlordane	0.05	0.00421	*U*	0.0041	*U*	0.004	*U*	0.004	*U*	0.004	*U*
beta-BHC	0.04	0.00421	*U*	0.0041	*U*	0.04	*U*	0.004	*U*	0.004	*U*
Chlordane, total	0.05	0.0421	*U*	0.041	*U*	0.004	*U*	0.04	*U*	0.04	*U*
delta-BHC	0.04	0.00421	*U*	0.0041	*U*	0.002	*U*	0.004	*U*	0.004	*U*
Dieldrin	0.004	0.00211	*U*	0.00205	*U*	0.004	*U*	0.002	*U*	0.002	*U*
Endosulfan I	NA	0.00421	*U*	0.0041	*U*	0.004	*U*	0.004	*U*	0.004	*U*
Endosulfan II	NA	0.00421	*U*	0.0041	*U*	0.004	*U*	0.004	*U*	0.004	*U*
Endosulfan sulfate	NA	0.00421	*U*	0.0041	*U*	0.004	*U*	0.004	*U*	0.004	*U*
Endrin	NA	0.00421	*U*	0.0041	*U*	0.01	*U*	0.004	*U*	0.004	*U*
Endrin aldehyde	5	0.0105	*U*	0.0103	*U*	0.01	*U*	0.01	*U*	0.01	*U*
Endrin ketone	5	0.0105	*U*	0.0103	*U*	0.004	*U*	0.01	*U*	0.01	*U*
gamma-BHC (Lindane)	0.05	0.00421	*U*	0.0041	*U*	0.004	*U*	0.004	*U*	0.004	*U*
gamma-Chlordane	0.05	0.0105	*U*	0.0103	*U*	0.004	*U*	0.01	*U*	0.01	*U*
Heptachlor	0.04	0.00421	*U*	0.0041	*U*	0.004	*U*	0.004	*U*	0.004	*U*
Heptachlor Epoxide	0.03	0.00421	*U*	0.0041	*U*	0.1	*U*	0.004	*U*	0.004	*U*
Methoxychlor	35	0.00421	*U*	0.0041	*U*	0.004	*U*	0.004	*U*	0.004	*U*
Toxaphene	0.06	0.105	*U*	0.103	*U*	0.004	*U*	0.1	*U*	0.1	*U*

	Sample ID	**W-1**		**W-2**		**MW-5**		**2MW-01**		**2MW-02**	
	Sample Date	3/2/2015		3/2/2015		3/25/2015		8/12/15		8/12/15	
	Dilution Factor	1		1		1		1		1	
PCBs, 8082	**AWQS**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aroclor 1016	0.09	0.0526	*U*	0.0513	*U*	0.05	*U*	0.05	*U*	0.05	*U*
Aroclor 1221	0.09	0.0526	*U*	0.0513	*U*	0.05	*U*	0.05	*U*	0.05	*U*
Aroclor 1232	0.09	0.0526	*U*	0.0513	*U*	0.05	*U*	0.05	*U*	0.05	*U*
Aroclor 1242	0.09	0.0526	*U*	0.0513	*U*	0.05	*U*	0.05	*U*	0.05	*U*
Aroclor 1248	0.09	0.0526	*U*	0.0513	*U*	0.05	*U*	0.05	*U*	0.05	*U*
Aroclor 1254	0.09	0.0526	*U*	0.0513	*U*	0.05	*U*	0.05	*U*	0.05	*U*
Aroclor 1260	0.09	0.0526	*U*	0.0513	*U*	0.05	*U*	0.05	*U*	0.05	*U*
Aroclor, Total	0.09	0.0526	*U*	0.0513	*U*	0.05	*U*	0.05	*U*	0.05	*U*

Detected concentrations

Concentrations above AWQS

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 12: TAL Metals (Total) in Groundwater

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in µg/L (parts per billion, ppb)	**Sample ID**	**W-1** [URS TP-7]		**W-2** [URS TP-3]		**B-5/MW-5** [URS TP-6]		**2MW-01**	
U= Not Detected at or above indicated value	Sample Date	3/2/2015		3/2/2015		3/25/2015		8/12/2015	
Data above AWQS shown in **Bold**	Dilution Factor	1		1		1		1	
Metals, 6010 and 7473	**AWQS**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aluminum	NA	37		78		10	*U*	67	
Antimony	3	5	*U*	5	*U*	5	*U*	**7**	
Arsenic	25	4	*U*	4	*U*	4	*U*	11	
Barium	1,000	68		534		46		55	
Beryllium	3	1	*U*	1	*U*	1	*U*	1	*U*
Cadmium	5	3	*U*	3	*U*	3	*U*	3	*U*
Calcium	NA	207,000		285,000		207,000		113,000	
Chromium	50	5	*U*	5	*U*	5	*U*	6	*U*
Cobalt	5	5	*U*	5	*U*	5	*U*	6	*U*
Copper	200	6		16		4		4	
Iron**	300	20	*U*	23		**1,120**		**1,150**	
Lead	25	3	*U*	3	*U*	3	*U*	3	*U*
Magnesium	35,000	27,600		**55,600**		**59,800**		16,400	
Manganese**	300	63		133		194		**1,860**	
Mercury	0.7	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Nickel	100	5	*U*	8		5	*U*	6	*U*
Potassium	NA	4,110		11,700		7,980		3,950	
Selenium	10	10	*U*	10	*U*	10	*U*	11	*U*
Silver	50	5	*U*	5	*U*	5	*U*	6	*U*
Sodium	20,000	**120,000**		**702,000**	*D*	**66,400**		**222,000**	
Thallium	0.5	5	*U*	5	*U*	5	*U*	6	*U*
Vanadium	14	10	*U*	10	*U*	10	*U*	11	*U*
Zinc	2,000	95		22		12		11	*U*

** combined iron and manganese = 500

Detected concentrations
Concentrations above AWQS

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 12: TAL Metals (Total) in Groundwater

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in µg/L (parts per billion, ppb)	**Sample ID**	**2MW-02**	
U= Not Detected at or above indicated value	Sample Date	8/12/2015	
Data above AWQS shown in **Bold**	Dilution Factor	1	
Metals, 6010 and 7473	**AWQS**	*Result*	*Qualifier*
Aluminum	NA	109	
Antimony	3	6	*U*
Arsenic	25	8	
Barium	1,000	138	
Beryllium	3	1	*U*
Cadmium	5	3	*U*
Calcium	NA	328,000	
Chromium	50	6	*U*
Cobalt	5	6	*U*
Copper	200	7	
Iron**	300	**2,530**	
Lead	25	3	*U*
Magnesium	35,000	**47,700**	
Manganese**	300	**2,270**	
Mercury	0.7	0.2	*U*
Nickel	100	6	*U*
Potassium	NA	13,300	
Selenium	10	**13**	
Silver	50	6	*U*
Sodium	20,000	**494,000**	
Thallium	0.5	6	*U*
Vanadium	14	11	*U*
Zinc	2,000	11	*U*

** combined iron and manganese = 500

Detected concentrations

Concentrations above AWQS

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 13: TAL Metals (Dissolved) in Groundwater

Ecosystems Strategies, Inc.

ESI File:KB15012

All data in µg/L (parts per billion, ppb)	**Sample ID**	**W-1** [URS TP-7]		**W-2** [URS TP-3]		**B-5/MW-5** [URS TP-6]		**2MW-01**	
U= Not Detected at or above indicated value	Sample Date	3/2/2015		3/2/2015		3/25/2015		8/12/2015	
Data above AWQS shown in **Bold**	Dilution Factor	1		1		1		1	
Metals, 6010 and 7473	**AWQS**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Aluminum	NA	11		42		10	*U*	50	*U*
Antimony	3	5	*U*	5	*U*	5	*U*	5	*U*
Arsenic	25	4	*U*	4	*U*	4	*U*	4	*U*
Barium	1,000	68		548		46		30	
Beryllium	3	1	*U*	1	*U*	1	*U*	1	*U*
Cadmium	5	3	*U*	3	*U*	3	*U*	3	*U*
Calcium	NA	211,000		288,000		201,000		63,200	
Chromium	50	5	*U*	5	*U*	5	*U*	5	*U*
Cobalt	5	5	*U*	5	*U*	5	*U*	5	*U*
Copper	200	5		15		3		4	
Iron**	300	20	*U*	20	*U*	**394**		48	
Lead	25	3	*U*	3	*U*	3	*U*	3	*U*
Magnesium	35,000	28,000		**56,000**		**59,000**		9,360	
Manganese**	300	62		137		195		**1,060**	
Mercury	0.7	0.2	*U*	0.2	*U*	0.2	*U*	0.2	*U*
Nickel	100	5	*U*	8		5	*U*	5	*U*
Potassium	NA	4,060		11,400		7,380		2,090	
Selenium	10	10	*U*	10	*U*	10	*U*	10	*U*
Silver	50	5	*U*	5	*U*	5	*U*	5	*U*
Sodium	20,000	**120,000**		**695,000**	*D*	**64,200**		**130,000**	
Thallium	0.5	5	*U*	5	*U*	5	*U*	5	*U*
Vanadium	14	10	*U*	10	*U*	10	*U*	10	*U*
Zinc	2,000	95		20		10	*U*	14	

** combined iron and manganese = 500

Detected concentrations

Concentrations above AWQS

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 13: TAL Metals (Dissolved) in Groundwater

Ecosystems Strategies, Inc.

ESI File:KB15012

All data in µg/L (parts per billion, ppb)	**Sample ID**	**2MW-02**	
U= Not Detected at or above indicated value	Sample Date	8/12/2015	
Data above AWQS shown in **Bold**	Dilution Factor	1	
Metals, 6010 and 7473	**AWQS**	*Result*	*Qualifier*
Aluminum	NA	50	*U*
Antimony	3	5	*U*
Arsenic	25	19	
Barium	1,000	132	
Beryllium	3	1	*U*
Cadmium	5	3	*U*
Calcium	NA	338,000	
Chromium	50	5	*U*
Cobalt	5	5	*U*
Copper	200	8	
Iron**	300	85	
Lead	25	3	*U*
Magnesium	35,000	**48,700**	
Manganese**	300	**2,150**	
Mercury	0.7	0.2	*U*
Nickel	100	5	*U*
Potassium	NA	14,100	
Selenium	10	**11**	
Silver	50	5	*U*
Sodium	20,000	**519,000**	*E*
Thallium	0.5	5	*U*
Vanadium	14	10	*U*
Zinc	2,000	23	

** combined iron and manganese = 500

Detected concentrations

Concentrations above AWQS

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

Table 14: VOCs in Soil Vapor

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in µg/m³	**Sample ID**	**SV-01**		**SV-02**		**SV-03**		**SV-04**	
U= Not Detected at or above indicated value	Sample Date	3/2/2015		03/02/15		03/02/15		03/02/15	
Data above AGVs shown in **Bold**	Dilution Factor	1		1		1		1	
VOCs, 8260	**NYSDOH Matrix Value**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,1,1-Trichloroethane	NA	1.09	*U*	1.09	*U*	61.7		87.3	
1,1,2,2-Tetrachloroethane	NA	1.37	*U*	1.37	*U*	1.37	*U*	1.37	*U*
1,1,2-Trichloroethane	NA	1.09	*U*	1.09	*U*	1.09	*U*	1.09	*U*
1,1-Dichloroethane	NA	0.809	*U*	0.809	*U*	155		25.2	
1,1-Dichloroethene	NA	0.793	*U*	0.793	*U*	1.86		0.852	
1,2,4-Trichlorobenzene	NA	1.48	*U*	1.48	*U*	1.48	*U*	1.48	*U*
1,2,4-Trimethylbenzene	NA	0.983	*U*	7.57		0.983	*U*	0.983	*U*
1,2-Dibromoethane	NA	1.54	*U*	1.54	*U*	1.54	*U*	1.54	*U*
1,2-Dichlorobenzene	NA	1.2	*U*	1.2	*U*	1.2	*U*	1.2	*U*
1,2-Dichloroethane	NA	0.809	*U*	0.809	*U*	0.809	*U*	0.809	*U*
1,2-Dichloropropane	NA	0.924	*U*	0.924	*U*	0.924	*U*	0.924	*U*
1,3,5-Trimethylbenzene	NA	0.983	*U*	2.19		0.983	*U*	0.983	*U*
1,3-Butadiene	NA	25.9		6.97		3.38		2.48	
1,3-Dichlorobenzene	NA	1.2	*U*	1.2	*U*	1.2	*U*	1.2	*U*
1,4-Dichlorobenzene	NA	1.2	*U*	1.2	*U*	1.2	*U*	1.2	*U*
1,4-Dioxane	NA	0.721	*U*	1.63		2.01		0.721	*U*
2,2,4-Trimethylpentane	NA	0.934	*U*	0.934	*U*	1.32		2.66	
2-Butanone	NA	3.04		17.9		6.81		2.41	
2-Hexanone	NA	0.82	*U*	2.45		0.82	*U*	0.82	*U*
3-Chloropropene	NA	0.626	*U*	0.626	*U*	0.626	*U*	0.626	*U*
4-Ethyltoluene	NA	0.983	*U*	1.67		0.983	*U*	0.983	*U*
4-Methyl-2-pentanone	NA	2.05	*U*	7.25		2.05	*U*	2.05	*U*
Acetone	NA	54.4		113		54.6		19.9	
Benzene	NA	5.37		6.71		6.77		8.53	
Benzyl chloride	NA	1.04	*U*	1.04	*U*	1.04	*U*	1.04	*U*
Bromodichloromethane	NA	1.34	*U*	1.34	*U*	1.34	*U*	1.34	*U*
Bromoform	NA	2.07	*U*	2.07	*U*	2.07	*U*	2.07	*U*
Bromomethane	NA	0.777	*U*	0.777	*U*	0.777	*U*	0.777	*U*
Carbon disulfide	NA	6.1		2.14		34.9		14.8	
Carbon tetrachloride	NA	3.38		6.35		53.2		11.6	
Chlorobenzene	NA	0.921	*U*	0.921	*U*	0.921	*U*	0.921	*U*
Chloroethane	NA	0.528	*U*	0.528	*U*	3.19		0.528	*U*
Chloroform	NA	3.96		3.03		35.9		11.4	
Chloromethane	NA	0.96		0.413	*U*	0.69		0.622	
cis-1,2-Dichloroethene	NA	0.793	*U*	0.793	*U*	4.76		2.53	
cis-1,3-Dichloropropene	NA	0.908	*U*	0.908	*U*	0.908	*U*	0.908	*U*
Cyclohexane	NA	4.68		3.65		3.07		5.34	
Dibromochloromethane	NA	1.7	*U*	1.7	*U*	1.7	*U*	1.7	*U*
Dichlorodifluoromethane	NA	3.13		1.94		2.82		2.84	
Ethanol	NA	36.9		465		151		15	
Ethyl Acetate	NA	1.8	*U*	1.8	*U*	1.8	*U*	1.8	*U*
Ethylbenzene	NA	1.89		11.6		2.35		1.95	
Freon-113	NA	1.53	*U*	1.53	*U*	1.53	*U*	1.53	*U*
Freon-114	NA	1.4	*U*	1.4	*U*	1.4	*U*	1.4	*U*
Heptane	NA	5.7		7.87		2.27		3.53	
Hexachlorobutadiene	NA	2.13	*U*	2.13	*U*	2.13	*U*	2.13	*U*
Isopropanol	NA	2.56		5.97		26.8		1.23	*U*
Methyl tert butyl ether	NA	0.721	*U*	1.42		0.721	*U*	3.68	
Methylene chloride	60	1.74	*U*	1.74	*U*	**74**		5.18	
n-Hexane	NA	7.58		8.71		4.83		6.52	
o-Xylene	NA	2.82		11.1		3.04		3.21	
p/m-Xylene	NA	5.21		21.4		6.17		5.91	
Styrene	NA	0.852	*U*	0.852	*U*	0.852	*U*	0.852	*U*
Tertiary butyl Alcohol	NA	1.57		13.6		1.52	*U*	1.73	
Tetrachloroethene	100	2.62		10.4		40.3		43.2	
Tetrahydrofuran	NA	1.47	*U*	1.47	*U*	1.47	*U*	1.47	*U*
Toluene	NA	5.65		43.7		8.14		10.8	
trans-1,2-Dichloroethene	NA	0.793	*U*	0.793	*U*	0.793	*U*	0.793	*U*
trans-1,3-Dichloropropene	NA	0.908	*U*	0.908	*U*	0.908	*U*	0.908	*U*
Trichloroethene	5	1.07	*U*	1.07	*U*	**10**		2.38	
Trichlorofluoromethane	NA	1.76		1.43		1.96		1.3	
Vinyl bromide	NA	0.874	*U*	0.874	*U*	0.874	*U*	0.874	*U*
Vinyl chloride	NA	0.511	*U*	0.511	*U*	1.43		12.7	

Detected concentrations
Elevated concentrations
Concentrations above AGVs

Notes: Decision matrix values based on NYSDOH soil vapor guidance NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank

Table 14: VOCs in Soil Vapor

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in µg/m³	**Sample ID**	**SV-05**		**SV-06**		**SV-07**		**SV-08**	
U= Not Detected at or above indicated value	Sample Date	03/02/15		03/02/15		03/02/15		04/15/15	
Data above AGVs shown in **Bold**	Dilution Factor	1		1		1		1	
VOCs, 8260	**NYSDOH Matrix Value**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,1,1-Trichloroethane	NA	1.44		1.09	*U*	1.09	*U*	35.6	
1,1,2,2-Tetrachloroethane	NA	1.37	*U*	1.37	*U*	1.37	*U*	ND	*U*
1,1,2-Trichloroethane	NA	1.09	*U*	1.09	*U*	1.09	*U*	ND	*U*
1,1-Dichloroethane	NA	0.809	*U*	0.809	*U*	0.809	*U*	64.8	
1,1-Dichloroethene	NA	0.793	*U*	0.793	*U*	0.793	*U*	ND	*U*
1,2,4-Trichlorobenzene	NA	1.48	*U*	1.48	*U*	1.48	*U*	ND	*U*
1,2,4-Trimethylbenzene	NA	1.51		1.22		1.16		8.8	
1,2-Dibromoethane	NA	1.54	*U*	1.54	*U*	1.54	*U*	ND	*U*
1,2-Dichlorobenzene	NA	1.2	*U*	1.2	*U*	1.2	*U*	ND	*U*
1,2-Dichloroethane	NA	0.809	*U*	0.809	*U*	0.809	*U*	ND	*U*
1,2-Dichloropropane	NA	0.924	*U*	0.924	*U*	0.924	*U*	ND	*U*
1,3,5-Trimethylbenzene	NA	0.983	*U*	0.983	*U*	0.983	*U*	2.06	
1,3-Butadiene	NA	1.84		12.7		1.45		1.08	
1,3-Dichlorobenzene	NA	1.2	*U*	1.2	*U*	1.2	*U*	ND	*U*
1,4-Dichlorobenzene	NA	1.2	*U*	1.2	*U*	1.2	*U*	ND	*U*
1,4-Dioxane	NA	0.721	*U*	0.721	*U*	0.721	*U*	1.57	
2,2,4-Trimethylpentane	NA	1.33		1.24		0.934	*U*	1.93	
2-Butanone	NA	1.47	*U*	7.08		1.47	*U*	13.1	
2-Hexanone	NA	0.82	*U*	1.13		0.82	*U*	1.11	
3-Chloropropene	NA	0.626	*U*	0.626	*U*	0.626	*U*	ND	*U*
4-Ethyltoluene	NA	0.983	*U*	0.983	*U*	0.983	*U*	1.91	
4-Methyl-2-pentanone	NA	2.05	*U*	4.07		2.05	*U*	ND	*U*
Acetone	NA	8.22		31.8		2.38	*U*	259	
Benzene	NA	3.08		8.43		1.17		5.21	
Benzyl chloride	NA	1.04	*U*	1.04	*U*	1.04	*U*	1.04	
Bromodichloromethane	NA	1.34	*U*	1.34	*U*	1.34	*U*	ND	*U*
Bromoform	NA	2.07	*U*	2.07	*U*	2.07	*U*	ND	*U*
Bromomethane	NA	0.777	*U*	0.777	*U*	0.777	*U*	ND	*U*
Carbon disulfide	NA	2.83		9.78		0.623	*U*	34.9	
Carbon tetrachloride	NA	1.26	*U*	1.26	*U*	1.26	*U*	29.6	
Chlorobenzene	NA	0.921	*U*	0.921	*U*	0.921	*U*	ND	*U*
Chloroethane	NA	0.528	*U*	0.528	*U*	0.528	*U*	ND	*U*
Chloroform	NA	1.89		8.5		6.84		28.4	
Chloromethane	NA	0.413	*U*	0.516		0.413	*U*	0.785	
cis-1,2-Dichloroethene	NA	0.793	*U*	0.793	*U*	0.793	*U*	12.8	
cis-1,3-Dichloropropene	NA	0.908	*U*	0.908	*U*	0.908	*U*	ND	*U*
Cyclohexane	NA	5.13		3.27		1.16		3.03	
Dibromochloromethane	NA	1.7	*U*	1.7	*U*	1.7	*U*	ND	*U*
Dichlorodifluoromethane	NA	2.8		2.5		2.1		1.59	
Ethanol	NA	4.71	*U*	23.4		4.71	*U*	88.6	
Ethyl Acetate	NA	1.8	*U*	1.8	*U*	1.8	*U*	ND	*U*
Ethylbenzene	NA	3.91		9.95		1.82		162	
Freon-113	NA	1.53	*U*	1.53	*U*	1.53	*U*	ND	*U*
Freon-114	NA	1.4	*U*	1.4	*U*	1.4	*U*	ND	*U*
Heptane	NA	1.93		2.91		0.82	*U*	1.78	
Hexachlorobutadiene	NA	2.13	*U*	2.13	*U*	2.13	*U*	2.13	
Isopropanol	NA	1.23	*U*	1.26		1.23	*U*	5.19	
Methyl tert butyl ether	NA	2.28		1.59		0.721	*U*	ND	*U*
Methylene chloride	60	2.46		1.74	*U*	1.74	*U*	30.8	
n-Hexane	NA	1.8		3.88		0.705	*U*	5.71	
o-Xylene	NA	4.05		6.78		3.1		3.01	
p/m-Xylene	NA	8.21		16.6		5.86		5.78	
Styrene	NA	0.852	*U*	0.852	*U*	0.852	*U*	ND	*U*
Tertiary butyl Alcohol	NA	1.52	*U*	1.52	*U*	1.52	*U*	2.72	
Tetrachloroethene	100	26		12.7		4.14		37	
Tetrahydrofuran	NA	1.47	*U*	1.47	*U*	1.47	*U*	ND	*U*
Toluene	NA	14.1		39.6		4.79		9.38	
trans-1,2-Dichloroethene	NA	0.793	*U*	0.793	*U*	0.793	*U*	0.88	
trans-1,3-Dichloropropene	NA	0.908	*U*	0.908	*U*	0.908	*U*	ND	*U*
Trichloroethene	5	1.07	*U*	1.07	*U*	1.07	*U*	**20.4**	
Trichlorofluoromethane	NA	1.41		1.51		1.56		1.48	
Vinyl bromide	NA	0.874	*U*	0.874	*U*	0.874	*U*	ND	*U*
Vinyl chloride	NA	0.511	*U*	0.511	*U*	0.511	*U*	1.68	

Detected concentrations
Elevated concentrations
Concentrations above AGVs

Notes: Decision matrix values based on NYSDOH soil vapor guidance NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank

Table 15: Petroleum Compounds in Soils at Vaulted PBS Tanks

Ecosystems Strategies, Inc.

ESI File: KB15012

All data in mg/Kg (parts per million, ppm)	**Sample ID**	**S-AST-E 0-4**		**S-AST-W 0-4**		**S-AST-S 0-4**		**N-AST-W 0-4**	
U= Not Detected at or above indicated value	Sample Date	3/11/2015		3/11/2015		3/11/2015		3/11/2015	
Data above soil cleanup levels shown in **Bold**	Dilution Factor	1		1		1		1	
VOCs , 8260	**CP-51 Soil Cleanup Level**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
1,2,4-Trimethylbenzene	3.6	0.0056	*U*	0.0076	*U*	0.0063	*J*	0.005	*U*
1,3,5-Trimethylbenzene	8.4	0.0056	*U*	0.0076	*U*	0.011		0.005	*U*
Benzene	0.06	0.0056	*U*	0.0076	*U*	0.005	*U*	0.005	*U*
Ethyl Benzene	1	0.0056	*U*	0.0076	*U*	0.005	*U*	0.005	*U*
Isopropylbenzene	2.3	0.0056	*U*	0.0076	*U*	0.005	*U*	0.005	*U*
Methyl tert-butyl ether (MTBE)	0.93	0.0056	*U*	0.0076	*U*	0.005	*U*	0.005	*U*
n-Butylbenzene	12	0.0056	*U*	0.0076	*U*	0.0057	*JB*	0.005	*U*
n-Propylbenzene	3.9	0.0056	*U*	0.0076	*U*	0.005	*U*	0.005	*U*
o-Xylene	0.26	0.0056	*U*	0.0076	*U*	0.005	*U*	0.005	*U*
p- & m- Xylenes	0.26	0.0056	*U*	0.0076	*U*	0.005	*U*	0.005	*U*
p-Isopropyltoluene	10	0.011	*U*	0.015	*U*	0.01	*U*	0.01	*U*
sec-Butylbenzene	11	0.0056	*U*	0.0076	*U*	0.005	*U*	0.005	*U*
tert-Butylbenzene	5.9	0.0056	*U*	0.0076	*U*	0.0052	*J*	0.005	*U*
Toluene	0.7	0.0056	*U*	0.0076	*U*	0.005	*U*	0.005	*U*
Xylenes, Total	0.26	0.0056	*U*	0.0076	*U*	0.005	*U*	0.005	*U*

	Sample ID	**S-AST-E 0-4**		**S-AST-W 0-4**		**S-AST-S 0-4**		**N-AST-W 0-4**	
	Sample Date	3/11/2015		3/11/2015		3/11/2015		3/11/2015	
	Dilution Factor	1		1		1		1	
SVOCs, 8260	**CP-51 Soil Cleanup Level**	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*	*Result*	*Qualifier*
Acenaphthene	20	0.036	*U*	0.038	*U*	0.071	*U*	0.032	*U*
Acenaphthylene	100	0.036	*U*	0.038	*U*	0.071	*U*	0.032	*U*
Anthracene	100	0.036	*U*	0.038	*U*	0.071	*U*	0.032	*U*
Benzo(a)anthracene	1	0.036	*U*	0.038	*U*	0.071	*U*	0.032	*U*
Benzo(a)pyrene	1	0.036	*U*	0.038	*U*	0.071	*U*	0.032	*U*
Benzo(b)fluoranthene	1	0.036	*U*	0.038	*U*	0.071	*U*	0.032	*U*
Benzo(g,h,i)perylene	100	0.036	*U*	0.038	*U*	0.071	*U*	0.032	*U*
Benzo(k)fluoranthene	0.8	0.036	*U*	0.038	*U*	0.071	*U*	0.032	*U*
Chrysene	1	0.036	*U*	0.038	*U*	0.1	*JD*	0.032	*U*
Dibenzo(a,h)anthracene	0.33	0.036	*U*	0.038	*U*	0.071	*U*	0.032	*U*
Fluoranthene	100	0.036	*U*	0.038	*U*	0.13	*JD*	0.032	*U*
Fluorene	30	0.036	*U*	0.038	*U*	0.071	*U*	0.032	*U*
Indeno(1,2,3-cd)pyrene	0.5	0.036	*U*	0.038	*U*	0.071	*U*	0.032	*U*
Naphthalene	12	0.036	*U*	0.27		0.27	*D*	0.032	*U*
Phenanthrene	100	0.036	*U*	0.093		0.2	*D*	0.032	*U*
Pyrene	100	0.036	*U*	0.038	*U*	0.21	*D*	0.032	*U*

Detected Concentrations

Concentrations above soil cleanup levels

Notes: Soil Cleanup Levels based on NYSDEC CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

APPENDIX C

Construction Health and Safety Plan

CONSTRUCTION HEALTH AND SAFETY PLAN

FOR

SITE REMEDIATION ACTIVITIES

3475 Third Avenue
Borough of Bronx
New York City, New York

October 2015

ESI File: KB15012.40

Prepared By

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1.0 INTRODUCTION

1.1 Purpose

This Construction Health and Safety Plan (CHASP) has been developed to provide the requirements and general procedures to be followed by Ecosystems Strategies, Inc. (ESI) and designated subcontractors while performing remedial construction activities (e.g. excavation of urban fill soils) at the site located at 3475 Third Avenue in the Morrisania section of Bronx, New York. A Site Location Map and a Site Excavation Map are attached to this CHASP.

This CHASP describes the responsibilities, training requirements, protective equipment, and standard operating procedures to be utilized by all personnel involved in Site remediation activities. This document is designed to supplement the General Contractor's overall Health and Safety Plan for construction activities and is specifically prepared to address potential impacts associated with known on-site environmental contamination. This CHASP incorporates by reference the applicable Occupational Safety and Health Administration (OSHA) requirements in 29 CFR 1910 and 29 CFR 1926. This CHASP incorporates policies, guidelines, and procedures that have the objective of protecting the health of on-site workers and the surrounding area community during the performance of fieldwork activities by establishing guidelines to minimize exposure to hazards during fieldwork, and by planning for and responding to emergencies.

The requirements and guidelines in this CHASP are based on a review of available information and evaluation of potential on-site hazards. This CHASP will be discussed with Site personnel and will be available on-site for review while work is underway. On-site personnel will report to the Site Safety and Health Officer (SSHO) in matters of health and safety. The on-site project supervisor(s) are responsible for enforcement and implementation of this CHASP.

This CHASP is specifically intended for the conduct of activities within the defined scope of work in specified areas of the Site. Changes in site conditions and future actions that may be conducted at this site may necessitate the modification of the requirements of the CHASP. Although this CHASP can be made available to interested persons for informational purposes, ESI has no responsibility over the interpretations or activities of any other persons or entities other than employees of ESI and designated subcontractors to ESI.

1.2 Site Location and Description

The Site consists of one lot in the Morrisania section of Bronx, New York and is identified as Block 2372 and Lot 37 on the New York City Tax Map. The Site is approximately 17,600-square feet and is bounded by Lots 11 (multi-family residential), 13 (vacant land), 15 (vacant land/parking) and 18 (automotive repair) to the west, to the north are two, five story commercial structures (Lot 32); Lot 41 to the south contains a multi-family residential building, and Third Avenue is located to the east. The project site is currently occupied by two structures. A two story building comprised of community space on the ground floor and offices on the second floor is located at the southern portion of the Site. To the north, and occupying the remainder of the Site, is a three story building with retail and self-storage on the ground floor and self-storage on the second and third floor. Historical operations at the southern on-site structure have included a chemical company, automotive repair, manufacture of textiles and dyeing and finishing.

Historical activities at the northern on-site structure have included a chemical company, manufacture of textiles, manufacture of bed springs, and dyeing and finishing.
A Site Location Map is provided as an Attachment.

1.3 Work Activities

Environmental investigation activities are detailed in the Remedial Action Plan (RAP) dated April 2015. The specific tasks detailed in the RAP are wholly incorporated by reference into this CHASP. The tasks described in the RAP are proposed to address known and possible environmental conditions at the Site (presence of metals contamination associated with on-site fill materials and two vaulted petroleum bulk storage (PBS) tanks).

The following field tasks will be performed:

- Excavation and removal of urban fill soils; and
- Excavation and removal of two vaulted PBS tanks

A Site Excavation Map is provided as an Attachment.

2.0 HEALTH AND SAFETY HAZARDS

2.1 Hazard Overview for On-site Personnel

Elevated levels of metals likely to be associated with on-site urban fill are present in on-site soils. The documented metal concentrations are typically encountered in urban settings. These substances are present at levels that may present a health risk during soil disturbance and air-quality sampling activities. General precautions, such as air monitoring for dust and the use of gloves during sampling collection, will be sufficient protective actions.

During construction excavations the possibility exists for on-site personnel to contact contaminated soils, dust, and vapor. Contact with contaminated substances may present a skin contact, inhalation, and/or ingestion hazard. Additional potential hazards are addressed in Sections 3.0 through 11.0, and below.

PAHs are likely to be associated with the PBS tanks during their removal, although data from soils in the vicinities support the conclusion that a release from the tanks is unlikely. PAHs are compounds that generally occur as complex mixtures and are derived from both natural and non-natural sources, including forest fires, vehicle exhaust, plastics, and building products such as roofing tar and asphalt. They are found throughout the environment in the air, water, and soil. They can occur in the air as vapors or attached to dust particles, in water in a dissolved state or attached to solid particles, or as solids in soil or sediment. The short-term health effects of exposure to PAHs are not well defined. Long-term exposure may lead to the development of cancer. PAHs in Site soils are at levels typically encountered in urban settings but occur at concentrations somewhat above applicable NYSDEC guidance levels.

Elevated levels of metals are known to be present in surface and near surface soils. Metals occur naturally in soils and are widespread throughout the man-made environment. Most metals are present in

quantities and forms that present minimal health risks. Typical materials that present significant potential risks are chips of lead-based paint, lead dust from deteriorated paint and automobile exhaust, and soil impacted by industrial discharges (e.g., sediment in floor drains). They can occur in the air attached to dust particles (or as vapors in specific circumstances), in water in a dissolved state or attached to solid particles, or as solids in soil or sediment. Health effects are variable, are generally dose dependent, and occur over both the short term and the long term. Several metals, however, occur at concentrations somewhat above applicable NYSDEC guidance levels.

Routes of exposure for PAHs, and metals are potentially through inhalation and ingestion during soil disturbance activities. Proper protective actions include:

- Air monitoring for dust and vapors, where appropriate;
- Use of particulate masks and/or air-purifying respirators (if warranted); and,
- Use of gloves for field technicians handling soil.

2.2 Potential Hazards to the Public from Fieldwork Activities

The potential exists for the public to be exposed to contaminated soils, dust, and vapor, which may present a skin contact, inhalation, and/or ingestion hazard. Additional potential hazards to the public that are associated with fieldwork activities include mechanical/physical hazards, traffic hazards from fieldwork vehicles, and noise impacts associated with operation of mechanical equipment.

Impacts to public health and safety are expected to be limited to hazards that could directly affect on-site visitors and/or trespassers. These effects will be mitigated through site access and control measures (see Section 6.0, below). Specific actions will be taken to protect the public health (presented in Sections 3.0 through 11, below) to minimize any potential off-site impacts from contaminant migration, noise, and traffic hazards.

3.0 PERSONAL PROTECTIVE EQUIPMENT

The levels of protection identified for the services specified in the CHASP represent a best estimate of exposure potential and protective equipment needed for that exposure. Determination of levels was based on data provided by previous studies of the Site and current and past Site usage. The SSHO may recommend revisions to these levels based on an assessment of actual exposures.

The level of protective clothing and equipment selected for this project is Level D. Workers will wear Level D protective clothing including, but not limited to, a hard hat, steel-toed boots, latex gloves (when directly handling soils and/or sampling equipment), and safety goggles (when decontaminating equipment). Personal protective equipment (PPE) will be worn at all times, as designated by this CHASP. The requirement for the use of PPE by official on-site visitors shall be determined by the SSHO. All on-site visitors shall, at a minimum, be required to wear an approved hardhat and be provided with appropriate hearing protection as necessary.

The need for an upgrade in PPE will be determined based upon measurements taken in the breathing zone of the work area using a photo-ionization detector (PID) and a digital dust monitor. As outlined in Section 5.0, below, an upgrade to a higher level of protection will begin when PID readings and/or dust levels above specified limits are measured.

If any equipment fails and/or any employee experiences a failure or other alteration of their protective equipment that may affect its protective ability, that person will immediately leave the work area. The Project Manager and the SSHO will be notified and, after reviewing the situation, determine the effect of the failure on the continuation of on-going operations. If the failure affects the safety of personnel, the work site, or the surrounding environment, personnel will be evacuated until appropriate corrective actions have been taken.

4.0 CONTAMINANT CONTROL

Precautions will be taken during dry weather (e.g., wetting or covering exposed soils) to avoid generating and breathing dust from on-site soils. A PID and a digital dust monitor will be used to monitor potential contaminant levels. Response to the monitoring will be in accordance with the action levels provided in Section 5.0.

5.0 MONITORING AND ACTION LEVELS

Concentrations of hydrocarbons (VOCs/SVOCs) and heavy metals in the air are expected to be below the OSHA Permissible Exposure Limits (PELs). Air monitoring will be conducted for VOCs and dust. Monitoring will be conducted during all investigative and soil disturbance activities during testing and construction related work that are likely to generate emissions. PID readings in excess of 5 ppm, and dust levels in excess of 150 $\mu g/m^3$ will be used as an indication of the need to initiate personnel monitoring, increase worker protective measures, and/or modify or cease on-site operations in order to mitigate off-site community exposure.

6.0 SITE ACCESS AND CONTROL

Site control procedures will be established to reduce the possibility of worker/visitor contact with compounds present in the soil, to protect the public in the area surrounding the Site and to limit access to the Site to only those persons required to be in the work zone. Notices will be placed near the Site warning the public not to enter fieldwork areas and directing visitors to report to the Project Manager or SSHO. Measures will be taken to limit the entry of unauthorized personnel into the specific areas of field activity and to safely direct and control all vehicular traffic in and near the Site (e.g., placement of traffic cones and warning tape).

7.0 NOISE CONTROL

All fieldwork activities will be conducted in a manner designed to reduce unnecessary noise generation, and to minimize the potential for both on-site and off-site harmful noise levels. The Project Manager and SSHO will establish noise reduction procedures (as appropriate to the Site and the work) to meet these requirements.

8.0 PERSONNEL TRAINING

Work zones that will accomplish the general objectives stated above will be established by the Project Manager and the SSHO. Site access will be monitored by the SSHO, who will maintain a log-in sheet for personnel that will include, at a minimum, personnel on the Site, their arrival and departure times, and their destination on the Site. All workers will be properly trained in accordance with OSHA requirements (29 CFR 1910). Personnel exiting the work zone(s) will be decontaminated prior to exiting the Site.

Site-specific training will be provided to each employee. Personnel will be briefed by the SSHO as to the potential hazards to be encountered. Topics will include:

- Availability of this CHASP;
- General site hazards and specific hazards in the work areas, including those attributable to known or suspect on-site contaminants;
- Selection, use, testing, and care of the PPE being worn, with the limitations of each;
- Decontamination procedures for PPE, and other equipment used on the Site;
- Emergency response procedures and requirements;
- Emergency alarm systems and other forms of notification, and evacuation routes to be followed; and,
- Methods to obtain emergency assistance and medical attention.

9.0 DECONTAMINATION

The SSHO will establish site-appropriate decontamination system and procedures to prevent potentially hazardous materials from leaving the Site. Site vehicles will be brushed to remove materials adhering to their surfaces. Decontaminated or clean sampling equipment not in use will be covered with plastic and stored in a designated storage area in the work zone.

10.0 EMERGENCY RESPONSE

10.1 Notification of Site Emergencies

In the event of an emergency, the SSHO will be immediately notified of the nature and extent of the emergency (the names and contact information for key site safety and management personnel, as well as other site safety contact telephone numbers, shall be posted at the Site).

Table 1 in this CHASP contains Emergency Response Telephone Numbers, and immediately following is a map detailing the directions to the nearest hospital emergency room. This information will be maintained at the worksite by the SSHO. The location of the nearest telephone will be determined prior to the initiation of on-site activities. In addition to any permanent phone lines, a cellular phone will be available for use on-site.

10.2 Responsibilities

Prior to the initiation of on-site work activities, the SSHO will:

1. Notify individuals, authorities, and/or health care facilities as necessary of the potentially hazardous activities and potential wastes that may develop as a result of the investigation.
2. Confirm that first aid supplies and a fire extinguisher are available on-site.
3. Have a working knowledge of safety equipment available.
4. Confirm that a map detailing the most direct route to the hospital is prominently posted with the emergency telephone numbers.

The SSHO will be responsible for directing notification, response, and follow-up actions and for contacting outside response personnel (ambulance, fire department, or others). In the case of an evacuation, the SSHO will account for personnel. A log of individuals entering and leaving the Site will be kept so that everyone can be accounted for in an emergency.

Upon notification of an exposure incident, the SSHO will contact the appropriate emergency response personnel for recommended medical diagnosis and, if necessary, treatment. The SSHO will determine whether and at what levels exposure actually occurred, the cause of such exposure, and the means to prevent similar incidents from occurring again.

10.3 Accidents and Injuries

In the event of an accident or injury, measures will be taken to assist those who have been injured or exposed and to protect others from hazards. If an individual is transported to a hospital or doctor, a copy of the CHASP will accompany the individual.

The SSHO will be notified and will respond according to the severity of the incident. The SSHO will perform an investigation of the incident and prepare a signed and dated report documenting the investigation. An exposure-incident report will also be completed by the SSHO and the exposed individual. The form will be filed with the employee's medical and safety records to serve as documentation of the incident and the actions taken.

10.4 Communication

No special hand signals will be utilized within the work zone. Field personnel will utilize standard hand signals during the operation of any heavy equipment.

10.5 Safe Refuge

Vehicles will serve as the immediate place of refuge in the event of an emergency. If evacuation from the area is necessary, project vehicles will be used to transport on-site personnel to safety.

10.6 Site Security and Control

Site security and control during emergencies, accidents, and incidents will be monitored by the SSHO. The SSHO is responsible for limiting access to the Site to authorized personnel and for oversight of remediation activities.

10.7 Emergency Evacuation

In case of an emergency, personnel will evacuate to the safe refuge identified by the SSHO, both for their personal safety and to prevent the hampering of response/rescue efforts.

10.8 Resuming Work

A determination that it is safe to return to work will be made by the SSHO and/or any personnel assisting in the emergency, e.g., fire department, police department, utility company, etc. No personnel will be allowed to return to the work areas until a full determination has been made by the above-identified personnel that all field activities can continue unobstructed. Such a determination will depend upon the nature of the emergency (e.g., downed power lines -- removal of all lines from the property; fire -- extinguished fire; etc.). Before on-site work is resumed following an emergency, necessary emergency equipment and supplies will be recharged, refilled, or replaced. Government agencies will be notified as appropriate. An Incident Report Form will be filed.

10.9 Fire Fighting Procedures

A fire extinguisher will be available in the work zone during on-site activities. This extinguisher is intended for small fires. When a fire cannot be controlled with the extinguisher, the area will be evacuated immediately. The SSHO will be responsible for directing notification, response, and follow-up actions and for contacting ambulance and fire department personnel.

10.10 Emergency Decontamination Procedure

The extent of emergency decontamination depends on the severity of the injury or illness and the nature of the contamination. Whenever possible, minimum decontamination will consist of washing, rinsing, and/or removal of contaminated outer clothing and equipment. If time does not permit decontamination, the person will be given first aid treatment and then wrapped in plastic or a blanket prior to transport to medical care.

10.11 Emergency Equipment

The following on-site equipment for safety and emergency response will be maintained in the on-site vehicle of the SSHO: fire extinguisher; first-aid kit; and, extra copy of this CHASP.

11.0 SPECIAL PRECAUTIONS AND PROCEDURES

The activities associated with this investigation may involve potential risks of exposure to both chemical and physical hazards. The potential for chemical exposure to hazardous or regulated substances will be significantly reduced through the use of monitoring, personal protective clothing, engineering controls, and implementation of safe work practices.

11.1 Heavy Equipment

Working in the vicinity of heavy equipment is the primary safety hazard at the Site. Physical hazards in working near heavy construction equipment include the following: overhead hazards, slips/trip/falls, hand and foot injuries, moving part hazards, improper lifting/back injuries, and noise. All workers will be properly trained in accordance with OSHA requirements (29 CFR 1910).

11.2 Open Pits

The creation of open pits is not expected to occur during the remedial activities. In the event that Site conditions require soil excavation activities, no workers will be permitted within any excavated areas without proper personal protective equipment (PPE), including, as warranted, respirators, Tyvek suits and/or gloves. Air monitoring for VOCs will be conducted in accordance with the CHASP. During off-hours, temporary fencing will be erected to prevent unauthorized or accidental access to these areas.

11.3 Heat/Cold Stress

Training in prevention of heat/cold stress will be provided as part of the site-specific training. The timing of this project is such that heat/cold stress may pose a threat to the health and safety of personnel. Work/rest regimens will be employed, as necessary, so that personnel do not suffer adverse effects from heat/cold stress. Special clothing and appropriate diet and fluid intake regimens will be recommended to personnel to further reduce this temperature-related hazard. Rest periods will be recommended in the event of high/low temperatures and/or humidity to counter the negative effects of heat/cold stress.

11.4 Additional Safety Practices

The following are important safety precautions which will be enforced during this investigation:

- Medicine and alcohol can aggravate the effect of exposure to certain compounds. Controlled substances and alcoholic beverages will not be consumed during investigation activities. Consumption of prescribed drugs will only be at the discretion of a physician familiar with the person's work.
- Eating, drinking, chewing gum or tobacco, smoking, or other practices that increase the probability of hand-to-mouth transfer and ingestion of material is prohibited except in areas designated by the SSHO.
- Contact with potentially contaminated surfaces will be avoided whenever possible. Workers will not unnecessarily walk through puddles, mud, or other discolored surfaces; kneel on the ground; or lean, sit, or place equipment on drums, containers, vehicles, or the ground.
- Personnel and equipment in the work areas will be minimized, consistent with effective site operations.
- Unsafe equipment left unattended will be identified by a "DANGER, DO NOT OPERATE" tag.
- Work areas for various operational activities will be established.

11.5 Daily Log Contents

The SSHO will establish a system appropriate to the Site, the work, and the work zones that will record, at a minimum, the following information:

1. Personnel on the Site, their arrival and departure times, and their destination on the Site.
2. Incidents and unusual activities that occur on the Site such as, but not limited to, accidents, spills, breaches of security, injuries, equipment failures, and weather-related problems.
3. Changes to the CHASP.
4. Daily information generated such as: changes to work and health and safety plans; work accomplished and the current Site status; and monitoring results.

12.0 TABLE AND FIGURES

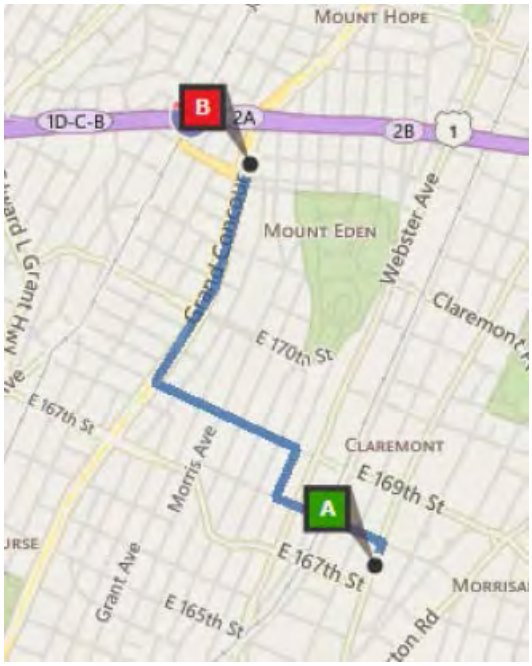
Table 1: Emergency Response Telephone Numbers

Emergency Agencies	Phone Numbers
EMERGENCY	**911**
Bronx Lebanon Hospital 1650 Grand Concourse, Bronx, NY 10457	**(718) 590-1800** or 911
New York Police Department	**(212) 678-2432 or 911**
New York City Fire Department	**(917) 597-7937 or 911** **(718) 999-2000 (General Number)**
New York Water & Sewer	**(212) 442-1904**
Qualified Environmental Professional Paul Ciminello, ESI	**(845) 452-1658**

Figure 1: Directions to Hospital

A	3475 3rd Ave, Bronx, NY 10456	A–B: 1.4 mi 6 min
	1. Depart 3rd Ave toward E 168th St	285 ft
	2. Turn left onto E 168th St	0.3 mi
	3. Turn right onto Clay Ave	0.1 mi
	4. Turn left onto E 169th St	0.4 mi
	5. Turn right onto Grand Concourse	240 ft
	6. Road name changes to Grand Concourse St	282 ft
	7. Keep left onto Grand Concourse	0.5 mi
B	8. Arrive at 1650 Grand Concourse, Bronx, NY 10457 *The last intersection is E Mt Eden Ave* *If you reach E 173rd St, you've gone too far*	

Figure 2: Map to Hospital (overview)



Ecosystems Strategies, Inc.

Site Location Map
3475 Third Avenue
Borough of Bronx
New York City, New York

N

ESI File: KB15012.40

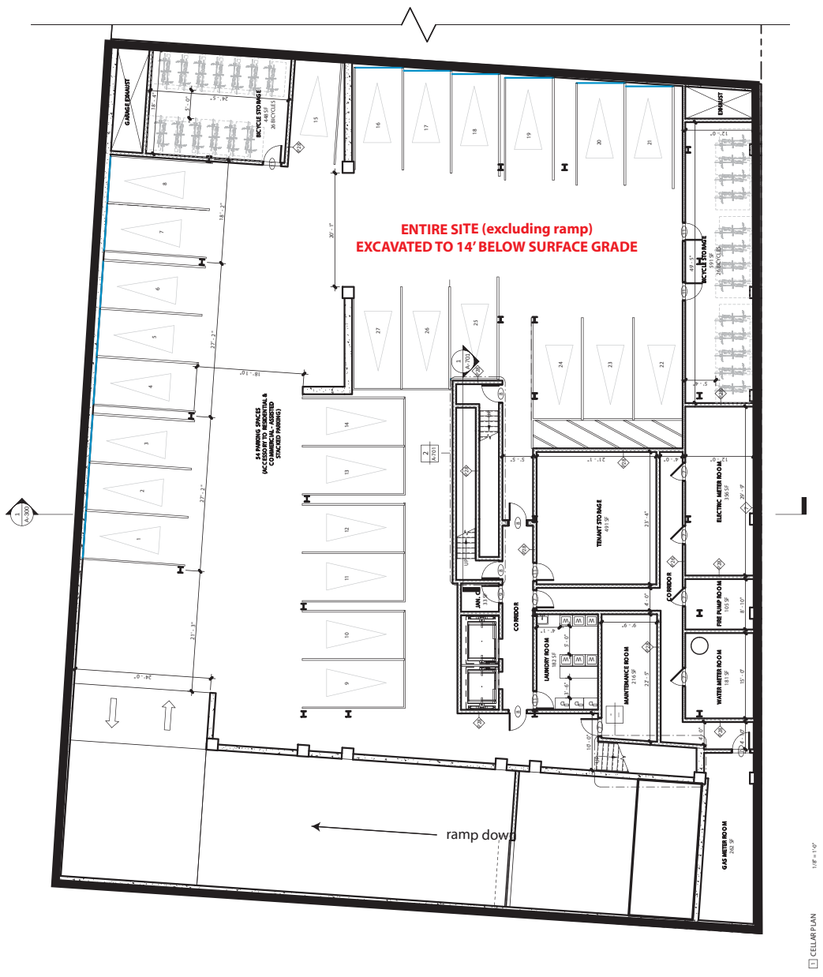
October 2015

Attachment

Ecosystems Strategies, Inc.

N

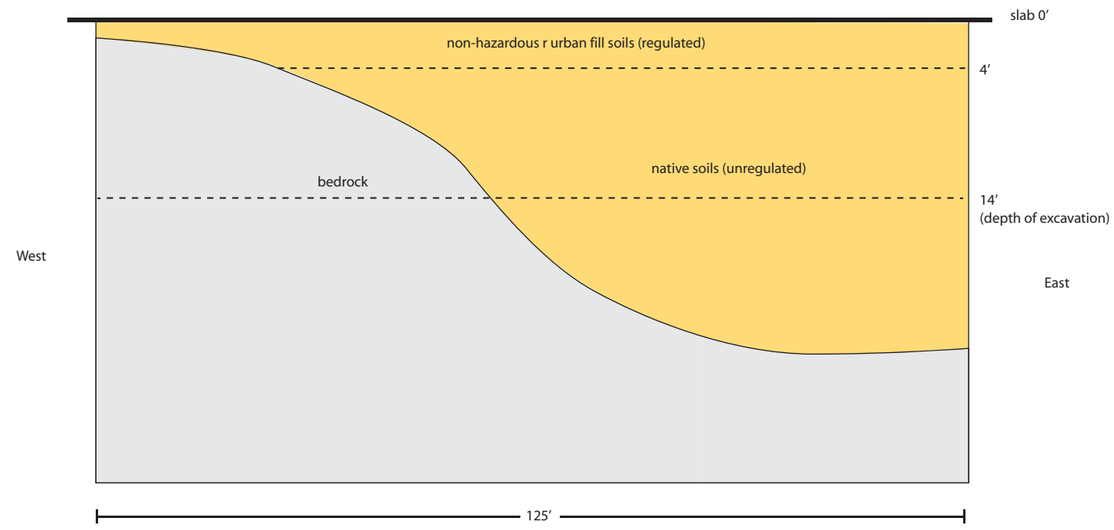
SITE EXCAVATION



0 25

SCALE IN FEET
(APPROXIMATELY)

GENERALIZED SOIL EXCAVATION CROSS SECTION
WEST TO EAST



Legend:

subject property border

Base map provided by OCV Architects - Cellar Plan dated 3/16/15. All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Site Excavation Map

3475 Third Avenue
Borough of Bronx
New York City, New York

ESI File: KB15012.40

Scale as shown

October 2015 | Attachment

APPENDIX D

Proposed Development Plans

3745 3RD AVENUE

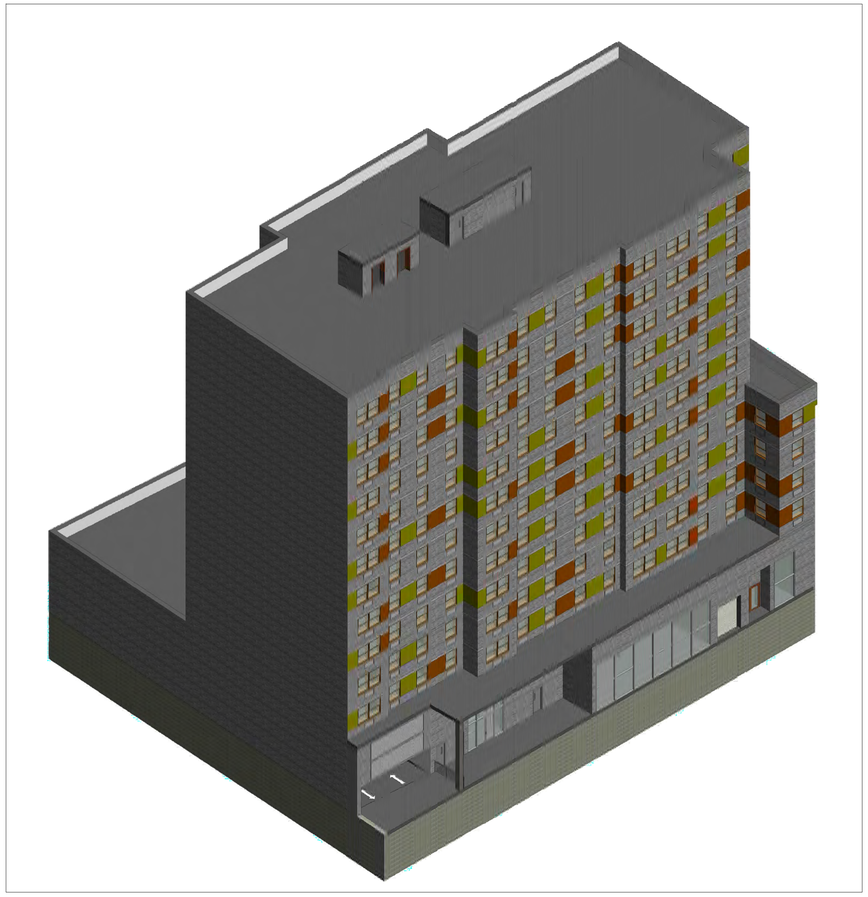
3475 3RD AVENUE, BRONX, NY 10456

DRAWING LIST

ARCHITECTURAL		ISSUE DATE			
		10.09.2014 DOB	MM.DD.YYYY ISSUED XXXXXX		
DWG No.	DRAWING NAME				
T-001.00	COVER SHEET, LIST OF DRAWINGS	●			
Z-001.00	ZONING ANALYSIS	●			
G-001.00	GENERAL NOTES, SYMBOLS, LOCATION PLAN	●			
G-001.00	ADA NOTES AND DETAILS	●			
A-100.00	SITE PLAN	●			
A-110.00	CELLAR PLAN	●			
A-111.00	GROUND FLOOR PLAN	●			
A-112.00	2ND FLOOR PLAN	●			
A-113.00	3RD - 5TH FLOOR PLANS	●			
A-114.00	6TH - 12TH FLOOR PLANS	●			
A-115.00	ROOF PLAN	●			
A-200.00	EAST AND WEST BUILDING ELEVATIONS	●			
A-300.00	BUILDING SECTION	●			

PLUMBING & SPRINKLER		ISSUE DATE			
		10.09.2014 DOB	MM.DD.YYYY ISSUED XXXXXX		
DWG No.	DRAWING NAME				

MECHANICAL		ISSUE DATE			
		10.09.2014 DOB	MM.DD.YYYY ISSUED XXXXXX		
DWG No.	DRAWING NAME				



OCV
OAKLANDER COOGAN & VITTO PC
ARCHITECTS

OWNER:
167-168 THIRD AVE. LLC
PO Box 234550 | GREAT NECK, NY 11023

ARCHITECT
OCV Architects
203 LAFAYETTE ST, 5th FL | NEW YORK, NY 10012
TEL: 212.675.6470 | FAX: 212.675.6728

MEP CONSULTANT:

STRUCTURAL CONSULTANT:
WEXLER ASSOCIATES
12 W 32ND STREET #10 | NEW YORK, NY 10001
TEL: 212.643.1500 | FAX: 212.643.2277

0 1"
SCALE INDICATOR MEASURES 1" WHEN PLOT SCALE IS 1:1

DATE: 10/09/14
JOB #: 14J17
DRAWN BY: L.P. - S.P.

T-001.00

ZONING

3475 THIRD AVENUE
BRONX, NY 10456

BLOCK: 2372
LOT: 32
ZONING MAP: 3d
ZONE: MX-7 (M1-1/R7-2)

Lot Dimensions: 210.4' x 125.09' = 24,729.6 sf

Section 12-10 ZR
Base Plane Calculation
Points Along Street Wall Line
(41.7' + 42.54' + 42.7' + 43.18'
+ 43.36' + 43.56') / 6 = 42.84'

Section 123-662 ZR (Special Purpose District)
Height Regulations
Maximum Base Height = 60'-0"
Proposed Base Height = 21'-0"
Maximum Building Height = 135'-0"
Proposed Building Height = 120'-0"
Required Setback from Street = 10'-0"
Proposed Setback from Street = 10'-0"

Section 23-145 ZR (Quality Housing Standards)
Lot Coverage
Maximum Allowable Lot Coverage = 65%
24,729.6 sf x 0.65 = 16,074.24 sf
Proposed Lot Coverage = 9,767 sf

Floor Area Ratio (ZR-123-64)
Commercial (M1-1): 1.00 (ZR-123-64/24-11)
Residential (R 7-1): 4.00 (ZR-123-64/24-11)
Community facility: 6.50 (ZR-123-64)

Commercial ZFA: 24,729.6 sf
Residential ZFA: 98,918 sf
Community ZFA: 160,783.5 sf

Total Allowable Floor Area (Residential)
24,729.6 x 4.00 = 98,918.4 sf
Mechanical Exclusions: 1,215 sf
Proposed Gross Floor Area: 106,138 sf
Quality Housing Program Deductions: 7,423.1 sf
Total Proposed Floor Area 98,714.9 sf

Section 23-22 ZR
Maximum # of Dwelling Units:
Maximum Allowable Floor Area/680
98,918/680 = 145 DU
Proposed # of Dwelling Units 102 DU

Section 25-25 (e) ZR
Required Parking:
25% of Government Assisted Housing
25% of 102 Dwelling Units = 26 spaces
Proposed Parking = 26 spaces

Section 25-86 (b) ZR
Required Bicycle Parking Waived due to insufficient space below the first story

Section 26-41 ZR
1 tree required per 25' of street frontage
Total Street Frontage = 150'-0"
Required # of trees = 150'-0"/25' = 6 trees
Existing trees = 0 trees
Proposed trees = 3 trees
Planting all required trees is infeasible adjacent to zoning lot.
Remaining (3) trees may be planted off-site as determined by the Department of Parks and Recreation.

PERMITTED COMMUNITY FACILITY AND COMMERCIAL USES

Section 22-10 ZR - USES PERMITTED AS-OF-RIGHT

Section 22-14 ZR
Use Group 4
Community Facilities: Clubs, community centers, houses of worship, monasteries, non-commerical recreation centers

Section 42-10 ZR - USES PERMITTED AS-OF-RIGHT

Section 42-11
Use Group 4A: As noted above

Section 42-12
Use Group 16A: Retail or Service Establishments: Moving or storage offices

PARKING REQUIREMENTS

Section 25-30 ZR - REQUIRED OFF STREET PARKING FOR PERMITTED NON-RESIDENTIAL USES

Section 25-31
Community Facility (Community center): None required
General Retail Uses: None required

Section 44-52 ZR - REQUIRED ACCESSORY OFF-STREET LOADING BERTHS
M1-1, Commercial uses, all retail or service use
First 8,000 sf of floor area = none
Next 17,000 sf of floor area = 1 loading berth
Next 15,000 sf of floor area = 1 loading berth

Total Commercial Floor Area = 25,609.9sf
25,609.9sf - 8,000sf = 17,609.9sf (none required)
17,609.9sf - 17,000sf = 609.9sf (1 required berth)
609.9sf - 15,000sf = -14,390.1sf (1 required berth)

Total Required Berths = 2
Total Provided Berths = 1

OCCUPANCY CLASSIFICATION:	R-2 RESIDENTIAL
CONSTRUCTION CLASSIFICATION:	I - B (2 HOUR PROTECTED)
PROJECT DESIGN IN CONFORMANCE WITH: TITLE 28_NYC BUILDING CODE (EFFECTIVE JULY 2008)	

QUALITY HOUSING PROGRAM COMPLIANCE

Sec 23-011
The zoning lot has existing buildings to remain.
Existing buildings contain no residences.
The entire zoning lot complies with QH FAR and density standards.

Sec 28-21
All dwelling units exceed 400 sf floor area

Sec 28-22
All windows to be double glazed

Sec 28-23
Trash room at each floor 25sf>12sf.
Deduction of 12sf gross zoning area (12sf x 12 = 144sf deduction)
Required storage and removal location: 2.9 cubic feet per dwelling unit (102 x 2.9 = 295.8 cubic feet)
Provided Storage area:
732 sf Room x 13'-0" ceiling height = 9,516 cubic feet

Sec 28-24
Laundry Room Requirements
1 Washer/20 D.U. = 6 washers
Washers provided = 6 washers
1 Dryer/40 D.U. = 3 dryers
Dryers provided = 3 dryers

Sec 28-25
At least 20 sf of window is provided at corridors on 1st floor.
50% of floor area of 1st floor vestibule and lobby may be deducted from gross zoning floor area.

1st Floor Vestibule and Lobby = 450.9 sf x 50% = 225.5 sf
2nd Floor Terrace Corridor = 195 sf x 50% = 97.5 sf
Total Deduction = 323 sf

Sec 28-31
Required recreation space = 3.3% of residential floor Area - 98,918.4 sf x 3.3% = 3,264.3 sf
Recreation space provided:
2nd floor: Indoor = 674 sf; Outdoor = 6,461sf
Total proposed recreation space = 7,135 sf

Sec 28-33
Planted area between street line & building wall not required for egress.

Sec 28-41
Less than 11 dwellings on each story. 50% of corridor floor area is deducted from gross zoning floor area.
1st Floor Vestibule, Lobby, and Corridor = 450.9 sf x 50% = 225.5 sf
2nd Floor Corridor = 717.2 sf x 50% = 358.6 sf
3rd - 12th Floor Corridors 603.3 sf x 50%x10= 3017sf
Total Deduction = 3,601.1 sf

Trash Room Deduction = 12sf x 12 floors = 144 sf
Daylight in Corridor = 323 sf
Density per Corridor = 3,601.1 sf
Exterior Wall Thickness Insulation = 3,355 sf

Total Quality Housing Deduction = 7,423.1 sf
106,435.5 sf - 7,504.4 sf = 98,714.9 sf
Total Zoning Floor Area 98,714.9 sf

RESIDENTIAL FLOOR AREA CALCULATION

FLOOR	GROSS SF/FL	GROSS ZONING	MECH SF/FL	ZONING SF/FL	SEC. 28-41 ZR (DENSITY)	SEC. 28-25 ZR (DAY LIGHT)	EXTERIOR WALL THICKNESS 8"	REFUSE	TOTAL ADJUSTED SF
CELLAR									
FIRST	1,967.0	1,967.0	0.0	1,967.0	225.5	225.5	28.0	12.0	1,476.0
SECOND	9,767.0	9,767.0	105.0	9,662.0	358.6	97.5	312.0	12.0	8,881.9
THIRD	9,767.0	9,767.0	111.0	9,656.0	301.7	0.0	312.0	12.0	9,030.3
FORTH	9,767.0	9,767.0	111.0	9,656.0	301.7	0.0	312.0	12.0	9,030.3
FIFTH	9,767.0	9,767.0	111.0	9,656.0	301.7	0.0	312.0	12.0	9,030.3
SIXTH	9,474.0	9,474.0	111.0	9,363.0	301.7	0.0	297.0	12.0	8,752.3
SEVENTH	9,474.0	9,474.0	111.0	9,363.0	301.7	0.0	297.0	12.0	8,752.3
EIGHTH	9,474.0	9,474.0	111.0	9,363.0	301.7	0.0	297.0	12.0	8,752.3
NINTH	9,474.0	9,474.0	111.0	9,363.0	301.7	0.0	297.0	12.0	8,752.3
TENTH	9,474.0	9,474.0	111.0	9,363.0	301.7	0.0	297.0	12.0	8,752.3
ELEVENTH	9,474.0	9,474.0	111.0	9,363.0	301.7	0.0	297.0	12.0	8,752.3
TWELFTH	9,474.0	9,474.0	111.0	9,363.0	301.7	0.0	297.0	12.0	8,752.3
BULKHEAD									
TOTAL	107,353.0	107,353.0	1,215.0	106138.0	3601.1	323.0	3355.0	144.0	98714.9

UNIT DISTRIBUTION

FLOOR	UNIT TYPE				TOTAL
	0BR	1BR	2BR	3BR	
CELLAR					
FIRST	0	0	0	0	0
SECOND	1	2	5	1	9
THIRD	1	2	6	1	10
FORTH	1	2	6	1	10
FIFTH	1	2	6	1	10
SIXTH	0	2	5	2	9
SEVENTH	0	2	5	2	9
EIGHTH	0	2	5	2	9
NINTH	0	2	5	2	9
TENTH	0	2	5	2	9
ELEVENTH	0	2	5	2	9
TWELFTH	0	2	5	2	9
BULKHEAD					
TOTAL	4	22	58	18	102

COMMERCIAL FLOOR AREA CALCULATION

FLOOR	EXISTING ZONING SF	NEW ZONING SF	TOTAL ZONING SF
FIRST	6,322.6	12,964.7	19287.3
SECOND	6,322.6	0.0	6322.6
TOTAL	12,645.2	12,964.7	25,609.9

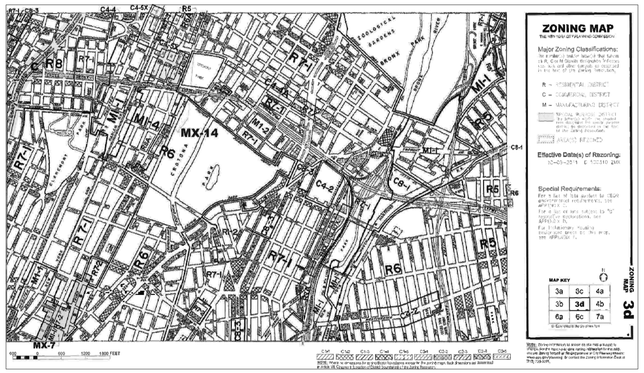
COMMUNITY FACILITY FLOOR AREA CALCULATION

FLOOR	EXISTING ZONING SF	NEW ZONING SF	TOTAL ZONING SF
FIRST	0.0	0.0	0.0
SECOND	0.0	0.0	0.0
THIRD	6,322.0	0.0	6322.0
FOURTH	6,322.0	0.0	6322.0
FIFTH	6,322.0	0.0	6322.0
TOTAL	18,966.0	0.0	18,966.0

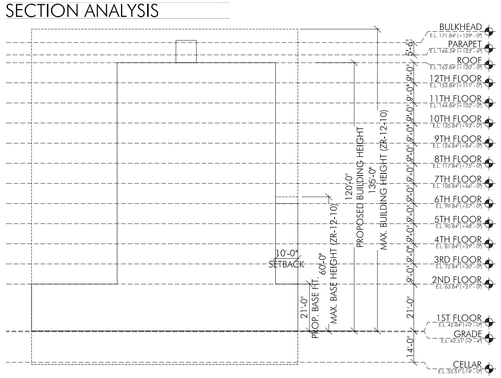
TOTAL FLOOR AREA CALCULATION

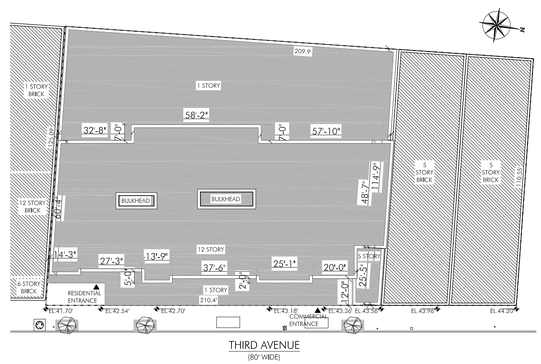
TYPE	ZONING SF
RESIDENTIAL	98,714.9
COMMERICAL	25,609.9
COMMUNITY	18,966.0
TOTAL	143,290.8

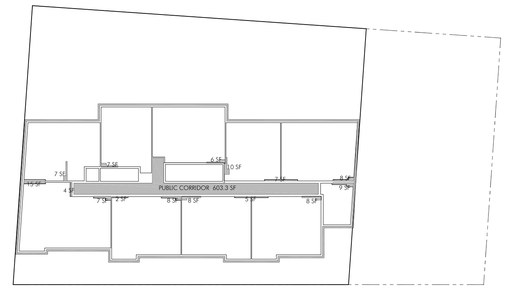
ZONING MAP



SECTION ANALYSIS

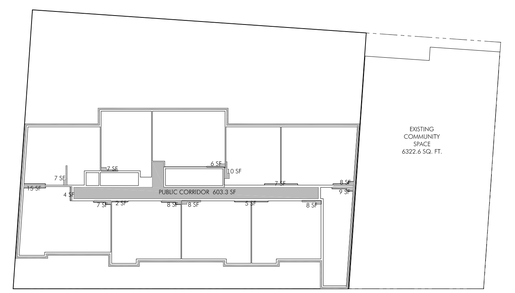






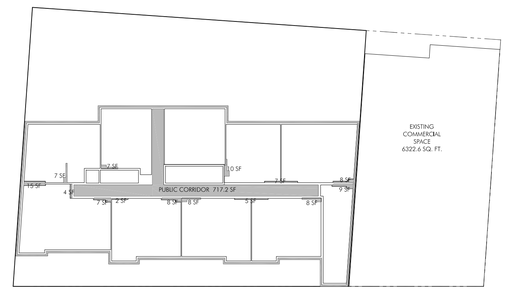
4 SIXTH - TWELFTH FLOORS
1/32"=1'-0"

GROSS	9,474 SQ. FT.
CORRIDOR 50%	301.7 SQ. FT.
CORRIDOR W/ WINDOWS 50%	0 SQ. FT.
MECHANICAL	111 SQ. FT.
TRASH RM.	12 SQ. FT.
EXTERIOR WALL INSULATION 8"	297 SQ. FT.
SUBTOTAL	8,752.3 SQ. FT.
TOTAL	x7 = 61,266.1 SQ. FT.



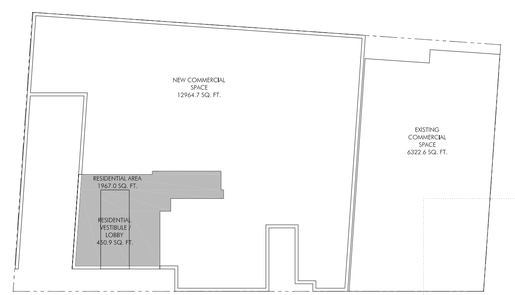
3 THIRD - FIFTH FLOORS
1/32"=1'-0"

GROSS	9,767 SQ. FT.
CORRIDOR 50%	301.7 SQ. FT.
CORRIDOR W/ WINDOWS 50%	0 SQ. FT.
MECHANICAL	111 SQ. FT.
TRASH RM.	12 SQ. FT.
EXTERIOR WALL INSULATION 8"	312 SQ. FT.
SUBTOTAL	9,030.3 SQ. FT.
TOTAL	x3 = 27,090.9 SQ. FT.



2 SECOND FLOOR
1/32"=1'-0"

GROSS	9,767 SQ. FT.
CORRIDOR 50%	358.6 SQ. FT.
CORRIDOR W/ WINDOWS 50%	97.5 SQ. FT.
MECHANICAL	105 SQ. FT.
TRASH RM.	12 SQ. FT.
EXTERIOR WALL INSULATION 8"	312 SQ. FT.
SUBTOTAL	8,881.9 SQ. FT.
TOTAL	x1 = 8,881.9 SQ. FT.



1 FIRST FLOOR
1/32"=1'-0"

GROSS	1,967 SQ. FT.
CORRIDOR 50%	355.5 SQ. FT.
CORRIDOR W/ WINDOWS 50%	355.5 SQ. FT.
MECHANICAL	0 SQ. FT.
TRASH RM.	12 SQ. FT.
EXTERIOR WALL INSULATION 8"	28 SQ. FT.
SUBTOTAL	1,476.0 SQ. FT.
TOTAL	x1 = 1,476.0 SQ. FT.

FOR DOB USE ONLY

167-168 3RD AVENUE LLC

PROJECT TITLE:
3475 3RD AVENUE

KEY PLAN:

OWNER:
167-168 3RD AVENUE LLC
P.O. BOX 234550 | GREAT NECK, NY 11023

STRUCTURAL CONSULTANT:
WEXLER ASSOCIATES
12 W 32ND STREET #10 | NEW YORK, NY 10001
TEL: 212.643.1500 | FAX: 212.643.2277

MEP CONSULTANT:

NO:	REVISION:	DATE:
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ADDRESS:
3475 3RD AVENUE
BRONX, NY 10456

DRAWING TITLE:
ZONING ANALYSIS

ARCHITECT:
OCV
OAKLANDER COOGAN & VITTO PC
ARCHITECTS
WWW OCVARCH COM
203 LAFAYETTE STREET 5TH FL
NEW YORK CITY NEW YORK 10012
T 212 675 6470 F 212 675 6728

SEAL & SIGNATURE:

DRAWING #:
Z-001.00

DATE:
10/09/14

JOB #:
14J17

DRAWN BY:
LP-SP

BIS #:

0 1"
SCALE INDICATOR MEASURES 1" WHEN PLOT SCALE IS 1:1

02OF 13

GENERAL NOTES:

1. ALL DIMENSIONS AND CONDITIONS DESCRIBED IN THE CONTRACT DOCUMENTS ARE TO BE VERIFIED IN THE FIELD. ARCHITECT IS TO BE ADVISED OF ANY DISCREPANCIES IMMEDIATELY.
2. THE CONSTRUCTION NOTES AND/OR DRAWINGS ARE SUPPLIED TO ILLUSTRATE THE DESIGN AND THE GENERAL TYPE OF CONSTRUCTION DESIRED AND ARE INTENDED TO IMPLY THE FINEST QUALITY OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP THROUGHOUT.
3. THE CONTRACTOR SHALL MAINTAIN A CURRENT AND COMPLETE SET OF DOB CONSTRUCTION DRAWINGS, SPECIFICATIONS, AND SHOP DRAWINGS ON THE CONSTRUCTION FLOOR DURING ALL PHASES OF CONSTRUCTION FOR USE BY ALL TRADES AND WILL REMOVE ALL OUTDATED DRAWINGS FROM THE JOB SITE.
4. THE CONTRACTOR UPON ACCEPTANCE AND APPROVAL OF THE DRAWINGS ASSUMES FULL RESPONSIBILITY FOR THE CONSTRUCTION MATERIALS AND WORKMANSHIP OF THE WORK DESCRIBED IN THESE NOTES AND DRAWINGS AND WILL EXECUTE TO COMPLY WITH THE SPIRIT AS WELL AS THE LETTER IN WHICH THEY WERE WRITTEN.
5. THE DRAWINGS AND NOTES INDICATE AND REFER TO ANY INTERIOR/EXTERIOR WORK AND ARE MEANT TO CONVEY INSTRUCTIONS, WHETHER WRITTEN OR IMPLIED, FOR A COMPLETE SCOPE OF WORK, INCLUSIVE OF THOSE MINOR FIELD CONDITIONS INHERENT IN THE WORK.
6. CONTRACTOR SHALL PERFORM ALL WORK IN COMPLIANCE WITH ALL APPLICABLE STATE AND CITY CODES AND REGULATIONS.
7. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY LAW AND PAY FOR SAME PRIOR TO ANY WORK. PERMITS SHALL BE SUBMITTED TO ALL PARTIES INVOLVED IN PROJECT AND DISPLAY SAME AT SITE AS PER DOB REGULATIONS.
8. CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS OF SYSTEMS OR OTHER REQUIRED APPROVALS.
9. CONTRACTOR WILL COORDINATE WORK OF ALL TRADES, INCLUDING THOSE THAT MAY BE UNDER SEPARATE CONTRACT, PROJECT SCHEDULING AND OVERALL CLEANUP.
10. CONTRACTOR IS TO KEEP JOB SITE CLEAN DURING CONSTRUCTION AND REMOVE ALL DEBRIS FROM PREMISES ON A CONTINUAL BASES.
11. SUBSTITUTION OF DETAILS, FIXTURES, MATERIALS, EQUIPMENT, ETC., IS TO BE BY ARCHITECT'S WRITTEN APPROVAL ONLY.
12. THE CONTRACTOR SHALL COORDINATE WORK WITH THE MANUFACTURER'S SPECIFICATIONS.
13. METAL STUD WALLS AND POSTS OF METAL PARTITIONS SHALL BE SECURED TO THE STRUCTURAL ELEMENTS AT ALL LOCATIONS.
14. ALL DIMENSIONS FOR PARTITIONS ARE FROM FINISH TO FINISH, UNLESS OTHERWISE INDICATED.
15. WALLS SHOWN ALIGNED WITH BASE BUILDING STRUCTURE SHALL BE CONSTRUCTED FLUSH AND SMOOTH WITH BASE BUILDING STRUCTURE UNLESS OTHERWISE INDICATED.
16. ALL WALLS AND CEILINGS SHALL BE PROPERLY PREPARED, SPACKLED, SANDED, ETC. TO PROVIDE A PERFECTLY SMOOTH AND TRUE FINISH AND SURFACE.
17. WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NEW YORK CITY BUILDING CODE, FIRE DEPARTMENT REGULATIONS, UTILITY COMPANY REQUIREMENTS & BEST TRADE PRACTICES.
18. BEFORE COMMENCING WORK, THE CONTRACTOR SHALL FILE ALL REQUIRED CERTIFICATES OF INSURANCE WITH THE DEPARTMENT OF BUILDINGS, PAY ALL FEES REQUIRED BY GOVERNING NEW YORK CITY AGENCIES, OBTAIN ALL REQUIRED PERMITS AND PROVIDE ANY AND ALL BONDS REQUIRED BY ANY CITY AGENCY IN ORDER TO DO WORK HEREIN DESCRIBED.
19. CONTRACTOR SHALL OBTAIN SEPARATE PERMIT AND APPROVAL FROM DEPARTMENT OF HIGHWAYS FOR ALL WORK BEYOND BUILDING LINES AND REQUIRED.
20. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO COMMENCING WORK AND SHALL REPORT ANY DISCREPANCIES BETWEEN DRAWINGS AND FIELD CONDITIONS TO THE ARCHITECT IMMEDIATELY.
21. MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER CONSTRUCTION OF ANY PART OF THE WORK SHALL BE INCLUDED AS IF THEY WERE INDICATED IN THE DRAWINGS.
22. THE CONTRACTOR SHALL COORDINATE ALL WORK PROCEDURES WITH REQUIREMENTS OF LOCAL AUTHORITIES, BUILDING MANAGEMENT, AND OWNER'S REPRESENTATIVES.
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL CONDITIONS AND MATERIALS WITHIN THE PROPOSED CONSTRUCTION AREA. THE CONTRACTOR SHALL DESIGN AND INSTALL ADEQUATE SHORING AND BRACING FOR ALL STRUCTURAL OR REMOVAL TASKS. THE CONTRACTOR SHALL HAVE THE SOLE RESPONSIBILITY FOR ANY DAMAGE OR INJURIES CAUSED BY OR DURING THE EXECUTION OF THE WORK.
24. THE CONTRACTOR SHALL LAYOUT HIS OWN WORK, AND SHALL PROVIDE ALL DIMENSIONS REQUIRED FOR OTHER TRADES: PLUMBING, ELECTRICAL, MECHANICAL, ETC.
25. PLUMBING AND ELECTRICAL WORK SHALL BE PERFORMED BY PERSONS LICENSED IN THEIR TRADES, WHO SHALL ARRANGE OR AND OBTAIN INSPECTIONS AND REQUIRED SIGN-OFFS.
26. THE CONTRACTOR SHALL DO ALL CUTTING, PATCHING, REPAIRING AS REQUIRED TO PERFORM ALL OF THE WORK INDICATED ON THE DRAWINGS, AND ALL OTHER WORK THAT MAY BE REQUIRED TO COMPLETE THE JOB.
27. ENGINEER HAS NOT BEEN RETAINED TO SUPERVISE CONSTRUCTION.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING TEMPORARY AND NEW CERTIFICATE OF OCCUPANCY, INCLUDING ALL REQUIRED FILINGS, APPLICATIONS, SIGN-OFFS, INSPECTIONS AND APPROVALS.

DEMOLITION NOTES:

1. THE CONTRACTOR SHALL PERFORM ALL OPERATIONS OF DEMOLITION AND REMOVAL INDICATED ON THE DRAWINGS AND AS MAY BE REQUIRED BY THE WORK. ALL WORK SHALL BE DONE CAREFULLY AND NEATLY, IN A SYSTEMATIC MANNER.
2. DURING REPLACEMENT OF ROOF, CARE SHALL BE MADE TO MAINTAIN WATERTIGHT SEAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE DUE TO WATER LEAKS.
3. NO DEBRIS SHALL BE ALLOWED TO ACCUMULATE ON THE SITE. DEBRIS SHALL BE REMOVED BY THE CONTRACTOR WHO SHALL ASSUME FULL RESPONSIBILITY FOR DAMAGE AND SHALL MAKE REPAIRS REQUIRED WITHOUT ADDITIONAL COST TO THE OWNER.
4. NO DEBRIS SHALL BE ALLOWED TO ACCUMULATE ON THE SITE. DEBRIS SHALL BE REMOVED BY THE CONTRACTOR AS THE JOB PROCEEDS. THE SITE SHALL BE LEFT BROOM CLEAN AT THE COMPLETION OF DEMOLITION.
5. NO STRUCTURAL ELEMENTS SHALL BE REMOVED UNLESS PORTIONS AFFECTED ARE ADEQUATELY SUPPORTED BY EITHER TEMPORARY SHORING OR NEW STRUCTURAL ELEMENTS AS REQUIRED TO PROTECT THE STABILITY AND INTEGRITY OF THE EXISTING STRUCTURE.
6. 6. ALL ADJOINING PROPERLY AFFECTED BY ANY OPERATIONS OF DEMOLITION SHALL BE PROTECTED PER THE REQUIREMENTS OF ARTICLE 19 OF THE N.Y.C. BUILDING CODE.
7. REMOVE OR RELOCATE ALL WIRING, PLUMBING, AND MECHANICAL EQUIPMENT AFFECTED BY REMOVAL OF PARTITIONS. REMOVED PIPES AND/OR LINES SHALL BE CUT TO A POINT OF CONCEALMENT BEHIND OR BELOW FINISH SURFACES, AND SHALL BE PROPERLY CAPPED OR PLUGGED.
8. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN ALL TEMPORARY BARRIERS AND GUARDS, AND ALL TEMPORARY SHORING AND BRACING AS REQUIRED BY DEPARTMENT OF BUILDING RULES AND REGULATIONS.
9. THE CONTRACTOR SHALL PROVIDE ADEQUATE WEATHER PROTECTION FOR THE NEW BUILDING AND ITS CONTENTS DURING THE COURSE OF THE WORK. ALL OPENINGS IN ANY WALL OR ROOF SHALL BE PROTECTED FROM ALL FORMS OF WEATHER OR WATER.

INTERIOR NOTES - OLD BUILDING CODE

1. ALL INTERIOR WOOD TO BE USED ONLY AS PERMITTED ON SECTION C22 666.0 AND C26 667.0 OF THE NEW YORK CITY BUILDING CODE.
2. STAIR SIGNS AS PER SECTION C26 608.0 (NEW CODE).
3. ALL INTERIOR ROOMS TO BE MECHANICALLY VENTILATED IN ACCORDANCE W/ VENTILATION AND AIR CONDITIONING RULES EFFECTIVE JUNE 1, 1959.
4. ALL ACOUSTICAL OR RATED PARTITIONS TO EXTEND TO FLOOR ABOVE.
5. OWNER IS COGNIZANT OF RETROACTIVE REQUIREMENTS OF LOCAL LAW 5/73.
6. ALL PENETRATIONS OF RATED CONSTRUCTION SHALL COMPLY WITH SECTION C26 684.0 OF BUILDING CODE.
7. ALL PLUMBING WORK SHALL BE IN ACCORDANCE WITH ARTICLE 15 OF THE NEW YORK CITY BUILDING CODE.
8. WOOD OR OTHER COMBUSTIBLE MATERIALS SHALL BE USED IN ACCORDANCE WITH THE REQUIREMENTS OF C26 667.0 (1938 CODE).
9. ALL BATHROOM FLOORS TO BE MADE WATERPROOF WITH MATERIAL APPROVED BY THE DEPARTMENT OF BUILDINGS. WATERPROOF MATERIAL IS TO EXTEND A MINIMUM OF 6" ABOVE THE FLOOR AT THE BASE OF THE WALL.

SMOKE/CARBON MONOXIDE DETECTORS NOTES PER 907.2.10.1:

907.2.10.1.1 SMOKE ALARMS IN GROUPS R-2, R-3, AND 1-1. SINGLE- OR MULTIPLE- STATION SMOKE ALARMS SHALL BE INSTALLED AND MAINTAINED IN GROUPS R-2, R-3, REGARDLESS OF OCCUPANT LOAD AT ALL OF THE FOLLOWING LOCATIONS WITHIN A DWELLING UNIT:

1. ON THE CEILING OR WALL OUTSIDE OF EACH ROOM USED FOR SLEEPING PURPOSES WITHIN 15 FEET FROM THE DOOR TO SUCH ROOM.
2. IN EACH ROOM USED FOR SLEEPING PURPOSES.
3. IN EACH STORY WITHIN A DWELLING UNIT, INCLUDING BELOW-GRADE STORIES AND PENTHOUSES OF ANY AREA.

907.2.10.2 POWER SOURCE. REQUIRED SMOKE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM A DEDICATED BRANCH CIRCUIT OR THE UNSWITCHED PORTION OF A BRANCH CIRCUIT ALSO USED FOR POWER AND LIGHTING, AND SHALL BE EQUIPPED WITH A BATTERY BACKUP. SMOKE ALARMS SHALL EMIT A SIGNAL WHEN THE BATTERIES ARE LOW. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN AS REQUIRED FOR OVER-CURRENT PROTECTION.

907.2.10.5 GROUP R-2 OCCUPANCY. SMOKE ALARMS SHALL BE PROVIDED WITH THE CAPABILITY TO SUPPORT VISIBLE ALARM NOTIFICATION APPLIANCES IN ACCORDANCE WITH ICC/ANSI A117.1.-2003

BOILER ROOM NOTES (AS PER SEC. 65 OF MDL.:)

1. WALLS ENCLOSING BOILER TO BE OF FIREPROOF MATERIAL HAVING A 1HR FIRE RATING. NOTE: 4" SOLID CINDER BLOCK IS GENERALLY USED.
2. CEILING OF ENTIRE BOILER ROOM SHALL BE PROPERLY FIRE RETARDED WITH ONE OF THE FOLLOWING: (a) 1/2" PLASTER BOARDS COVERED WITH 26 GA METAL. (b) METAL LATH AND 3/4" CEMENT OR 1" GYPSUM MORTAR. (c) ROCK LATH AND 3/4" GYPSUM MORTAR.
3. FLOOR OF BOILER ROOM SHALL BE OF CONCRETE CONSTRUCTION.
4. FIXED VENTILATION TO OUTER AIR FOR BOILER ROOM REQUIRED MIN. AREA EQUAL TO SMOKE STACK (NORMALLY 64 SF.) NOTE: WHERE DUCT IS REQUIRED TO PROVIDE FIXED VENTILATION; SAME MUST BE ENCASED IN METAL LATH AND CEMENT ON GYPSUM MORTAR.
5. METERS DUMBWAITER SHAFTS, ELEVATOR SHAFTS, INTERIOR STAIRS OR REQUIRED OUTSIDE CELLAR ENTRANCES CANNOT BE LOCATED WITHIN BOILER ROOM.
6. A MINIMUM OF 18" CLEARANCE REQUIRED BETWEEN BOILER AND ENCLOSING WALLS.
7. DOOR TO BOILER ROOM TO BE 1HR TEST FIREPROOF SELF-ENCLOSING AS PER BOARD OF STANDARDS AND APPEALS APPROVAL.
8. ELECTRIC LIGHT TO BE PROVIDED WITHIN BOILER ROOM.
9. OIL BURNER REMOTE CONTROL SWITCH MUST BE LOCATED OUTSIDE BOILER ROOM.
10. NO STORAGE PERMITTED WITHIN BOILER ROOM.

28-103.8.4 TENANT PROTECTION PLAN.

CONSTRUCTION DOCUMENTS FOR ALTERATIONS OF BUILDINGS IN WHICH ANY DWELLING UNIT WILL BE OCCUPIED DURING CONSTRUCTION SHALL INCLUDE A TENANT PROTECTION PLAN. SUCH PLAN SHALL CONTAIN A STATEMENT THAT THE BUILDING CONTAINS DWELLING UNITS THAT WILL BE OCCUPIED DURING CONSTRUCTION AND SHALL INDICATE IN SUFFICIENT DETAIL THE SPECIFIC UNITS THAT ARE OF MAY BE OCCUPIED DURING CONSTRUCTION, THE MEANS AND METHODS TO BE EMPLOYED TO SAFEGUARD THE SAFETY AND HEALTH OF THE OCCUPANTS, INCLUDING, WHERE APPLICABLE, DETAILS SUCH AS TEMPORARY FIRE-RATED ASSEMBLIES, OPENING PROTECTIVE, OR DUST CONTAINMENT PROCEDURES. THE ELEMENTS OF THE TENANT PROTECTION PLAN MAY VARY DEPENDING ON THE NATURE AND SCOPE OF WORK BUT AT A MINIMUM SHALL MAKE DETAILED AND SPECIFIC PROVISIONS FOR:

1. EGRESS. AT ALL TIMES IN THE COURSE OF CONSTRUCTION PROVISION SHALL BE MADE FOR ADEQUATE EGRESS AS REQUIRED BY THIS CODE AND THE TENANT PROTECTION PLAN SHALL IDENTIFY THAT EGRESS THAT WILL BE PROVIDED. REQUIRED EGRESS SHALL NOT BE OBSTRUCTED AT ANY TIME EXCEPT WHERE APPROVED BY THE COMMISSIONER.
2. FIRE SAFETY. ALL NECESSARY LAWS AND CONTROLS, INCLUDING THOSE WITH RESPECT TO OCCUPIED DWELLINGS, AS WELL AS ADDITIONAL SAFETY MEASURES NECESSITATED BY THE CONSTRUCTION SHALL BE STRICTLY OBSERVED.
3. HEALTH REQUIREMENTS. SPECIFICATION OF METHODS TO BE USED FOR CONTROL OF DUST, DISPOSAL OF CONSTRUCTION DEBRIS, PEST CONTROL AND MAINTENANCE OF SANITARY FACILITIES, AND LIMITATION OF NOISE TO ACCEPTABLE LEVELS SHALL BE INCLUDED.
   - 3.1 THERE SHALL BE INCLUDED A STATEMENT OF COMPLIANCE WITH APPLICABLE PROVISIONS OF LAW RELATED TO LEAD AND ASBESTOS.
4. COMPLIANCE WITH HOUSING STANDARDS. THE REQUIREMENTS OF THE NEW YORK CITY HOUSING MAINTENANCE CODE, AND, WHERE APPLICABLE, THE NEW YORK STATE MULTIPLE DWELLING LAW SHALL BE STRICTLY OBSERVED.
5. STRUCTURAL SAFETY. NO STRUCTURAL WORK SHALL BE DONE THAT MAY ENDANGER THE OCCUPANTS.
6. NOISE RESTRICTIONS. WHERE HOURS OF THE DAY OR THE DAYS OF THE WEEK IN WHICH CONSTRUCTION WORK MAY BE UNDERTAKEN ARE LIMITED PURSUANT TO THE NEW YORK CITY NOISE CONTROL CODE, SUCH LIMITATIONS SHALL BE STATED.

HOUSING MAINTENANCE NOTES:

1. CENTRAL HEAT TO BE PROVIDED AS PER D26-17.01 HMC.
2. WATER SUPPLY TO BUILDING TO COMPLY WITH SECTION 27-2024 H.M.C.
3. WATER SUPPLY TO INDIVIDUAL UNITS AND FIXTURES SHALL COMPLY WITH SECTION 27-2025 H.M.C.
4. SUPPLY OF HOT WATER TO COMPLY WITH SEC. 27-2031 H.M.C.
5. PROVIDE MAIL SERVICE AS PER D26-21.01 HMC.
6. FLOOR SIGNS SHALL BE POSTED AND MAINTAINED PER SECTION 27-2048 H.M.C.
7. STREET NUMBER SHALL BE POSTED AND MAINTAINED PER SEC. 27-2049 H.M.C.
8. POSTING OF REGISTRATION SIGN AS PER D26-41.15 HMC.
9. BUILDING TO BE REGISTERED AS PER D26-41.15 HMC.
10. NIGHT LIGHTING IN PUBLIC HALLS AND STAIRS OF DWELLING TO COMPLY WITH D26-19.05 HMC.
11. PROVIDE KEY LOCKS FOR ALL APARTMENT DOORS, HEAVY DUTY DEAD BOLT, THUMB TURN INSIDE LATCH SET AND CHAIN DOOR GUARD AS PER D26-20.05 HMC.
12. PROVIDE BSA APPROVED PEEP HOLES IN ENTRANCE DOORS TO EACH DWELLING UNIT AS PER D26-20.01 HMC.
13. PAINTING OF PUBLIC PARTS WITHIN DWELLINGS TO COMPLY WITH D26-12.01 HMC.
14. PAINTING OF FIRE ESCAPES AND WINDOW FRAMES AS PER D26-12.03 HMC.
15. RECEPTACLES FOR COLLECTION OF WASTE PAPER TO BE PROVIDED AS PER D26-14.03 HMC, AND D26-14.05 AMD D26-14.07 HMC.
16. DRAINAGE OF ROOFS, COURTS, AND YARDS TO COMPLY WITH D26-16.03 HMC.
17. PROPER ELECTRIC LIGHTING EQUIPMENT WITHIN DWELLING TO BE PROVIDED AND MAINTAINED AS PER D26-19.01, D26-19.05, D26-19.03 HMC.
18. PROVIDE ELECTRIC LIGHTS AT ENTRANCEWAYS, YARDS AND COURTS AS PER D26-19.07 HMC, ON SEPARATE CIRCUIT OR CONNECTED TO HOUSE LINE SERVICING PUBLIC HALLS, AND IN ACCORDANCE WITH THE REQUIREMENTS OF DEPT. OF WATER SUPPLY, GAS AND ELECTRICITY.
19. ENGINEER HAS NOT BEEN RETAINED TO SUPERVISE WORK.
20. CONTRACTORS ARE TO VERIFY AND CHECK ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE AND REPORT ALL DISCREPANCIES TO THE ARCHITECT.
21. PARTITIONS ENCLOSING BATHROOMS TO BE METAL STUDS AND MOISTURE RESISTANT GYPSUM WALL BOARD AS PER BSA 756-62SM.
22. ALL DOORS OPENING ON PUBLIC HALLWAY TO BE SELF CLOSING AS PER D26-20.07 HMC. ALL DOORS OPENING ON PUBLIC HALLWAY TO BE 1 HOUR FPSC.
23. COMPLY WITH LL 29/89 FOR LOW FLOW FIXTURES
24. SMOKE/CO DETECTORS SHALL BE INSTALLED PER SUBCHAPTER 17, ARTICLE 6 PER RS 17-12 AND SHALL BE LOCATED AT OR NEAR THE CEILING WITHIN 15 FT. OF ROOMS USED FOR SLEEPING PURPOSE IN J-2 OCCUPANCIES AND BEMAINTAINED PER H.M.C. SECTION 27-2045.
25. NATURAL LIGHT AND VENTILATION SHALL BE PROVIDED IN ALL LIVING ROOMS IN MULTIPLE DWELLINGS PER H.M.C. SECTION 27-2057 AND 27-2058.
26. SANITARY FACILITIES SHALL BE PROVIDED IN EVERY APARTMENT IN MULTIPLE DWELLING PER H.M.C. SECTION 27-2066 AND WITH HOT WATER SUPPLIED TO PLUMBING FIXTURES PERH.M.C. SECTION 27-2031.
27. KITCHENS IN MULTIPLE DWELLINGS SHALL CONFORM TO H.M.C. SECTIONS 27-2070, 27-2071, AND 27-2072.
28. LIVING ROOMS IN MULTIPLE DWELLINGS SHALL BE SIZED CONFORMING TO H.M.C. SECTION 27-2074.
29. THE ENTRANCE DOORS TO EACH DWELLING UNIT IN A MULTIPLE DWELLING BE PROVIDED WITH A PEEPHOLE PER H.M.C. SECTION 27-2041 AND WITH A LOCK AND CHAIN GUARD PER H.M.C. SECTION 27-2043.
30. CLEANING OF ROOF, YARDS, COURTS AND OTHER OPEN SPACES SHALL COMPLY WITH H.M.C. SECTION 27-2010
31. THE BUILDING OWNER SHALL MAINTAIN THE SANITARY AND STORM DRAINAGE SYSTEMS AND EQUIPMENT PER SECTIONS 27-2026 AND 27-2027 OF H.M.C.
32. ELECTRIC LIGHTING FIXTURES OR OUTLETS FOR LIGHTING FIXTURES SHALL BE INSTALLED AND MAINTAINED FOR EVERY ROOM AND PUBLIC HALL PER SECTIONS 27-2937, 27-2038 AND 27-2039 H.M.C.
33. PROVIDE ARTIFICIAL EXTERIOR LIGHTING AT ALL EXTIOR ENTRANCE WAYS AND IN YARDS AND COURTS TO BE INSTALLED AND MAINTAINED PER SECTION 27-2040 OF H.M.C.

MULTIPLE DWELLING NOTES:

* BUILDING SHALL COMPLY WITH ART. 7 AND APPLICABLE PROVISIONS OF ART. 3 MULTIPLE DWELLING LAW (MDL)

1. ROOMS IN BASEMENT TO COMPLY WITH SEC. 216, SEC. 34 (6) MDL, CEILING HEIGHTS TO COMPLY WITH SEC. 218 SUB (8) MDL.
2. HOUSE NUMBERS SHALL BE PROPERLY DISPLAYED AS PER SEC. 886 CITY CHARTER.
3. VENTILATION IN PUBLIC HALLS AND STAIRS TO COMPLY WITH SEC. 217 MDL.
4. EGRESS TO COMPLY WITH SEC. 231 MDL, STAIRS TO MEET SEC. 233(5) TO SEC. 238 MDL.
5. BULKHEAD TO COMPLY WITH SEC. 233 MDL, DOOR TO BE FIREPROOF AND SELF CLOSING.
6. PUBLIC CORRIDORS AND STAIRS TO MEET SEC. 234 MDL, STAIRS IN PUBLIC CORRIDOR TO BE 3'-0" MIN.
7. ALL DOORS TO PUBLIC HALLS TO BE SELF-CLOSING AND FIREPROOF.
8. STAIRS TO COMPLY WITH SEC. 235, 237, 238, 239, AND 242 MDL, WINDOWS IN STAIR HALL TO BE GLAZED WITH WIRE GLASS. BALUSTRADE AND RAILING TO BE 2'-6" AND 2'-8" MAX ABOVE FRONT EDGE OF TREADS (2'-8" MIN AND 3'-0" MAX ABOVE LANDING).
9. PARTITIONS AND FIRESTOPPING TO COMPLY WITH SEC. 241 MDL, SOUNDPROOFING BETWEEN APTS AND PUBLIC HALL SHALL COMPLY W/SEC. 84 MDL.
10. CELLAR STAIR TO COMPLY WITH SEC. 242 AND 50 MDL, STAIR TO BE ENCLOSED IN FIREPROOF ENCLOSURE AND HAVE FIREPROOF DOORS AND ASSEMBLIES AT ALL OPENINGS.
11. SPACES UNDER STAIRS TO COMPLY WITH SEC. 244 MDL. NO CLOSETS CONSTRUCTED UNDER STAIRS LEADING FROM ENTRANCE STORY TO UPPER STORIES. SPACES TO BE CLEAR AND FREE OF ENCUMBRANCES.
12. COOKING SPACES TO COMPLY WITH SECTION 33 MDL CEILINGS AND WALLS TO BE FIRE RETARDED. PROTECT ALL COMBUSTIBLE MATERIALS WITHIN 1'-0" OF COOKING APPARATUS AS PER SEC. 33 MDL.
13. ALL GAS APPLIANCES TO COMPLY WITH SEC. 64 MDL AND LOCAL LAW 124/55.
14. PROVIDE FRONT, COURT, AND REAR LIGHTING AS PER SEC 26 SUB (7A) AND 35 MDL.
15. ALL BUILDING ENTRANCE DOORS MUST BE SELF-CLOSING AND HAVE SELF-LOCKING DEVICES AND INTERCOMMUNICATION SYSTEM AS PER 50A MDL.
16. MAIN ENTRANCE DOOR SHALL HAVE NOT LESS THAN FIVE(5) SQ.FT. OF GLAZED SURFACE AS PER 35 MDL.
17. TRASH COMPACTOR CHUTE TO COMPLY WITH SECTION 51 MDL, TO HAVE FIREPROOF ENCLOSURE AND FIREPROOF DOORS AND SELF CLOSING ASSEMBLIES.
18. PEEP HOLES TO COMPLY WITH SC51-A MDL.
19. MAIL RECEPTACLES TO COMPLY WITH SEC. 57 MDL.
20. PARAPETS AND GUARD RAILS TO COMPPLY WITH SEC 62 SUB 2 MDL.
21. LIGHTING, GAS METERS AND APPLIANCES ON PREMISES SHALL COMPLY WITH SEC 64 MDL, NO GAS METERS PERMITTED IN BOILER ROOM.
22. BOILER ROOMS TO COMPLY WITH SEC 65 MDL ENCLOSED IN FIREPROOF WALLS AND ALL OPENINGS TO HAVE FIREPROOF AND SELF CLOSING DOORS AND ASSEMBLIES.
23. SMOKE DETECTORS TO COMPLY WITH SEC. 68 MDL.
24. WATER CLOSETS TO COMPLY WITH SEC. 68 MDL. ALL BATHROOMS SHALL HAVE CERAMIC TILE FLOORS AND 6" MIN CERAMIC TILE SANITARY COVE BASE AT PERIMETER AND DUROCK FINISH ON WALLS (BSA NO. 486.39 SM). BATHROOMS TO BE VENTED NATURALLY AS PER SEC. 76 MDL OR MECHANICALLY WITH 4 AIR CHANGES PER HOUR AND OPERATE BETWEEN 6 A.M. TO MIDNIGHT. NO NUISANCE NOISE OR VIBRATION SHALL BE CREATED BY VENTILATING MOTORS.
25. PLUMBING AND DRAINAGE AS PER 77 MDL.

ENERGY NOTES (NEW YORK CITY 2011 ENERGY CONSERVATION CODE):

1. THE HEATING SYSTEM WHEN INSTALLED AS DESIGNED, WILL BE IN ACCORDANCE WITH ALL APPLICABLE LAWS, ORDINANCE, AND REGULATIONS. THE SYSTEM WAS DESIGNED AS RECOMMENDED BY THE AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ASSOCIATION GUIDES. THE SYSTEM IS BASED ON THE INSIDE TEMPERATURE BEING MAINTAINED AT 72 F, WHEN THE OUTSIDE TEMPERATURE IS ±15° F WITH A 15 MPH WIND.
2. CALCULATIONS FOR HEATING (HEAT LOSS) ARE BASED ON ECC CHAPTER 5 OF 2011 NYCECC MINIMUM INSULATION STANDARDS AS NOTED BELOW: A. EXTERIOR MASS WALLS R = 11.4ci B. EXTERIOR MTL. STUD WALLS R = 19 C. ROOF R = 38 (AVERAGE) D. FLOORS EXPOSED TO OUTSIDE R = 10.4ci E. FLOORS OVER UNHEATED AREA R = 10.4ci F. ALL WINDOWS (DOUBLE GLAZING) VINYL U = 0.40, ALUMINUM U =0.55 G. CURTAIN WALL/STOREFRONT U-0.50 H. ENTRANCE DOORS U = 0.85 NOTE U-FACTOR = BTU/HOUR SQUARE FOOT DEGREES FAHRENHEIT TEMPERATURE DIFFERENCE.

SPECIAL INSPECTIONS AND PROGRESS INSPECTIONS:

1. AS PER TITLE 28_NYC BUILDING CODE (EFFECTIVE JULY 2008) SPECIAL INSPECTIONS AND PROGRESS INSPECTIONS SHALL BE PERFORMED FOR ALL ITEMS DESIGNATED BY THE DESIGN APPLICANT. TR-1 FORMS SHALL BE FILED WITH THE NEW YORK CITY DEPARTMENT OF BUILDINGS BY THE SPECIAL/PROGRESS INSPECTION APPLICANTS DESIGNATED BY THE CONTRACTOR PRIOR TO PERMIT AND PRIOR TO SIGN-OFF.
2. PRIOR TO APPROVAL: THE P.E. OR R.A. RESPONSIBLE FOR THE PLANS SHALL IDENTIFY THE REQUIRED SPECIAL/PROGRESS INSPECTIONS AND/OR TESTS PRIOR TO APPROVAL. (DESIGN APPLICANT)
3. PRIOR TO PERMIT FILING: THE SPECIAL/PROGRESS INSPECTION APPLICANT SHALL IDENTIFY, DATE AND DESIGNATE RESPONSIBILITY FOR PERFORMING THE REQUIRED SPECIAL/PROGRESS INSPECTIONS AT PERMIT.
4. PRIOR TO SIGN-OFF: WHEN ALL OR A PORTION OF THE REQUIRED SPECIAL/PROGRESS INSPECTIONS HAVE BEEN SATISFIED THE SPECIAL/PROGRESS INSPECTION APPLICANT SHALL DATE AND CERTIFY COMPLETION OF THE SPECIFIED ITEMS.
5. A LICENSED CONCRETE TESTING LABORATORY SHALL BE RETAINED TO PERFORM CONCRETE TESTS. THE LICENSED CONCRETE TESTING LAB SHALL IDENTIFY DATE AND DESIGNATE RESPONSIBILITY FOR CONCRETE TEST CYLINDERS AND CONCRETE DESIGN MIX; THIS NEED NOT BE PERFORMED BY A SPECIAL INSPECTION AGENCY. TAKE FOUR (4) CYLINDERS OF EACH 50 CUBIC YARD OF CONCRETE OF EACH CLASS PLACED ON ANY ONE DAY, TESTING ONE (1) AT 7 DAYS AND THREE (3) AT 28 DAYS. ALSO TAKE TESTS OF SLUMP, TEMPERATURE, AIR CONTENT AND UNIT WEIGHT.
6. FORMS SHALL BE FILED BY THE MANUFACTURER AND SUPPLIER, RESPECTIVELY, OF STRUCTURAL MASONRY UNIT AND SHALL INDICATE STRENGTHS OF MASONRY UNITS SUPPLIED

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FILING FEES AND ALL COSTS ASSOCIATED WITH RETAINING ENGINEERING SERVICES, INSPECTION & TESTING FOR THE FOLLOWING SPECIAL INSPECTIONS AND PROGRESS INSPECTIONS:

E.C.C. PROGRESS INSPECTIONS

PROGRESS INSPECTION	TABLE REFERENCE IN 1RCNY §5000-01(h)(2)
FENESTRATION THERMAL VALUES AND RATINGS	(IIA3)
FENESTRATION RATINGS FOR AIR LEAKAGE	(IIA4)
FENESTRATION AREAS	(IIA5)
HVAC AND SERVICE WATER HEATING EQUIPMENT	(IIB33)
HVAC AND SERVICE WATER HEATING SYSTEM CONTROLS	(IIB4)

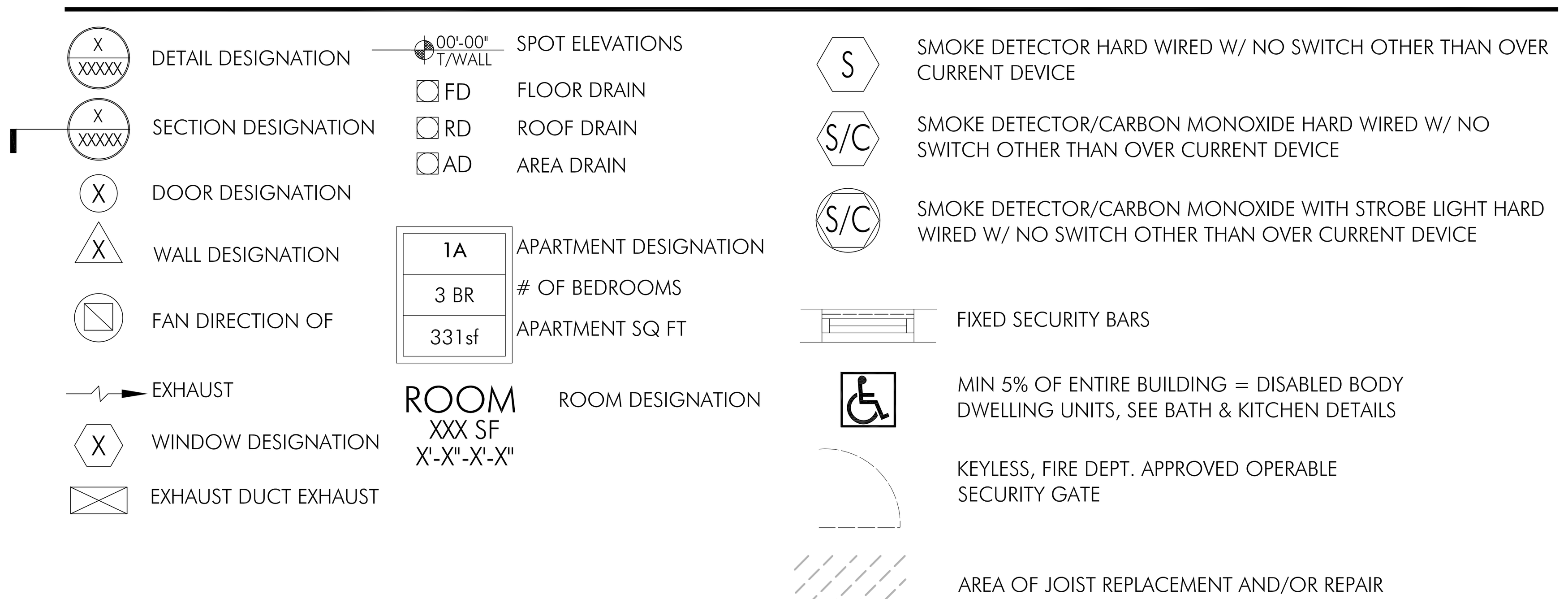
SPECIAL AND PROGRESS INSPECTIONS

SPECIAL INSPECTIONS	
FIRE STOP, DRAFTSTOP, AND FIRE BLOCK SYSTEM	BC 1704.25
PROGRESS INSPECTIONS	
FINAL	28-116.2.4.2 BC 109.5, DIRECTIVE 14 OF 1975, AND 1 RCNY 101-10

ABBREVIATIONS

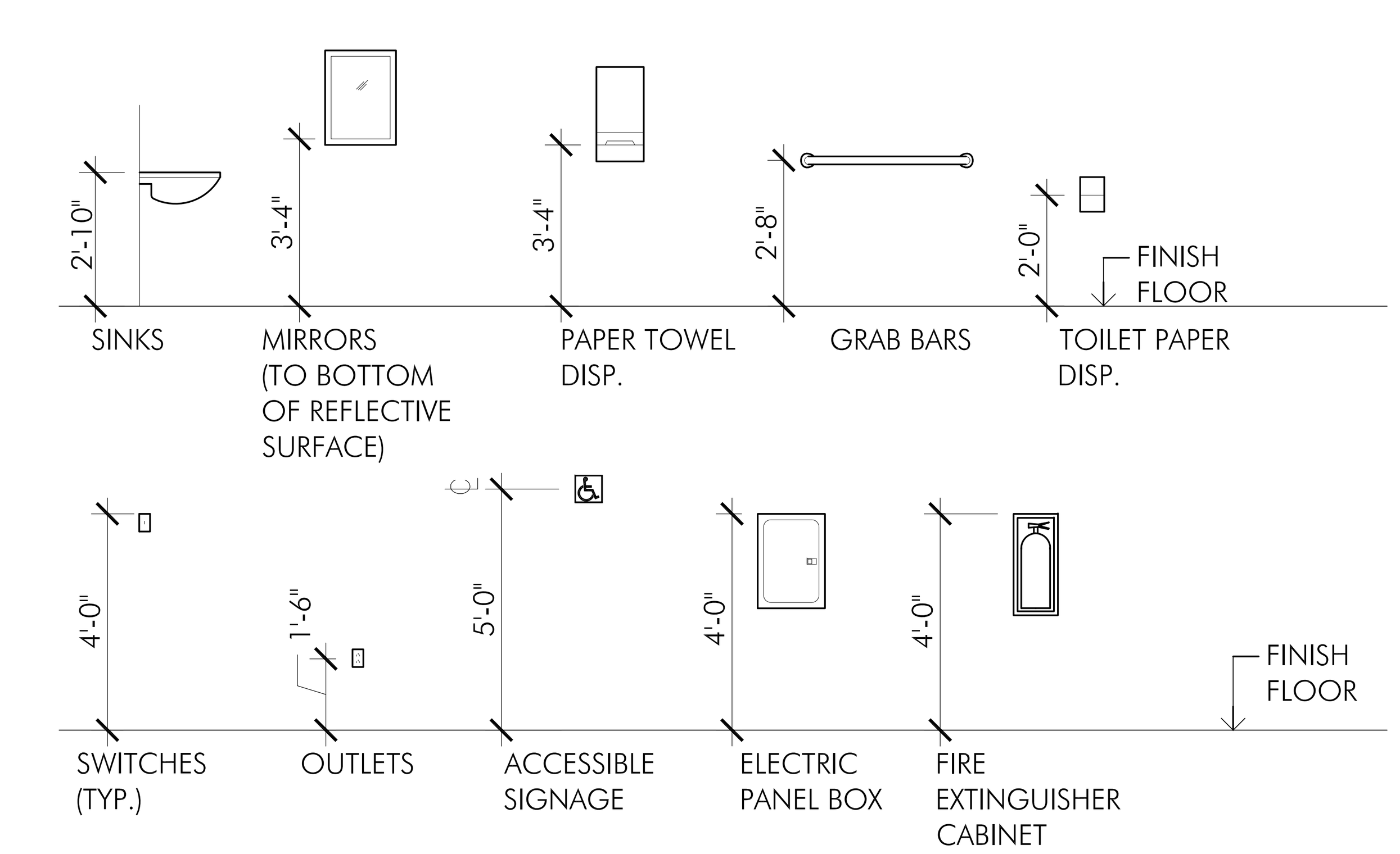
@	AT
A.C.	AIR CONDITIONER
A.D.	AREA DRAIN
A.F.F.	ABOVE FINISHED FLOOR
A.F.R.	ABOVE FINISHED ROOF
ALUM.	ALUMINUM
APPVD.	APPROVED
APT.	APARTMENT
A.S.	ALUMINUM SADDLE
B.C.	BUILDING CODE
BD.	BOARD
BLDG.	BUILDING
BLK.	BLOCK
BM.	BEAM
B.C.	BOTTOM OF CURB
B.O.	BOTTOM OF
BOT.	BOTTOM
B.P.	BEARING PLATE
BR.	BEDROOM
B.S.A.	BOARD OF STANDARDS & APPEALS
B.S.B.	BETWEEN STOP BEADS
B.U.	BUILT UP
C.L.	CENTER LINE
CAB.	CABINET
CEM.	CEMENT
CEM.PL.	CEMENT PLASTER
CL.	CLOSET
CLG.	CEILING
COL.	COLUMN
CONC.	CONCRETE
CONT.	CONTINUOUS
CORR.	CORRIDOR
CP.	CARPET
C.T.	CERAMIC TILE
CU.FT.	CUBIC FEET
D.A.	DROPPED ARCH
DEPT.	DEPARTMENT
DET.	DETAIL
D.H.	DOUBLE HUNG
DIA.	DIAMETER
DIM.	DIMENSION
DN.	DOWN
DR.	DOOR
DWR.	DRAWER
DWG.	DRAWING
EA.	EACH
EL.	ELEVATION
ELEC.	ELECTRIC
EQUIP.	EQUIPMENT
EXH.	EXHAUST
EXIST.	EXISTING
EXP.	EXPANSION
F.A.I.	FRESH AIR INTAKE
F.C.	FIRE CODE
F.D.	FLOOR DRAIN
FIN.	FINISHED FLOOR
FL.	FLOOR
F.P.	FIREPROOF
F.P.S.C.	FIREPROOF SELF CLOSING
FT.	FOOT
GA.	GAUGE
G.I.	GALVANIZED IRON
GL.	GLASS
GOVT.	GOVERNMENT
H.B.	HOSE BIBB
H.C.	HOLLOW CORE
HGT.	HEIGHT
H.M.	HOLLOW METAL
H.M.C.	HOUSING MAINTENANCE CODE
HR.	HOUR
INSUL.	INSULATION
INT.	INTERIOR
JT.	JOINT
KTTE	KITCHENETTE
LAV.	LAVATORY
LDR.	LEADER
LGT.	LIGHT
LIN.	LINEN CLOSET
L.P.	LIGHT POLE
LR/D	LIVING ROOM/DINING
L.W.	LIGHTWEIGHT
MACH.	MACHINE
MAS.	MASONRY
MAX.	MAXIMUM
M.C.	MEDICINE CABINET
MECH.	MECHANICAL
MIN.	MINIMUM
M.O.	MASONRY OPENING
M.S.	MARBLE SADDLE
M.D.L.	MULTIPLE DWELLING LAW
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OPNG.	OPENING
OPP.	OPPOSITE HAND
PART.	PARTITION
PL.	PLASTER
PL.GL.	PLATE GLASS
PLYWD.	PLYWOOD
R.	RANGE
RI.	RISER
R.D.	ROOF DRAIN
REIN.	REINFORCE
REF.	REFRIGERATOR
REQ.	REQUIRED
REV.	REVISION
R.S.	RAISED SILL
R.U.	REMOVABLE UNIT
S.	SINK
S.A.B.	SOUND ATTENUATION BLANKETS
SECT.	SECTION
S.F.	SQUARE FEET
SIM.	SIMILAR
S.S.	SERVICE SINK
STD.	STANDARD
STL.	STEEL
STR.	STAIR
SUSP.	SUSPENDED
T.	TOILET
T.C.	TOP OF CURB
T.O.	TOP OF
T.L.	TRAFFIC LIGHT
TYP.	TYPICAL
U.L.	UNDERWRITER'S LAB
V.C.T.	VINYL COMPOSITION TILE
VEST.	VESTIBULE
W.	WIDE FLANGE
W/	WITH
W.C.	WATER CLOSET
WD.	WOOD
W.G.	WINDOW GUARD
W.GL.	WIRE GLASS
W.H.	WATER HEATER
W.M.	WASHING MACHINE
W.P.	WATERPROOF
W.R.	WATER RESISTANT
W.W.M.	WELDED WIRE MESH
Y.D.	YARD DRAIN

SYMBOLS



TYPICAL MOUNTING HEIGHTS

ALL MOUNTING HEIGHTS FOR ACCESSIBLE ITEMS SHALL BE COMPLIANT WITH ICC/ANSI A117.1 AND ADAAG REQUIREMENTS



167-168 3RD AVENUE LLC

PROJECT TITLE:

3475 3RD AVENUE

KEY PLAN:

OWNER:
167-168 3RD AVENUE LLC
P.O. BOX 234550 | GREAT NECK, NY 11023

STRUCTURAL CONSULTANT:
WEXLER ASSOCIATES
12 W 32ND STREET #10 | NEW YORK, NY 10001
TEL: 212.643.1500 | FAX: 212.643.2277

MEP CONSULTANT:

NO:	REVISION:	DATE:
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

ADDRESS:
3475 3RD AVENUE
BRONX, NY 10456

DRAWING TITLE:
GENERAL NOTES

ARCHITECT: SEAL & SIGNATURE:

OCV
OAKLANDER COOGAN & VITTO PC
ARCHITECTS
WWW OCVARCH COM
203 LAFAYETTE STREET 5TH FL
NEW YORK CITY NEW YORK 10012
t 212 675 6470 f 212 675 6728

DRAWING #: A-002.00

DATE: 10/09/14

JOB #: 14J17

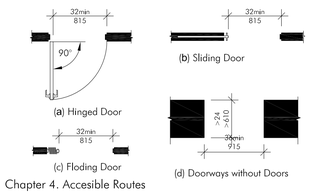
DRAWN BY: LP-SP

BIS #:

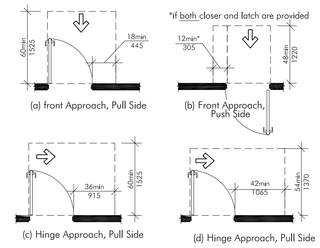
0 1"
SCALE INDICATOR MEASURES 1" WHEN PLOT SCALE IS 1:1

FOR DOB USE ONLY

ADA COMPLIANCE PER ICC/ANSI A117.1-2003



Chapter 4. Accesible Routes



* If both closer and latch are provided
**48 min (1220) if both closed and latch provided

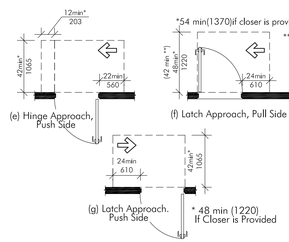


Fig. 404.2.3.1
Maneuvering Clearance at Manual Swinging Doors

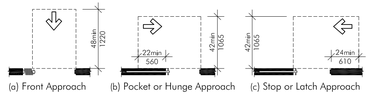
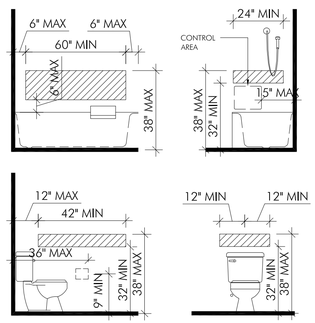
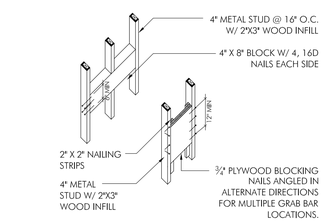


Fig. 404.2.3.2
Maneuvering Clearance at Siliding and Folding Doors

MANEUVERING CLEARANCES @ DOORS





GRAB BAR REINFORCING - NTS

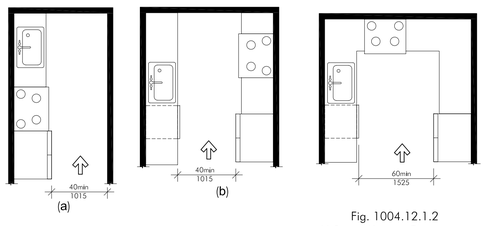
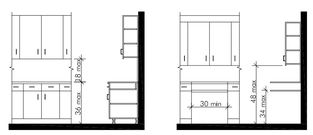
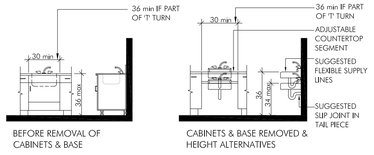


Fig. 1004.12.1.1
Minimum Kitchen Clearance in Type B Units

Fig. 1004.12.1.2
U-Shape Kitchen Clearance in Type B Units

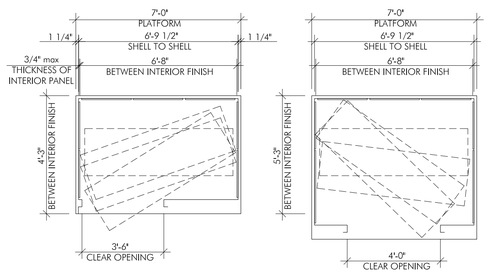


KITCHEN COUNTER ADAPTABLE CABINET



KITCHEN SINK ADAPTABLE CABINET

TYPE 'B" UNITS - KITCHENS



ELEVATOR CAR
76" x 24" STRETCHER SHOWN DOTTED
O.K TO MANEUVER

ELEVATOR CAR
76" x 24" STRETCHER SHOWN DOTTED
O.K TO MANEUVER

STRETCHER REQUIREMENTS

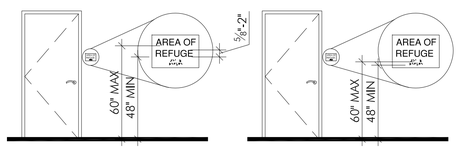


Fig. 703.3.10
HEIGHT OF RAISED CHARACTERS ABOVE FLOOR

Fig. 703.4.5
HEIGHT OF BRAILLE CHARACTERS ABOVE FLOOR

703.1 General. Accessible signs shall comply with Section 703. Tactile signs shall contain both raised characters and braille. Where signs with both visual and raised characters are required, either one sign with both visual and raised characters, or two separate signs, one with visual, and one with raised characters, shall be provided.

TACTILE SIGNAGE

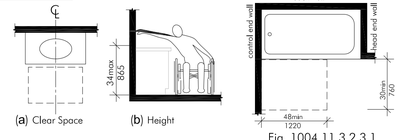


Fig. 1004.11.3.2.1
Lavatory in Type B units
Option B Bathrooms

Fig. 1004.11.3.2.3.1
Bathtub Clearance in Type B Units
Option B Bathrooms

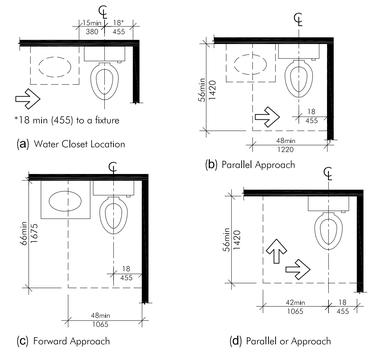


Fig. 1004.11.3.1.3.2
Water Closet in Type B Units

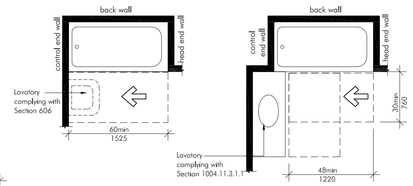


Fig. 1004.11.3.1.3.1
Parallel Approach Bathtub in Type b units - option A bathrooms

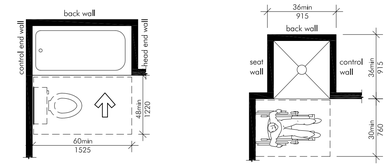


Fig. 1004.11.3.1.3.2
Forward Approach Bathtub in Type B Units
Option A Bathrooms

TYPE 'B" UNITS - BATHROOMS

2008 NEW YORK CITY BUILDING CODE
CHAPTER 11: ACCESSIBILITY

SECTION BC 1101: GENERAL

1101.1 Scope. The provisions of this chapter and Appendices E, N and P shall control the design and construction of facilities for accessibility to persons with physical disabilities.

1101.2 Design. Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC A 117.1 (Accessible and Usable Buildings and Facilities).

SECTION BC 1102: DEFINITIONS

DWELLING UNIT (ACCESSIBILITY). For the purposes of Chapter 11 and applicable appendices: A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation.

DWELLING UNIT OR SLEEPING UNIT, TYPE B. A dwelling unit or sleeping unit designed and constructed for accessibility in accordance with this code, Section 1004 (Type B Units) of ICC A117.1 where applicable, and Appendix P of this code where applicable, consistent with or exceeding the design and construction requirements of the federal Fair
Housing Act.

SECTION BC 1103: SCOPING REQUIREMENTS

1103.1 Where required. Buildings and structures, temporary or permanent, including their associated sites and facilities, shall be accessible to persons with physical disabilities.

1103.2 General exceptions. Sites, buildings, facilities and elements shall be exempt from this chapter to the extent specified in this section.

1103.2.1 Specific requirements. Accessibility is not required in buildings and facilities, or portions thereof, to the extent permitted by Sections 1104 through 1110.

1103.2.2 Existing buildings. Existing buildings shall comply with Section 28-101.4 of the Administrative Code.

SECTION BC 1104: ACCESSIBLE ROUTE

1104.1 Site arrival points. Accessible routes within the site shall be provided from public transportation stops, accessible parking and accessible passenger loading zones, and public streets or sidewalks to the accessible building entrance served.

1104.2 Within a site. At least one accessible route shall connect accessible buildings, accessible facilities, accessible elements and accessible spaces that are on the same site and shall comply with Section 1104.5.

1104.3 Connected spaces. When a building, or portion of a building, is required to be accessible, an accessible route shall be provided to each portion of the building, to accessible building entrances connecting accessible pedestrian walkways and the public way. Where only one accessible route is provided, the accessible route shall not pass through kitchens, storage rooms, restrooms, closets or similar spaces.

SECTION BC 1105: ACCESSIBLE ENTRANCES

1105.1 Public entrances. In addition to accessible entrances required by Sections 1105.1.1 through 1105.1.6, all public entrances shall be accessible.

1105.1.1 Parking garage entrances. Where provided, direct access for pedestrians from parking structures to buildings or facility entrances shall be accessible.

1105.1.6 Tenant spaces. All entrances to tenant spaces that are required to be accessible shall be accessible entrances.

1105.1.6.1 Dwelling units and sleeping units. Doors and doorways at entrance(s) to Accessible units, including hardware, shall comply with Section 404 (Doors and doorways) of ICC A 117.1. Doors and doorways, including hardware, at entrance(s) to Type B units shall comply with Section 1003.5 (Doors and doorways) of ICC AI 17. 1.

SECTION BC 1106: PARKING AND PASSENGER LOADING FACILITIES

1106.2 Groups R-2 and R-3. Where parking is provided for occupancies in Groups R-2 and R-3, which are required to have Accessible or Type B dwelling or sleeping units, the number of accessible parking spaces shall he in compliance with Section 1106.1 and such number of accessible parking spaces shall he dispersed in accordance with Section 1106.6. Where parking is provided within or beneath a building, accessible parking spaces shall also be provided within or beneath the building.

SECTION BC 1107: DWELLING UNITS AND SLEEPING UNITS

1107.1 General. In addition to the other requirements of this chapter, occupancies having dwelling units or sleeping units shall be provided with accessible features in accordance with this section.

1107.2 Design. Dwelling units and sleeping units which are required to be Accessible units or Type B units shall comply I with this code including Appendix P where applicable, and the applicable provisions of Chapter 10 of ICC A117.1. In addition, Type B units in R-2 occupancies shall comply with Sections 1107.2.1 through 1107.2.8. Units required to be Type B units are permitted to be designed and constructed as Accessible units.

1107.2.1 Type B unit doors and doorways in R-2 occupancy. Doors and doorways at the entrance(s) to the dwelling or sleeping unit shall comply with Section 1105.1.6. All other doors and doorways within the dwelling or sleeping unit meant for human passage shall comply with Section 1003.5 (Doors and Doorways) of ICC AI 17.1. In addition, doors and doorways serving toilet and bathing facilities that are required to comply with Appendix P shall also comply with Section P102.3.

Exceptions:

1. **Maneuvering clearance at doors.** Where pull side, latch approach maneuvering clearance is required within the dwelling or sleeping unit for a door without a closer as per Figure 404.2.3.1(f) of ICC A 117.1, the minimum maneuvering clearance perpendicular to the doorway shall be permitted to be reduced to 42 inches (1067 mm).
3. **Future reversibility for bedroom doors.** Bedroom doors and frames shall be permitted to be provided with mortised hinge and latch blanks to permit future reversal of the door on the same frame using common hand tools and without further alterations to the door and frame, provided such future swing of the door will not obstruct the maneuvering clearances required at the door or doorway.

1107.2.2 Type B unit toilet and bathing facilities in R-2 occupancy. Where toilet and bathing facilities are provided in the dwelling unit or sleeping unit, all such toilet and bathing facilities shall comply with Appendix P.

1107.2.3 Type B unit kitchen and kitchenette in R-2 occupancy. Where kitchens and kitchenettes are provided in the dwelling unit or sleeping unit, the primary kitchen or kitchenette shall be constructed in accordance with the kitchen requirements of Section 1003.12 (Kitchen) of ICC A117.1 and Sections 1107.2.3.1 through 1107.2.3.4. Secondary kitchens and kitchenettes within the same dwelling unit or sleeping unit shall be required to comply only with Section 1004.12 (Kitchens) of ICC A117.1.

1107.2.3.4 Kitchen and kitchenette storage. Kitchen storage, kitchen cabinets, drawers, and shelf storage areas, within kitchen and kitchenettes that are required to comply with Section 1003.12 of ICC AI 17.1 pursuant to Section 1107.2.3, except overhead cabinets, shall comply with Section 905 (Storage Facilities) of ICC A117.1.
In addition, at least one storage shelf or cabinet, mounted above work counters at 48 inches (1219 mm) maximum above the floor, shall be provided.

1107.3 Accessible spaces. Rooms and spaces available to the general public or available for use by residents of Accessible units or Type B units shall be accessible. Accessible spaces shall include, but not be limited to, spaces for residents' use, such as laundry rooms, refuse disposal and storage locations, mailbox areas, recreational facilities, assembly and tenants'
meeting rooms, storage rooms, parking areas, toilet and bathing rooms, kitchen, living and dining areas, any exterior spaces, including patios, terraces and balconies, management offices, and stores.

1107.4 Accessible route. At least one accessible route shall connect accessible building or facility entrances with the required accessible entrance(s) of each Accessible unit and Type B unit within the building or facility and with those exterior and interior spaces and facilities that serve the units.

1107.6 Group R. Occupancies in Group R shall be provided with accessible features in accordance with Sections 1107.6.1 through 1107.6.3.

1107.6.1.2 Type B units. In structures with four or more dwelling or sleeping units intended to be occupied as a residence, every dwelling and sleeping unit intended to be occupied as a residence shall be a Type B unit.

1107.6.1.4 Boarding houses, dormitories, fraternity houses and sorority houses. Accessible units and Type B dwelling units and sleeping units shall be provided in boarding houses, dormitories, fraternity houses and sorority houses in accordance with Sections 1107.6.1.4.1 and 1107.6.1.4.2.

1107.6.2 Group R-2. Accessible units and Type B units shall be provided in occupancies in Group R-2 in accordance with Section 1107.6.2.1.

1107.6.2.1 Apartment houses, monasteries and convents. Type B units shall be provided in apartment houses, monasteries and convents in accordance with Section 1107.6.2.1.1.

1107.6.2.1.1 Type B units. Every dwelling unit and sleeping unit, regardless of intent to occupy such unit as a residence, shall be a Type B unit and shall comply with Section 1107.2, and Sections 1107.2.1 through 1107.2.8.

1107.7 General exceptions. Where specifically permitted by Section 1107.6, the required number of Type B units is permitted to be reduced in accordance with Sections 1107.7.1 through 1107.7.3.

1107.7.1 Buildings without elevator service. Where no elevator service is provided in a building, only the dwelling and sleeping units that are located on stories indicated in Sections 1107.7.1.1 and 1107.7.1.2 are required to be Type B units.

1107.7.3 Elevator service to the lowest story with units. Where elevator service in the building is provided for the sole purpose of complying with the provisions of Section 1107.7.1.1 to serve as an accessible route only to the lowest story containing dwelling or sleeping units intended to be occupied as a residence, only the units intended to be occupied I as a residence on the lowest story served by the elevator are required to be Type B units.

SECTION BC 1109: OTHER FEATURES AND FACILITIES

1109.l General. Accessible building features and facilities shall be provided in accordance with 1109'2 through 1109.15.

Exception: Type B dwelling and sleeping units shall comply with Section 1107 and ICC A117.1.

1109.2 Toilet and bathing facilities. Toilet rooms and bathing facilities shall be accessible. Where a floor level is not required to be connected by an accessible route, the only toilet rooms or bathing facilities provided within the facility shall not be located on the in accessible floor. At least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing facility shall be accessible.

1109.4 Kitchens, kitchenettes and wet bars. Where kitchen, kitchenettes and wet bars not located within dwelling or sleeping units, are provided in accessible spaces or rooms, they shall be accessible in accordance with ICC A117.1 including Section 804 (Kitchens and Kitchenettes).

1109.5 Drinking fountains. On floors where drinking fountains are provided, at least 50 percent, but not less than one fountain, shall be accessible.

1109.6 Elevators. Passenger elevators on an accessible route shall be accessible and comply with 3001.3.

1109.13 Controls, operating mechanisms and hardware. Controls, operating mechanisms and hardware intended for operation by the occupant, including switches that control lighting and ventilation, and electrical convenience outlets, in accessible spaces, along accessible routes or as parts of accessible elements shall be accessible.

1109.14 Recreational facilities. Recreational facilities shall y be accessible.

SECTION BC 1110: SIGNAGE

1110.1 Signs. Required accessible elements shall be identified by the International Symbol of Accessibility at the following locations:(See BC 1110.1 for list).

1110.2 Directional signage. Directional signage indicating the route to the nearest like accessible element shall be provided at the following locations. These directional signs shall include the International Symbol of Accessibility: (See BC 1110.2 for list).

1110.3 Other signs. Signage indicating special accessibility provisions shall be provided as follows: (See BC T110.3 for list).

167-168 3RD AVENUE LLC

PROJECT TITLE:

3475 3RD AVENUE

KEY PLAN:

OWNER:
167-168 3RD AVENUE LLC
P.O. BOX 234550 | GREAT NECK, NY 11023

STRUCTURAL CONSULTANT:
WEXLER ASSOCIATES
12 W 32ND STREET #10 | NEW YORK, NY 10001
TEL: 212.643.1500 | FAX: 212.643.2277

MEP CONSULTANT:

NO:	REVISION:	DATE:
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ADDRESS:
3475 3RD AVENUE
BRONX, NY 10456

DRAWING TITLE:
ADA NOTES

ARCHITECT:
OCV
OAKLANDER COOGAN & VITTO PC
ARCHITECTS
WWW OCVARCH COM
203 LAFAYETTE STREET 5TH FL
NEW YORK CITY NEW YORK 10012
t 212 675 6470 f 212 675 6728

SEAL & SIGNATURE:

DRAWING #:
A-003.00

DATE:
10/09/14

JOB #:
14J17

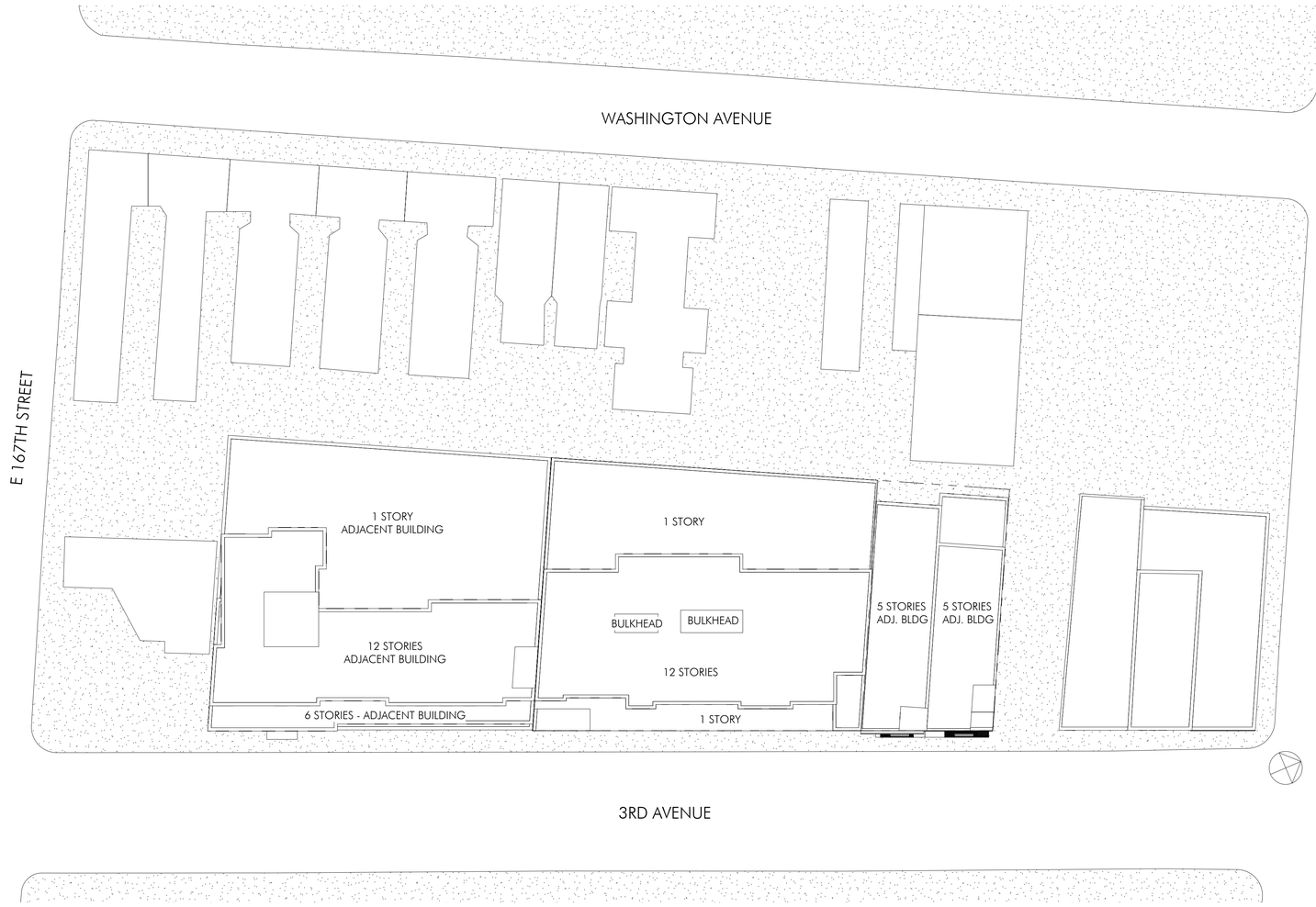
DRAWN BY:
LP-SP

BIS #:

0 1"
SCALE INDICATOR MEASURES 1" WHEN PLOT SCALE IS 1:1

04OF 13

FOR DOB USE ONLY



1 Site 1" = 30'-0"

167-168 THIRD AVE. LLC

PROJECT TITLE:

3475 THIRD AVENUE

OWNER:

167-168 THIRD AVE. LLC

PO BOX 234550, GREAT NECK, NY 11023

MEP CONSULTANT:

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STRUCTURAL CONSULTANT:

WEXLER ASSOCIATES

12 W 32ND STREET # 10, NEW YORK, NY 10001

TEL | 212.643.1500 FAX | 212.643.2277

NO.	REVISION	DATE

ADDRESS:

3475 THIRD AVENUE
BRONX, NY 10456

DRAWING TITLE:

SITE PLAN

ARCHITECT:

OCV
OAKLANDER, COOGAN & VITTO, PC
ARCHITECTS
WWW.OCVARCH.COM
203 LAFAYETTE STREET 5TH FL
NEW YORK CITY, NEW YORK 10012
t 212.675.6470 f 212.675.6728

SEAL & SIGNATURE:

DRAWING #:

A-100

DATE:
9/25/14

JOB #:
14J17

DRAWN BY:
LP, SP

BIS #:

0 1"
SCALE INDICATOR MEASURES
1" WHEN PLOT SCALE IS 1:1

05 OF 13

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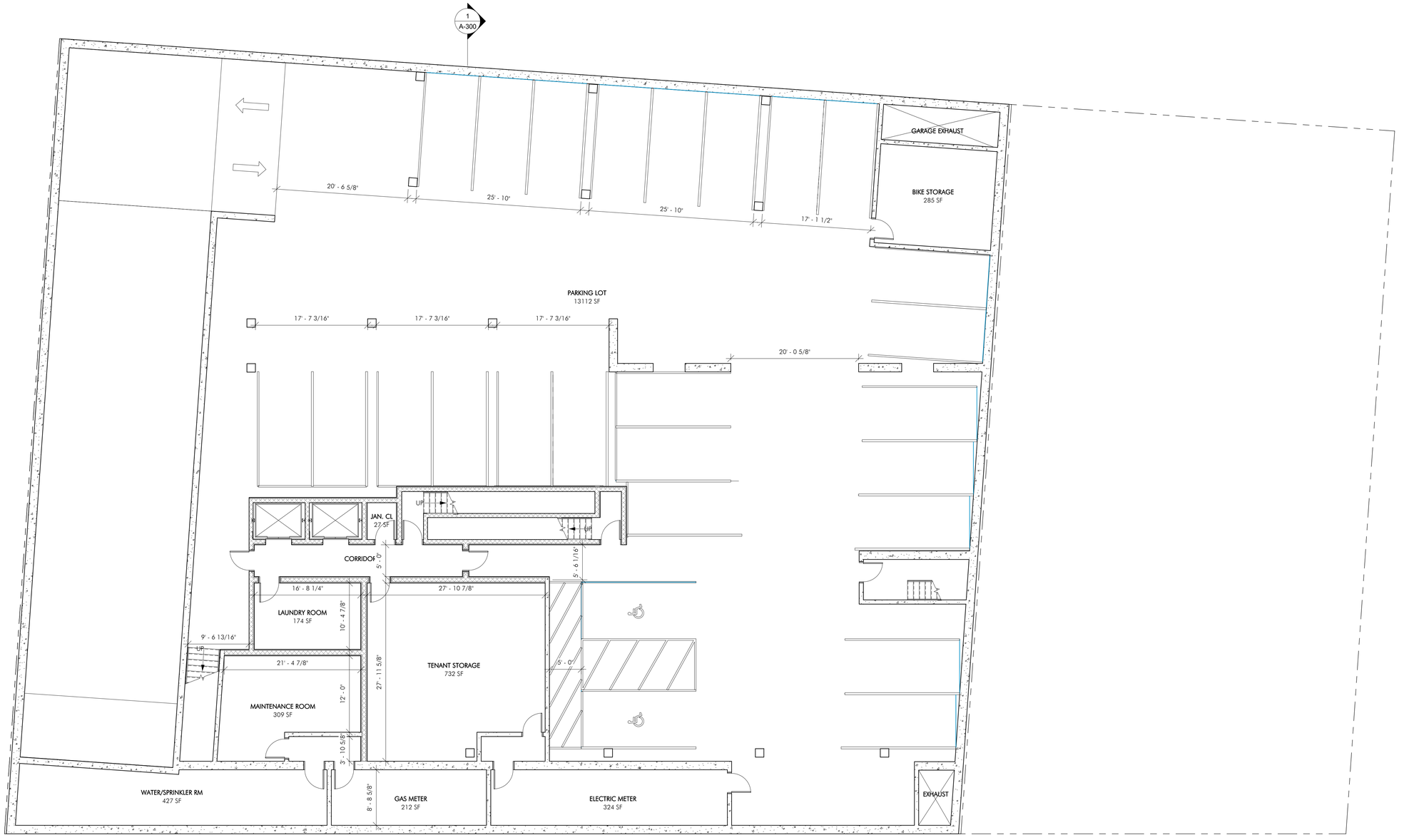

1 CELLAR PLAN 1/8" = 1'-0"

167-168 THIRD AVE. LLC

PROJECT TITLE:

3475 THIRD AVENUE

OWNER:

167-168 THIRD AVE. LLC
PO BOX 234550, GREAT NECK, NY 11023

MEP CONSULTANT:

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STRUCTURAL CONSULTANT:

WEXLER ASSOCIATES
12 W 32ND STREET # 10, NEW YORK, NY 10001
TEL | 212.643.1500 FAX | 212.643.2277

NO.	REVISION	DATE

ADDRESS:

3475 THIRD AVENUE
BRONX, NY 10456

DRAWING TITLE:

CELLAR PLAN

ARCHITECT:

OCV
OAKLANDER, COOGAN & VITTO, PC
ARCHITECTS
WWW.OCVARCH.COM
203 LAFAYETTE STREET 5TH FL
NEW YORK CITY, NEW YORK 10012
t 212.675.6470 f 212.675.6728

SEAL & SIGNATURE:

DRAWING #:

A-110

DATE:
10/6/14

JOB #:
14J17

DRAWN BY:
LP, SN, SP

BIS #:

0 1"
SCALE INDICATOR MEASURES 1" WHEN PLOT SCALE IS 1:1

06 OF 13

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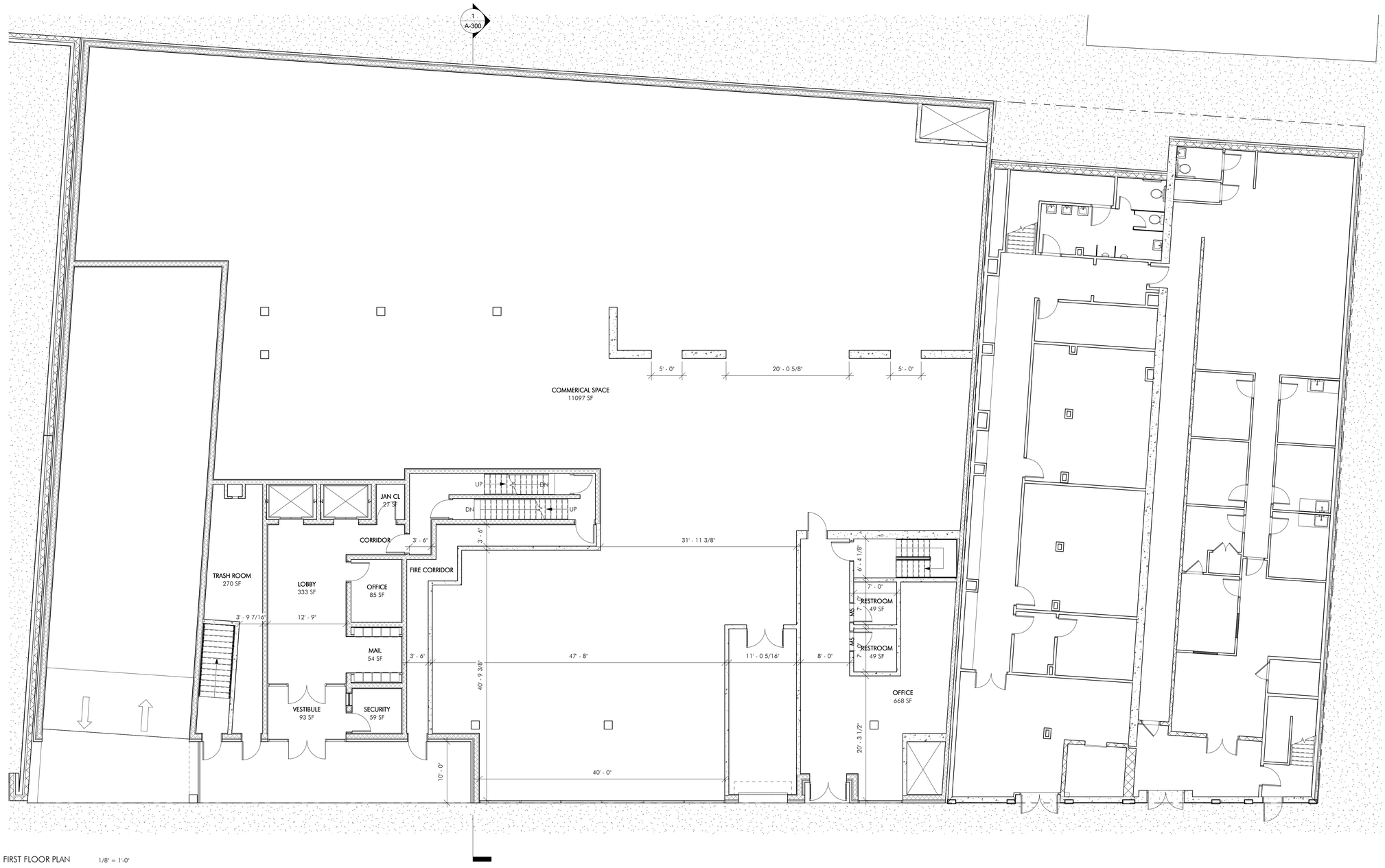

1 FIRST FLOOR PLAN 1/8" = 1'-0"

167-168 THIRD AVE. LLC

PROJECT TITLE:

3475 THIRD AVENUE

OWNER:

167-168 THIRD AVE. LLC

PO BOX 234550, GREAT NECK, NY 11023

MEP CONSULTANT:

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STRUCTURAL CONSULTANT:

WEXLER ASSOCIATES

12 W 32ND STREET # 10, NEW YORK, NY 10001

TEL | 212.643.1500 FAX | 212.643.2277

NO.	REVISION	DATE

ADDRESS:

3475 THIRD AVENUE
BRONX, NY 10456

DRAWING TITLE:

GROUND FLOOR PLAN

ARCHITECT:

OCV
OAKLANDER, COOGAN & VITTO, PC
ARCHITECTS
WWW.OCVARCH.COM
203 LAFAYETTE STREET 5TH FL
NEW YORK CITY, NEW YORK 10012
t 212.675.6470 f 212.675.6728

SEAL & SIGNATURE:

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A-111

DATE:
10/6/14

JOB #:
14J17

DRAWN BY:
LP, SP

BIS #:

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SCALE INDICATOR MEASURES 1" WHEN PLOT SCALE IS 1:1

07 OF 13

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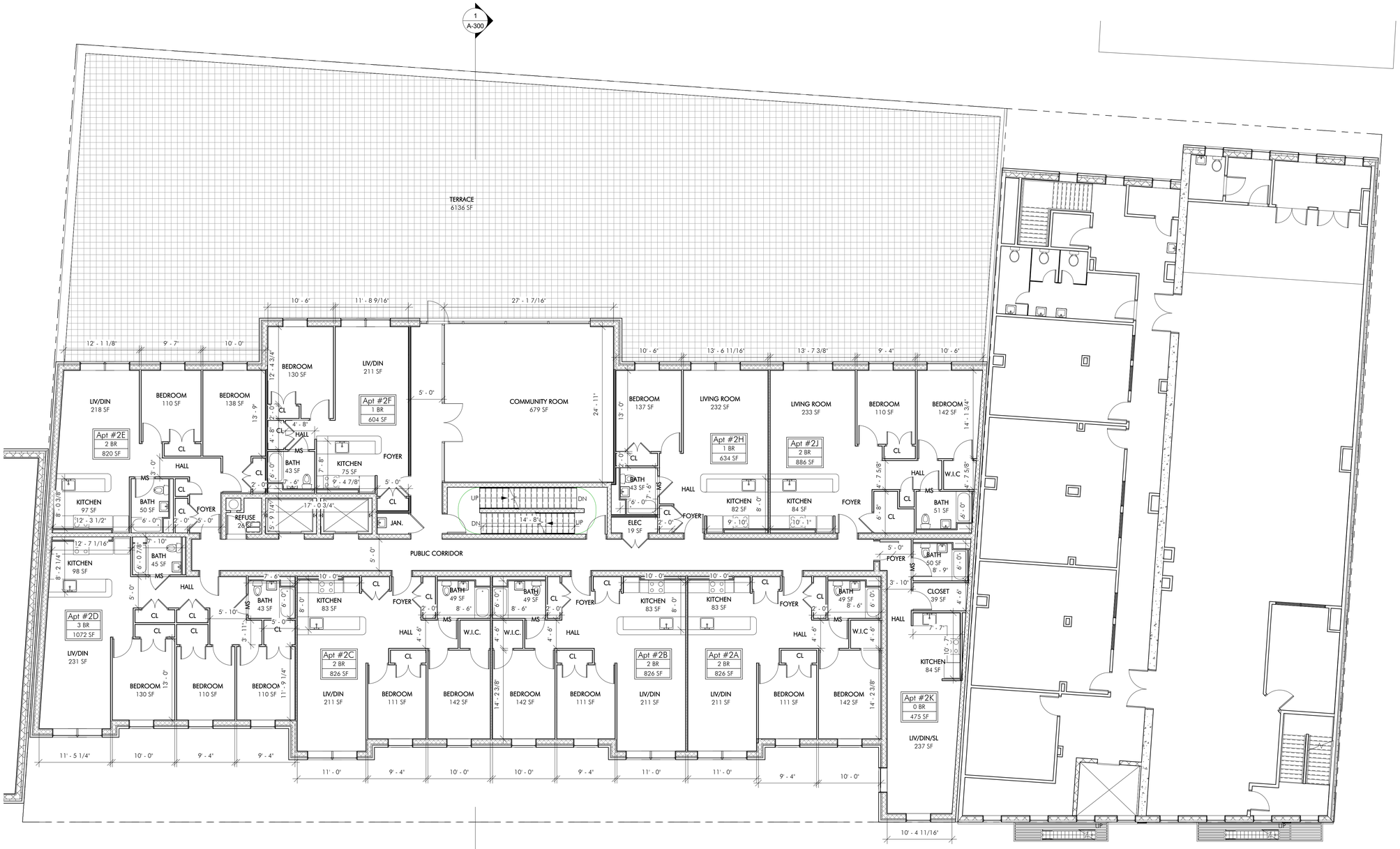

1 Level 2 1/8" = 1'-0"

167-168 THIRD AVE. LLC

PROJECT TITLE:

3475 THIRD AVENUE

OWNER:

167-168 THIRD AVE. LLC
PO BOX 234550, GREAT NECK, NY 11023

MEP CONSULTANT:

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STRUCTURAL CONSULTANT:

WEXLER ASSOCIATES
12 W 32ND STREET # 10, NEW YORK, NY 10001
TEL | 212.643.1500 FAX | 212.643.2277

NO.	REVISION	DATE

ADDRESS:

3475 THIRD AVENUE
BRONX, NY 10456

DRAWING TITLE:

2ND FLOOR PLAN

ARCHITECT:

OCV
OAKLANDER, COOGAN & VITTO, PC
ARCHITECTS
WWW.OCVARCH.COM
203 LAFAYETTE STREET 5TH FL
NEW YORK CITY, NEW YORK 10012
t 212.675.6470 f 212.675.6728

SEAL & SIGNATURE:

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A-112

DATE:
10/6/14

JOB #:
14J17

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LP, SP

BIS #:

0 1"
SCALE INDICATOR MEASURES 1" WHEN PLOT SCALE IS 1:1

08 OF 13

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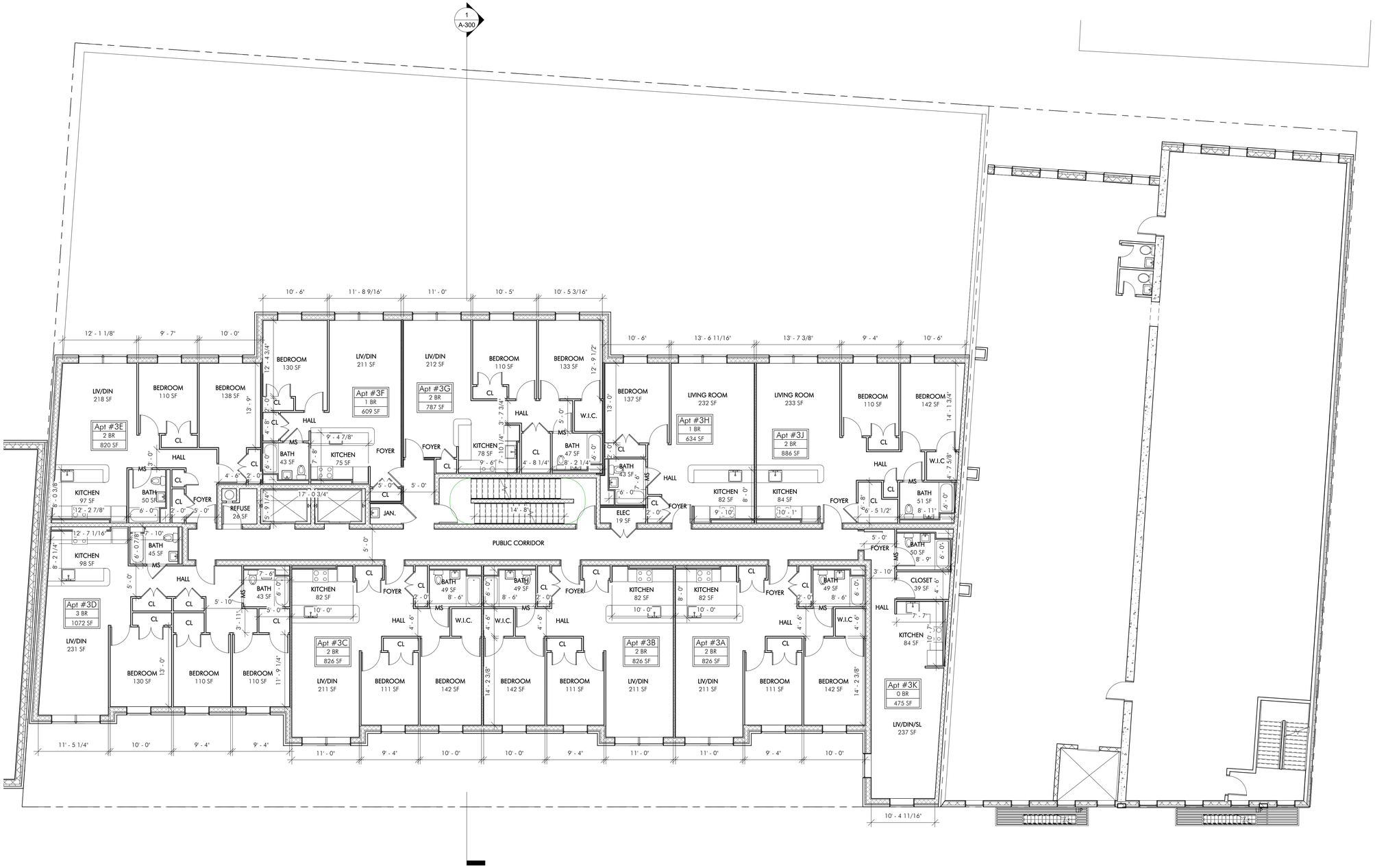

1 Level 3 1/8" = 1'-0"

167-168 THIRD AVE. LLC

PROJECT TITLE:

3475 THIRD AVENUE

OWNER:

167-168 THIRD AVE. LLC
PO BOX 234550, GREAT NECK, NY 11023

MEP CONSULTANT:

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STRUCTURAL CONSULTANT:

WEXLER ASSOCIATES
12 W 32ND STREET # 10, NEW YORK, NY 10001
TEL | 212.643.1500 FAX | 212.643.2277

NO.	REVISION	DATE

ADDRESS:

3475 THIRD AVENUE
BRONX, NY 10456

DRAWING TITLE:

3RD - 5TH FLOOR PLANS

ARCHITECT:

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OAKLANDER, COOGAN & VITTO, PC
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203 LAFAYETTE STREET 5TH FL
NEW YORK CITY, NEW YORK 10012
t 212.675.6470 f 212.675.6728

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A-113

DATE:
10/6/14

JOB #:
14J17

DRAWN BY:
LP, SP

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SCALE INDICATOR MEASURES 1" WHEN PLOT SCALE IS 1:1

09 OF 13

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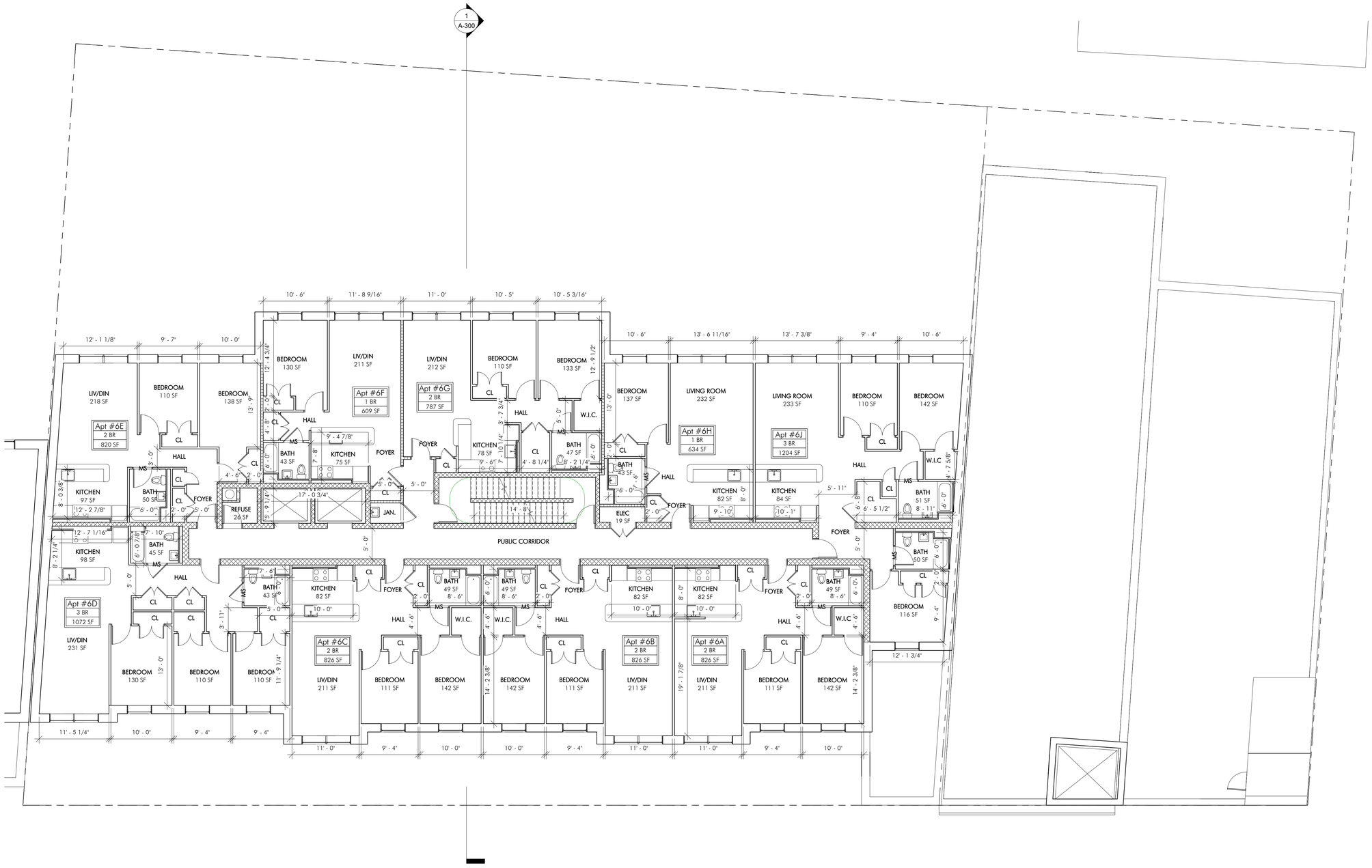

1 Level 6 1/8" = 1'-0"

167-168 THIRD AVE. LLC

PROJECT TITLE:

3475 THIRD AVENUE

OWNER:

167-168 THIRD AVE. LLC
PO BOX 234550, GREAT NECK, NY 11023

MEP CONSULTANT:

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STRUCTURAL CONSULTANT:

WEXLER ASSOCIATES
12 W 32ND STREET # 10, NEW YORK, NY 10001
TEL | 212.643.1500 FAX | 212.643.2277

NO.	REVISION	DATE

ADDRESS:

3475 THIRD AVENUE
BRONX, NY 10456

DRAWING TITLE:

6TH - 12TH FLOOR PLANS

ARCHITECT:

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OAKLANDER, COOGAN & VITTO, PC
ARCHITECTS
WWW.OCVARCH.COM
203 LAFAYETTE STREET 5TH FL
NEW YORK CITY, NEW YORK 10012
: 212.675.6470 : 212.675.6728

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DATE:
10/6/14

JOB #:
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SCALE INDICATOR MEASURES 1" WHEN PLOT SCALE IS 1:1

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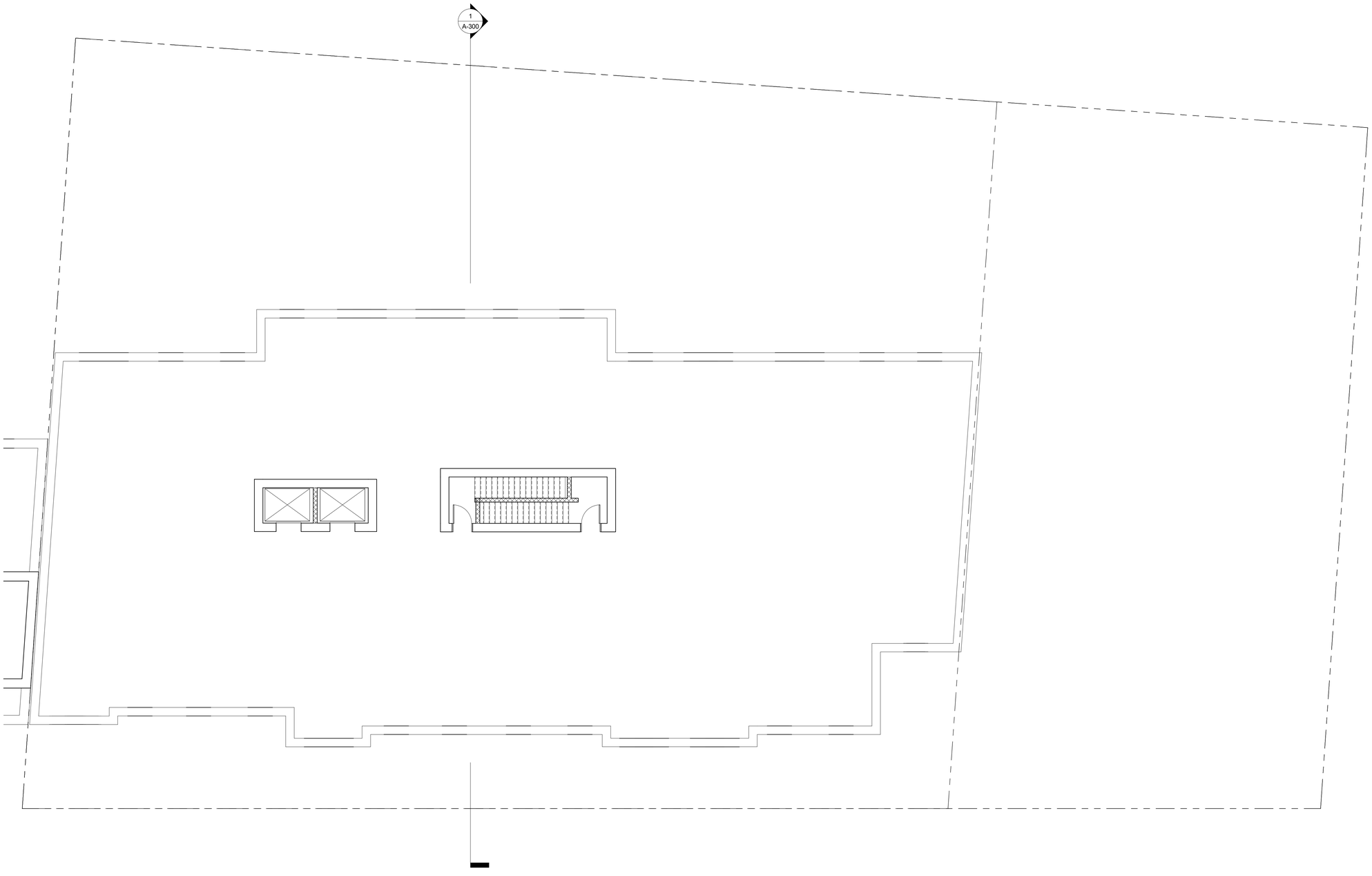

1 ROOF 1/8" = 1'-0"

167-168 THIRD AVE. LLC

PROJECT TITLE:

3475 THIRD AVENUE

OWNER:

167-168 THIRD AVE. LLC

PO BOX 234550, GREAT NECK, NY 11023

MEP CONSULTANT:

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STRUCTURAL CONSULTANT:

WEXLER ASSOCIATES

12 W 32ND STREET # 10, NEW YORK, NY 10001

TEL | 212.643.1500 FAX | 212.643.2277

NO.	REVISION	DATE

ADDRESS:

3475 THIRD AVENUE
BRONX, NY 10456

DRAWING TITLE:

ROOF PLAN

ARCHITECT:

OAKLANDER, COOGAN & VITTO, PC
ARCHITECTS
WWW.OCVARCH.COM
203 LAFAYETTE STREET 5TH FL
NEW YORK CITY, NEW YORK 10012
t 212.675.6470 f 212.675.6728

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10/09/14

JOB #:
14J17

DRAWN BY:
LP, SP

BIS #:

0 1"
SCALE INDICATOR MEASURES 1" WHEN PLOT SCALE IS 1:1

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1 EAST ELEVATION 1/16" = 1'-0"

2 WEST ELEVATION 1/16" = 1'-0"

167-168 THIRD AVE. LLC

PROJECT TITLE:

3475 THIRD AVENUE

OWNER:
167-168 THIRD AVE. LLC
PO BOX 234550, GREAT NECK, NY 11023

MEP CONSULTANT:
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STRUCTURAL CONSULTANT:
WEXLER ASSOCIATES
12 W 32ND STREET # 10, NEW YORK, NY 10001
TEL | 212.643.1500 FAX | 212.643.2277

NO.	REVISION	DATE

ADDRESS:

3475 THIRD AVENUE
BRONX, NY 10456

DRAWING TITLE:

EAST AND WEST ELEVATIONS

ARCHITECT:
OCV
OAKLANDER, COOGAN & VITTO, PC
ARCHITECTS
WWW.OCVARCH.COM
203 LAFAYETTE STREET 5TH FL
NEW YORK CITY, NEW YORK 10012
t 212.675.6470 f 212.675.6728

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A-200

DATE:
9/25/14

JOB #:
14J17

DRAWN BY:
LP, SP

BIS #:

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SCALE INDICATOR MEASURES 1" WHEN PLOT SCALE IS 1:1

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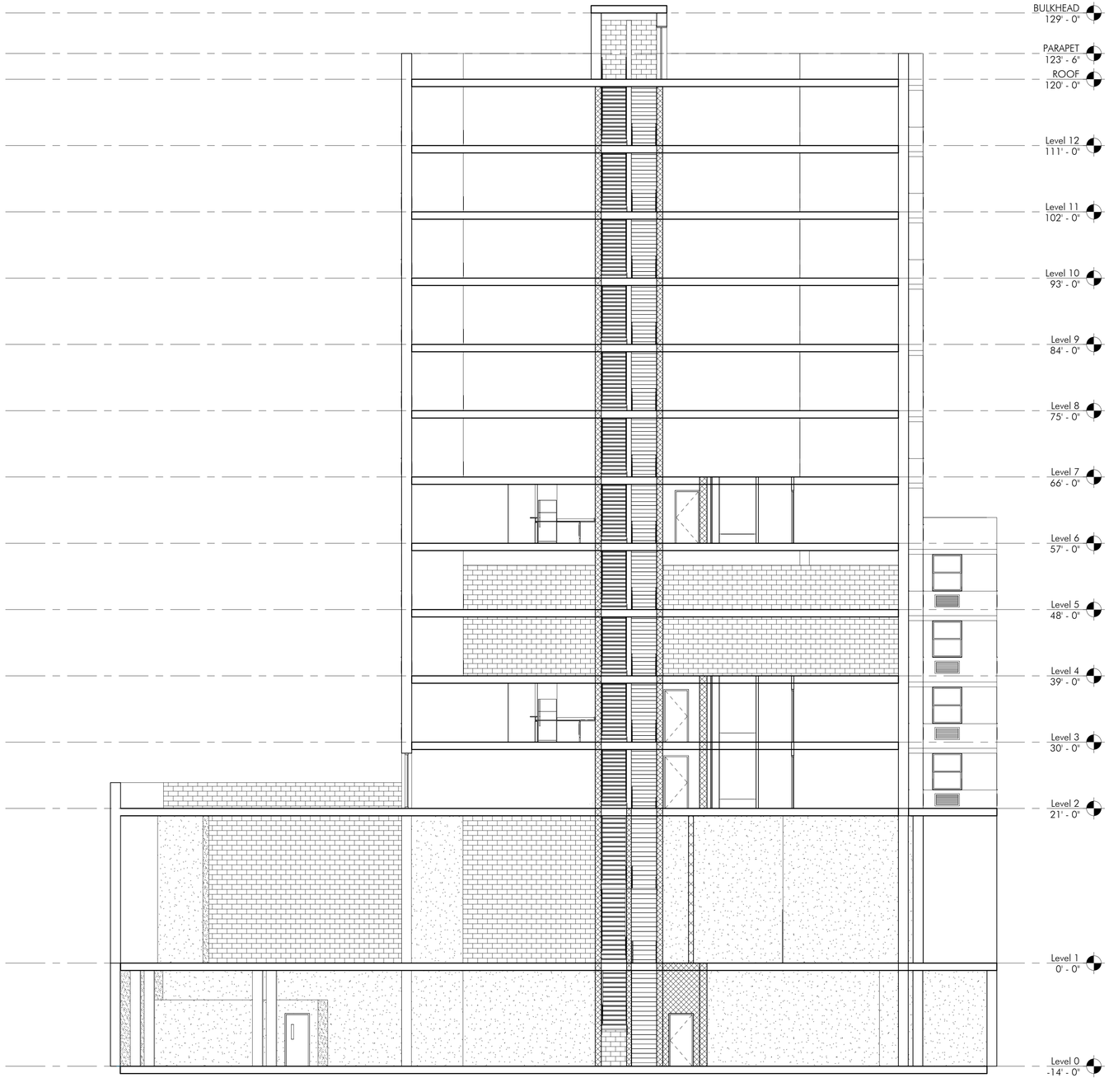

167-168 THIRD AVE. LLC

PROJECT TITLE:

3475 THIRD AVENUE

OWNER:

167-168 THIRD AVE. LLC

PO BOX 234550, GREAT NECK, NY 11023

MEP CONSULTANT:

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STRUCTURAL CONSULTANT:

WEXLER ASSOCIATES

12 W 32ND STREET # 10, NEW YORK, NY 10001

TEL | 212.643.1500 FAX | 212.643.2277

NO.	REVISION	DATE

ADDRESS:

3475 THIRD AVENUE
BRONX, NY 10456

DRAWING TITLE:

SECTION

ARCHITECT:

OCV
OAKLANDER, COOGAN & VITTO, PC
ARCHITECTS
WWW.OCVARCH.COM
203 LAFAYETTE STREET 5TH FL
NEW YORK CITY, NEW YORK 10012
: 212.675.6470 : 212.675.6728

SEAL & SIGNATURE:

DRAWING #:

A-300

DATE:
9/25/14

JOB #:
14J17

DRAWN BY:
LP, SP

BIS #:

0 1"

SCALE INDICATOR MEASURES 1" WHEN PLOT SCALE IS 1:1

13 OF 13

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APPENDIX E

Sample of Non-Hazardous Soil Disposal Manifest(s)

CLEANEARTH

Manifest # 899142

GLOBAL JOB NUMBER: _____ **FACILITY APPROVAL NUMBER:** _____

Please Check One:

☐ Clean Earth of Carteret
24 Middlesex Avenue
Carteret, NJ 07008
Ph: 732-541-8909

☐ Clean Earth of Maryland
1469 Oak Ridge Place
Hagerstown, MD 21740
Ph: 301-791-6220

☐ Clean Earth of New Castle
94 Pyles Lane
New Castle, DE 19720
Ph: 302-427-6633

☐ Clean Earth of Greater Washington
6250 Dower House Road
Upper Marlboro, MD 20772
Ph: 301-599-0939

☐ Clean Earth of Philadelphia
3201 S. 61st Street
Philadelphia, PA 19153
Ph: 215-724-5520

☐ Clean Earth of North Jersey
115 Jacobus Avenue
Kearny, NJ 07032
Ph: 973-344-4004

☐ Clean Earth of Southeast Pennsylvania
7 Steel Road East
Morrisville, PA 19067
Ph: 215-428-1700

☐ Other _____

Non-Hazardous Material Manifest

(Type or Print Clearly)

GENERATOR'S NAME & SITE ADDRESS:	GROSS WEIGHT: ☐Tons ☐Yards	
	TARE WEIGHT: ☐Tons ☐Yards	
GENERATOR'S PHONE: _____	NET WEIGHT: ☐Tons ☐Yards	

DESCRIPTION OF MATERIAL/SAMPLE ID AND LOCATION

GENERATOR'S CERTIFICATION – Incomplete and/or unsigned manifests will cause the load to be delayed and/or rejected.

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, is not a DOT hazardous substance as defined by 49 CFR Part 172 or any applicable state law, has been fully and accurately described above, classified, packaged and is in proper condition for transportation according to all applicable state and federal regulations.

Name: _____ Title: _____

Signature: _____ Date and Time: _____

TRANSPORTER

Company: _____ Phone Number: _____

Address: _____ Truck # and License Plate: _____

Driver: _____ SW Haulers Permit #: _____

(Type or Print Clearly) (applicable state permit #)

I hereby certify that the above named material was picked up at the site listed above.

Driver Signature: _____ Date and Time: _____

DESTINATION

I hereby certify that the above named material was delivered without incident to the facility noted above.

Driver Signature: _____ Date and Time: _____

I hereby certify that the above named material has been accepted at the above referenced facility.

Authorized Signature: _____ Date and Time: _____

FACILITY

APPENDIX F

Specifications for Waterproofing Membrane

VaporBlock®20 Plus-Stop Radon, Methane Gas and Mold Migration!

VaporBlock 20 Plus is a highly resilient underslab / vertical wall barrier designed to restrict naturally occurring gases such as radon and/or methane from migrating through the ground and concrete slab. VaporBlock Plus is more than 50 times less permeable than typical high performance polyethylene vapor retarders against Methane, Radon and other harmful VOC's. This is due to the tight cell structure.

VaporBlock 20 Plus™ is a seven-layer co-extruded barrier made from state-of-the-art polyethylene and barrier resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission.

VaporBlock 20 Plus is one of the most effective underslab (underlayment for concrete) barriers in the building industry today far exceeding ASTM E-1745 (Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs) Class A, B and C requirements. Available in 6 (Class C) and 20 (Class A) mil thicknesses designed to meet the most stringent requirements.

VaporBlock20 Plus is produced within the strict guidelines of our ISO 9001:2000 Certified Management System.

PRODUCT USE

VaporBlock 20 Plus resists gas and moisture migration into the building envelop when properly installed. It can be installed as a passive or active control system extending across the entire building including floors, walls and crawl spaces. When installed as a passive system it is recommended to also include a ventilated system with sump(s) that could be converted to an active control system with properly designed ventilation fans.

VaporBlock 20 Plus works to protect your flooring and other moisture-sensitive furnishings in the building's interior from moisture and water vapor migration, greatly reducing condensation, mold and degradation.

SIZE & PACKAGING

VaporBlock Plus 20 comes in 10' x 150' rolls to maximize coverage. All rolls are folded on heavy-duty cores for ease in handling and installation. Other custom sizes with factory welded seams are available based on minimum volume requirements. Installation instructions and ASTM E-1745 classifications accompany each roll.

More information and photos

For a quote, please phone or email us about this product.

(760) 597-9298 | (866) 597-9298 | email

Global Plastic Sheeting provides our customers with our exact shipping costs; including our significant discounts with NO HANDLING fees or other fees of any kind. No Surprises! Office Hours: 6:30 am - 5:30 pm Pacific Time Zone, Monday - Friday

Request a free product catalog

Contact Us

Part Number: VB20+ 12X200

VaporBlock® Plus™ 6 & 20

UNDERSLAB VAPOR RETARDER / GAS BARRIER

PRODUCT DESCRIPTION

VaporBlock Plus™ is a seven-layer co-extruded barrier made from state-of-the-art polyethylene and barrier resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission. VaporBlock Plus is a highly resilient underslab/ vertical wall barrier designed to restrict naturally occurring gases such as radon and/or methane from migrating through the ground and concrete slab. VaporBlock Plus is more than 50 times less permeable than typical high-performance polyethylene vapor retarders against Methane, Radon and other harmful VOCs.

VaporBlock Plus is one of the most e˜ective underslab barriers in the building industry today far exceeding ASTM E-1745 (Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs) Class A, B and C requirements. Available in 6 (Class C) and 20 (Class A) mil thicknesses designed to meet the most stringent requirements. VaporBlock Plus is produced within the strict guidelines of our ISO 9001:2000 Certiÿed Management System.

PRODUCT USE

VaporBlock Plus resists gas and moisture migration into the building envelop when properly installed. It can be installed as a passive or active control system extending across the entire building including ¸oors, walls and crawl spaces. When installed as a passive system it is recommended to also include a ventilated system with sump(s) that could be converted to an active control system with properly designed ventilation fans.

VaporBlock Plus works to protect your ¸ooring and other moisture-sensitive furnishings in the building's interior from moisture and water vapor migration, greatly reducing condensation, mold and degradation.

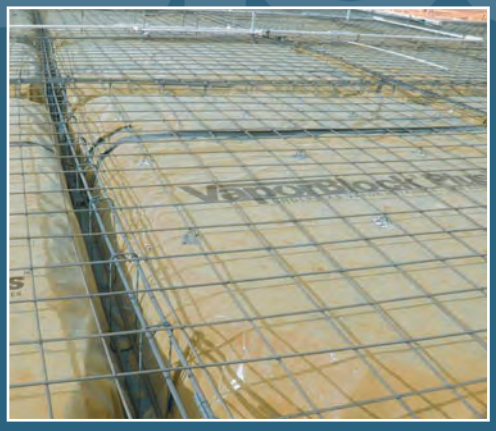
SIZE & PACKAGING

VaporBlock Plus 6 is available in 12' x 200' rolls and VaporBlock Plus 20 in 10' x 150' rolls to maximize coverage. All rolls are folded on heavy-duty cores for ease in handling and installation. Other custom sizes with factory welded seams are available based on minimum volume requirements. Installation instructions and ASTM E-1745 classiÿcations accompany each roll.

PRODUCT	PART NUMBER
VaporBlock Plus 6	VBP 6
VaporBlock Plus 20	VBP 20

COMMON APPLICATIONS

- Radon Barrier
- Methane Barrier
- VOC's Barrier
- Under-Slab Vapor Retarder
- Foundation Wall Vapor Retarder



VaporBlock® Plus™

UNDERSLAB VAPOR RETARDER / GAS BARRIER

Global PLASTIC SHEETING

VaporBlock® Plus™ 6 & 20

UNDERSLAB VAPOR RETARDER / GAS BARRIER

TECHNICAL DATA SHEET

PROPERTIES	TEST METHOD	VAPORBLOCK PLUS 6		VAPORBLOCK PLUS 20	
		English	Metric	English	Metric
APPEARANCE		White/Black		White/Gold	
THICKNESS , NOMINAL		6 mil	0.15 mm	20 mil	0.51 mm
WEIGHT		28 lbs/MSF	139 g/m ^{2}	102 lbs/MSF	498 g/m ^{2}
CLASSIFICATION	ASTM E 1745	CLASS C		CLASS A, B & C	
TENSILE STRENGTH 1" (2.54 cm) Average MD & TD (New Material)	ASTM E 154 Section 9 (D882)	22 lbs	98 N	58 lbs	258 N
PUNCTURE RESISTANCE	ASTM D 1709 *Method B	800 g		2600 g	
MAXIMUM USE TEMPERATURE		180°F	82°C	180°F	82°C
PERMEANCE (New Material)	ASTM E 154 Section 7 ASTM E 96 Procedure B	0.090 U.S. Perms	0.060 Metric Perms	0.025 U.S. Perms	0.016 Metric Perms
**RADON DIFFUSION COEFFICIENT		N/A		< 0.25 x 10^{-12} m^2/s	
METHANE PERMEABILITY	ASTM D 1434	N/A		< 5 x 10^{-10} $m^2/d \cdot atm$	

*Method B conditioned at 65% humidity for 14 days.
**SP Technical Research Institute of Sweden.

VaporBlock® Plus™ Placement

All instructions on architectural or structural drawings should be reviewed and followed.
Detailed installation instructions accompany each roll of VaporBlock® Plus™ and can also be located on our website.
ASTM E-1643 also provides general installation information for vapor retarders.

VaporBlock® Plus™
UNDERSLAB VAPOR RETARDER / GAS BARRIER

VaporBlock® Plus™ is a seven-layer co-extruded barrier made using high quality virgin-grade polyethylene and barrier resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission.

Global PLASTIC SHEETING

1331 Specialty Dr Vista, CA 92081
866.597.9298 760.597.9298
Fax: 760.597.9574
www.globalplasticsheeting.com

ISO 9001:2000 CERTIFIED MANAGEMENT SYSTEM

11/08 EFD 1125

VaporBlock® Plus™

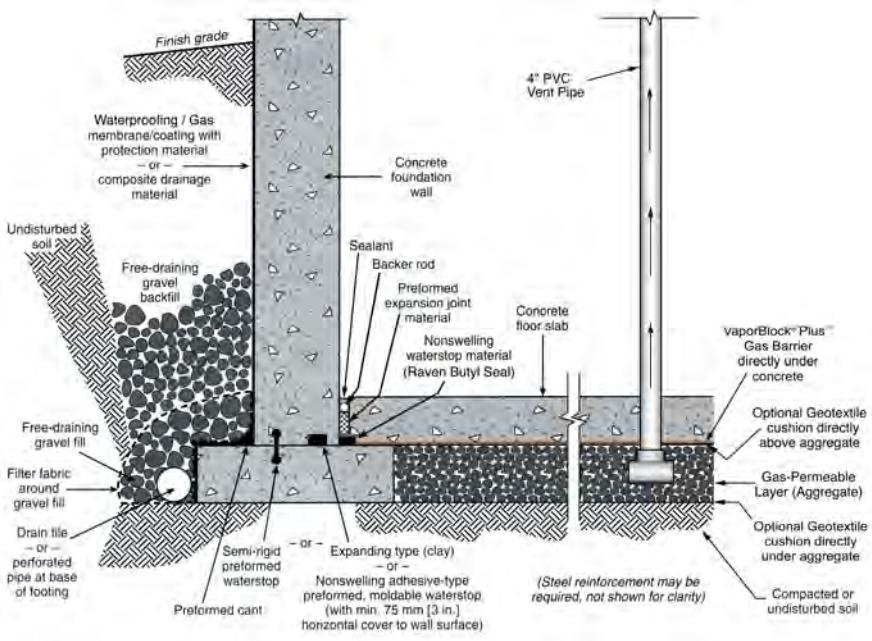
UNDERSLAB VAPOR RETARDER / GAS BARRIER

INSTALLATION GUIDELINES

Please Note: *Read these instructions thoroughly before installation to ensure proper use of **VaporBlock® Plus™**. ASTM E 1465, ASTM E 2121 and, ASTM E 1643 also provide valuable information regarding the installation of vapor / gas barriers. When installing this product, contractors shall conform to all applicable local, state and federal regulations and laws pertaining to residential and commercial building construction.*

- **When VaporBlock Plus gas barrier is used as part of an active control system for radon or other gas, a ventilation system will be required.**
- **If designed as a passive system, it is recommended to install a ventilation system that could be converted to an active system if needed.**

Materials List:
VaporBlock® Plus™ Vapor / Gas Barrier
VaporBond Plus 4" Foil Seaming Tape
Butyl Seal 2-Sided Tape
VaporBoot Plus Pipe Boots 12/Box (recommended)
VaporBoot Tape (optional)



Elements of a moisture/gas-resistant floor system. General illustration only. (Note: This example shows multiple options for waterstop placement.

VaporBlock® Plus™ PLACEMENT

1.1. Level and tamp or roll granular base as specified. A base for a gas-reduction system may require a 4" to 6" gas permeable layer of clean coarse aggregate as specified by your architectural or structural drawings after installation of the recommended gas collection system. In this situation, a cushion layer consisting of a non-woven geotextile fabric placed directly under **VaporBlock Plus** will help protect the barrier from damage due to possible sharp coarse aggregate.

1.2. Unroll **VaporBlock Plus** running the longest dimension parallel with the direction of the pour and pull open all folds to full width. (Fig. 1)

1.3. Lap **VaporBlock Plus** over the footings and seal with Raven Butyl Seal tape at the footing-wall connection. Overlap joints a minimum of 6" and seal overlap with Raven VaporBond Tape. When used as a gas barrier, overlap joints a minimum of 12" and seal in-between overlap with 2-sided Raven Butyl Seal Tape then seal overlap with VaporBond Plus Tape. (Fig. 2)

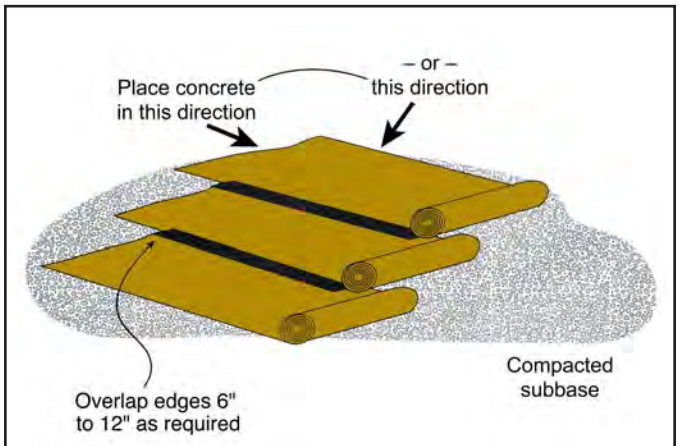


Fig. 1: VaporBlock Plus Overlaping Roll-out Method

Fig. 2: VaporBlock Plus Overlap Joint Sealing Methods

SINGLE PENETRATION PIPE BOOT INSTALLATION

1.4. Seal around all plumbing, conduit, support columns or other penetrations that come through the **VaporBlock Plus** membrane. Pipes four inches or smaller can be sealed with Raven VaporBoot Plus preformed pipe boots. VaporBoot Plus preformed pipe boots are formed in steps for 1", 2", 3" and 4" PVC pipe or IPS size and are sold in units of 12 per box (Fig. 3 & 5).

Pipe boots may also be fabricated from excess **VaporBlock Plus** membrane (Fig. 4 & 6) and sealed with VaporBoot Tape or VaporBond Plus Tape (sold separately).

Reminder Note: All holes or penetrations through the memebrane will need a patch cut to a minimum of 12" from the opening in all directions.

To fabricate pipe boots from **VaporBlock Plus** excess material (see Fig. 4 & 6 for A-F):

A) Cut a square large enough to overlap 12" in all directions.

B) Mark where to cut opening on the center of the square and cut four to eight slices about 3/8" less than the diameter of the pipe.

C) Force the square over the pipe leaving the tightly stretched cut area around the bottom of the pipe with approximately a 1/2" of the boot material running vertically up the pipe.
(no more than a 1/2" of stretched boot material is recommended)

D) Once boot is positioned, seal the perimeter to the membrane by applying 2-sided Raven Butyl Seal Tape inbetween the two layers. Secure boot down firmly over the membrane taking care not to have any large folds or creases.

E) Use VaporBoot Tape or VaporBond Plus Tape to secure the boot to the pipe.

VaporBoot Tape (option) – fold tape in half lengthwise, remove half of the release liner and wrap around the pipe allowing 1" extra for overlap sealing. Peel off the second half of the release liner and work the tape outward gradually forming a complete seal.

VaporBond Plus Tape (option) - Tape completely around the pipe overlapping the to get a tight seal against the pipe.

F) Complete the process by taping over the boot perimeter edge with VaporBond Plus Tape to create a monolithic membrane between the surface of the slab and gas/moisture sources below and at the slab perimeter. (Fig. 4 & 6)

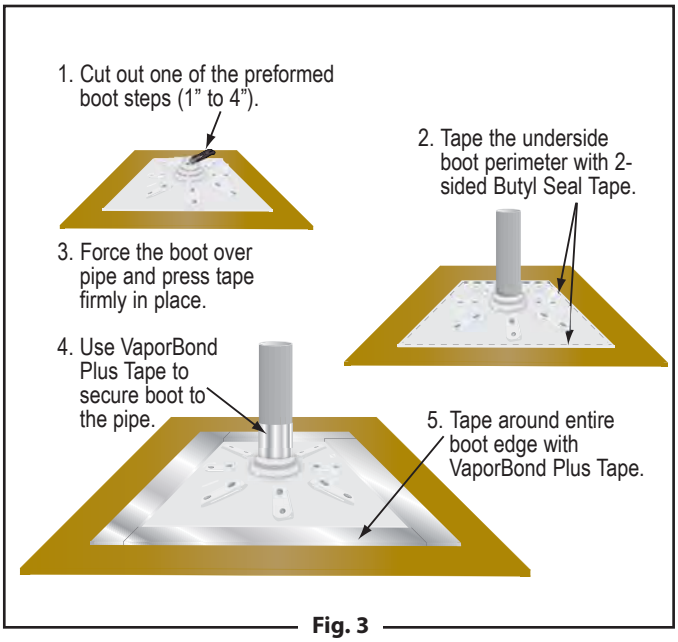


Fig. 3

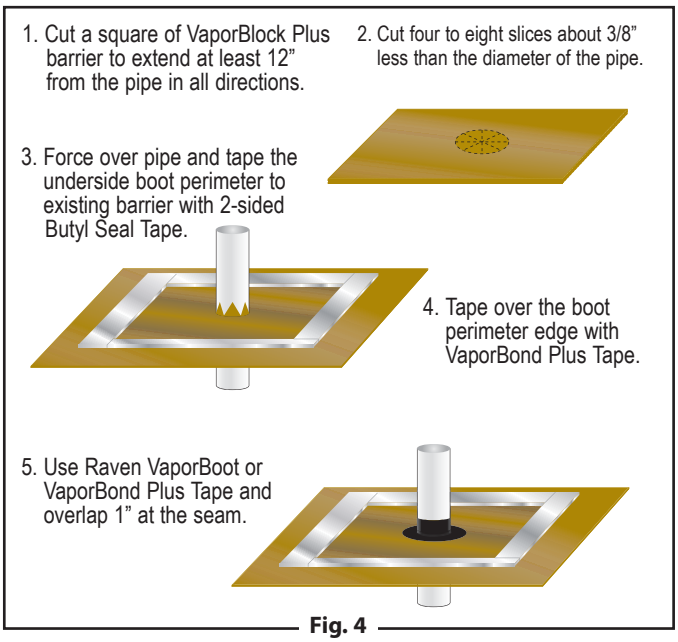


Fig. 4

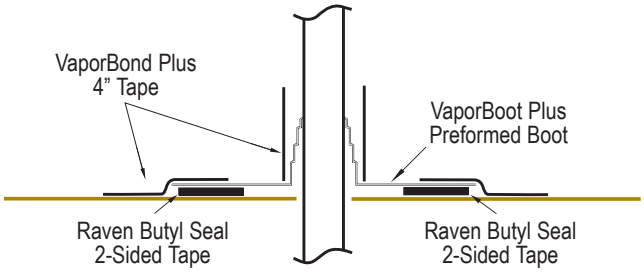


Fig. 5

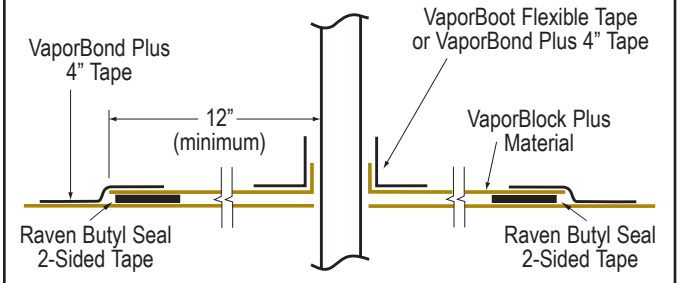


Fig. 6

MULTIPLE PENETRATION PIPE BOOT INSTALLATION

1.5. For side-by-side multiple penetrations;

A) Cut a patch large enough to overlap 12″ in all directions (Fig. 7) of penetrations.

B) Mark where to cut openings and cut four to eight slices about 3/8″ less than the diameter of the penetration for each.

C) Slide patch material over penetration to achieve a tight fit.

D) Once patch is positioned, seal the perimeter to the membrane by applying 2-sided Raven Butyl Seal Tape in-between the two layers. (Fig. 8)

E) After applying Raven Butyl Seal Tape between the patch and membrane, tape around each of the penetrations and the patch with VaporBond Plus 4″ foil tape. (Fig. 9) For additional protection apply an acceptable polyurethane elastomeric sealant around the penetrations. (Fig. 10)

1.6. Holes or openings through **VaporBlock Plus** are to be repaired by cutting a piece of **VaporBlock Plus** 12″ larger in all directions from the opening. Seal the patch to the barrier with 2-sided Raven Butyl Seal Tape and seal the edges of the patch with VaporBond Plus Tape.

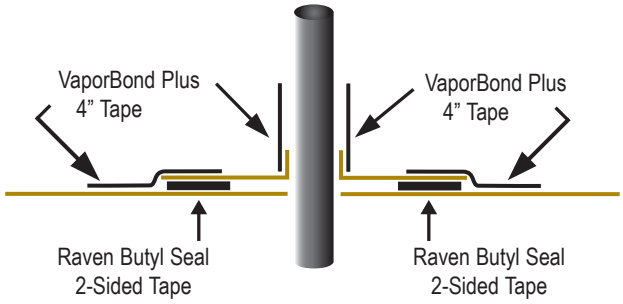


Fig. 6

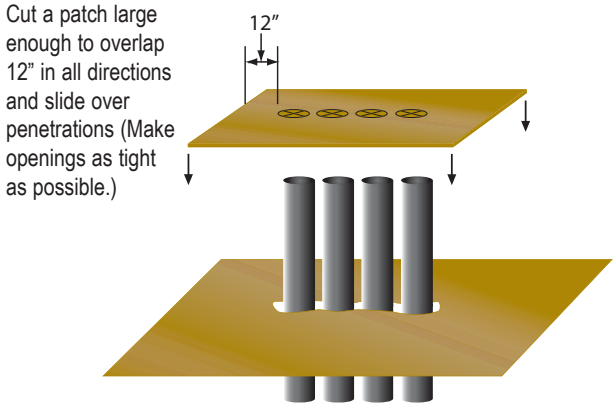


Fig. 7

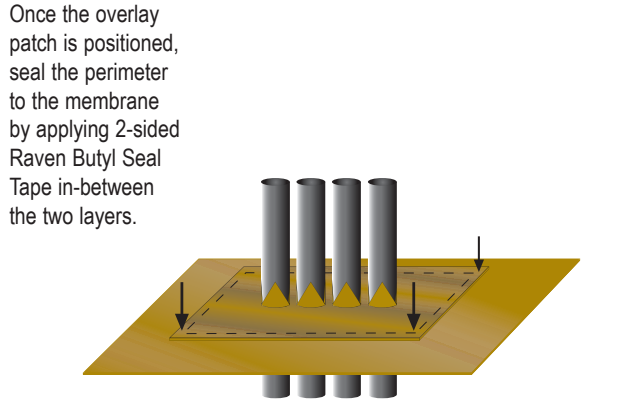


Fig. 8

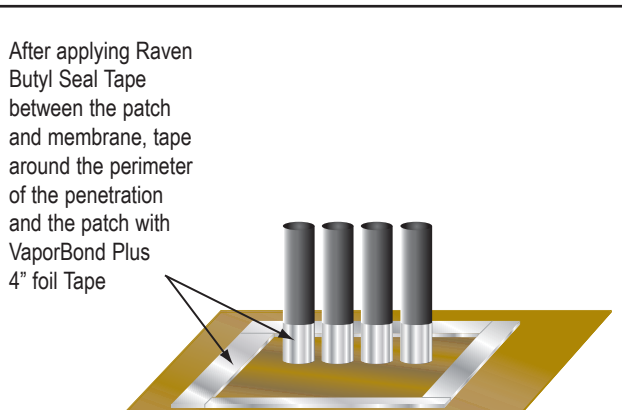


Fig. 9

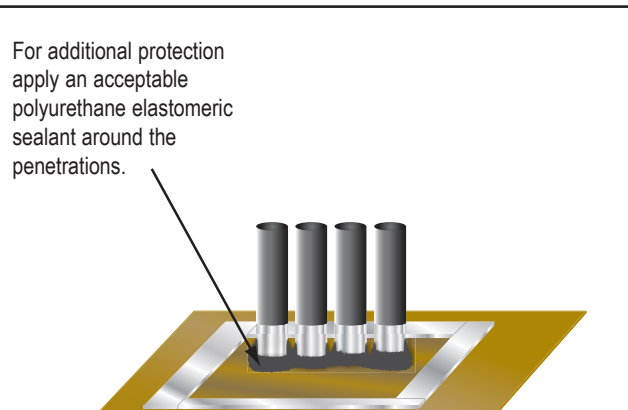


Fig. 10

2.1. When installing reinforcing steel and utilities, in addition to the placement of concrete, take precaution to protect **VaporBlock Plus**. Carelessness during installation can damage the most puncture–resistant membrane. Sheets of plywood cushioned with geotextile fabric temporarily placed on **VaporBlock Plus** provide for additional protection in high tra˜c areas including concrete buggies.

2.2. Use only brick-type or chair-type reinforcing bar supports to protect **VaporBlock Plus** from puncture.

2.3. Avoid driving stakes through **VaporBlock Plus**. If this cannot be avoided, each individual hole must be repaired.

2.4. If a cushion or blotter layer is required in the design between **VaporBlock Plus** and the slab, additional care should be given if sharp crushed rock is used. Washed rock will provide less chance of damage during placement. Care must be taken to protect blotter layer from precipitation before concrete is placed.

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UNDER-SLAB GAS BARRIER / VAPOR RETARDER
(Class A)

PART 1 – GENERAL

1.1 SUMMARY
- A. Products Supplied Under This Section
  1. Gas Barrier / Vapor Retarder, Seam Tape, and Pipe Boots

1.2 REFERENCES
- A. American Society for Testing and Materials (ASTM)
  1. ASTM E 1745 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil Or Granular Fill Under Concrete Slabs
  2. ASTM E 154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs
  3. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
  4. ASTM E 1643 Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs
  5. ASTM D 1434 Standard Test Method for Determining Gas Permeability Characteristics of Plastic Film and Sheeting
- B. SP Technical Research Institute of Sweden
- C. American Concrete Institute (ACI)
  1. ACI 302.1R-6 & 7 Section 3.2.3 Vapor Retarder

1.3 SUBMITTALS
- A. Testing/Specifications
  1. Laboratory test results showing compliance with ASTM & ACI Standards.
  2. Manufacturer's samples, literature.
  3. Manufacturer's installation instructions for placement and seaming.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Provide a Gas Barrier / Vapor Retarder that meets the following:

1. ASTM E-1745 Standard for Plastic Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs
   a) Must meet all Class "A" criteria.
2. ASTM D 1434 Standard Test Method for Determining Gas Permeability Characteristics of Plastic Film and Sheeting
   a) Methane Permeability: $< 5 \times 10^{-10}$ m²/d·atm
   b) Radon Diffusion Coefficient: $< 0.25 \times 10^{-12}$ m²/s

- VaporBlock® Plus™ 20

Other Manufacturer accepted meeting the above specification:

- CETCO Liquid Boot Company - 714-384-0111

2.2 ACCESSORIES

A. Seam Tape

1. VaporBond Plus or other 4" wide gas barrier tape approved by the gas barrier / vapor retarder manufacturer.
2. Butyl Seal Tape by Raven Industries, or other 2" wide double - sided reinforced butyl rubber tape.

B. Pipe Boots

1. VaporBoot Plus System or other manufacturer's supplied pipe boot system.

PART 3 – EXECUTION

3.1 PREPARATION

A. Ensure that subsoil is approved by architect

1. Level and tamp or roll aggregate, sand or tamped earth base.

3.2 INSTALLATION

A. Install Gas Barrier / Vapor Retarder:

1. Installation shall be in accordance with manufacturer's instructions and ASTM E 1643. (Instructions on architectural or structural drawings should be reviewed and followed.)

A. Unroll VaporBlock Plus with the longest dimension parallel with the direction of the pour and pull open all folds to full width.
B. Lap VaporBlock Plus over footings and seal to the vertical foundation walls with 2-Sided Butyl Seal tape.
C. Overlap joints a minimum of 12 inches and seal in-between overlap with 2-Sided Butyl Seal tape then seal overlap with VaporBond Plus Tape or other 4" wide barrier tape approved by gas barrier / vapor retarder manufacturer.
D. Seal around sewer pipes, support columns or any other penetration with the VaporBoot System or at minimum a combination of VaporBlock Plus and VaporBond Plus Tape, creating a monolithic membrane between the surface of the slab and moisture sources below as well as at the slab perimeter.
E. When VaporBlock Plus gas barrier is used as a part of an active control system for radon gas and other VOCs, a ventilation system will be required. When installed as a passive system it is still recommended to include a ventilation system that could be converted to an active system later.
F. Repair damaged areas by cutting patches of VaporBlock Plus, overlapping damaged area 12 inches and taping all four sides with VaporBond Plus Tape or other 4" wide barrier tape approved by vapor retarder / gas barrier manufacturer.

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APPENDIX G

Citizens Participation Plan

New York State Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan

for

3475 Third Avenue

3475 Third Avenue
Bronx, NY 10456

October 2015

Contents

* * * * *

Note: The information presented in this Citizen Participation Plan was current as of the date of its approval by the New York State Department of Environmental Conservation. Portions of this Citizen Participation Plan may be revised during the site's investigation and cleanup process.

Applicant: **167 - 168 Third Avenue LLC**
Site Name: **3475 Third Avenue ("Site")**
Site Address: **3475 Third Avenue**
Site County: **Bronx**
Site Number: **C203080**

1. What is New York's Brownfield Cleanup Program?

New York's Brownfield Cleanup Program (BCP) works with private developers to encourage the voluntary cleanup of contaminated properties known as "brownfields" so that they can be reused and developed. These uses include recreation, housing, and business.

A *brownfield* is any real property that is difficult to reuse or redevelop because of the presence or potential presence of contamination. A brownfield typically is a former industrial or commercial property where operations may have resulted in environmental contamination. A brownfield can pose environmental, legal, and financial burdens on a community. If a brownfield is not addressed, it can reduce property values in the area and affect economic development of nearby properties.

The BCP is administered by the New York State Department of Environmental Conservation (NYSDEC) which oversees Applicants that conduct brownfield site investigation and cleanup activities. An Applicant is a person who has requested to participate in the BCP and has been accepted by NYSDEC. The BCP contains investigation and cleanup requirements, ensuring that cleanups protect public health and the environment. When NYSDEC certifies that these requirements have been met, the property can be reused or redeveloped for the intended use.

For more information about the BCP, go online at: http://www.dec.ny.gov/chemical/8450.html.

2. Citizen Participation Activities

Why NYSDEC Involves the Public and Why It Is Important

NYSDEC involves the public to improve the process of investigating and cleaning up contaminated sites, and to enable citizens to participate more fully in decisions that affect their health, environment, and social well being. NYSDEC provides opportunities for citizen involvement and encourages early two-way communication with citizens before decision-makers form or adopt final positions.

Involving citizens affected and interest in site investigation and cleanup programs is important for many reasons. These include:

- Promoting the development of timely, effective site investigation and cleanup programs that protect public health and the environment;

- Improving public access to, and understanding of, issues and information related to a particular site and that Site's investigation and cleanup process;

- Providing citizens with early and continuing opportunities to participate in NYSDEC's site investigation and cleanup process;

- Ensuring that NYSDEC makes site investigation and cleanup decisions that benefit from input that reflects the interests and perspectives found within the affected community; and

- Encouraging dialogue to promote the exchange of information among the affected/interested public, State agencies, and other interested parties that strengthens trust among the parties, increases understanding of site and community issues and concerns, and improves decision-making.

This Citizen Participation (CP) Plan provides information about how NYSDEC will inform and involve the public during the investigation and cleanup of the Site identified above. The public information and involvement program will be carried out with assistance, as appropriate, from the Applicant.

Project Contacts

Appendix A identifies NYSDEC project contact(s) to whom the public should address questions or request information about the site's investigation and cleanup program. The public's suggestions about this CP Plan and the CP program for the Site are always welcome. Interested people are encouraged to share their ideas and suggestions with the project contacts at any time.

Locations of Reports and Information

The locations of the reports and information related to the Site's investigation and cleanup program also are identified in Appendix A. These locations provide convenient access to important project documents for public review and comment. Some documents may be placed on the NYSDEC website. If this occurs, NYSDEC will inform the public in fact sheets distributed about the Site and by other means, as appropriate.

Site Contact List

Appendix B contains the site contact list. This list has been developed to keep the community informed about, and involved in, the site's investigation and cleanup process. The site contact list will be used periodically to distribute fact sheets that provide updates about the status of the project. These will include notifications of upcoming activities at the Site (such as fieldwork), as well as availability of project documents and announcements about public comment periods.
The site contact list includes, at a minimum:

- Chief executive officer and planning board chairperson of each county, city, town and village in which the Site is located;
- Residents, owners, and occupants of the Site and properties adjacent to the Site;
- The public water supplier which services the area in which the Site is located;

- Any person who has requested to be placed on the site contact list;
- The administrator of any school or day care facility located on or near the Site for purposes of posting and/or dissemination of information at the facility; and
- Location(s) of reports and information.

The site contact list will be reviewed periodically and updated as appropriate. Individuals and organizations will be added to the site contact list upon request. Such requests should be submitted to the NYSDEC project contact(s) identified in Appendix A. Other additions to the site contact list may be made at the discretion of the NYSDEC project manager, in consultation with other NYSDEC staff as appropriate.

CP Activities

The table at the end of this section identifies the CP activities, at a minimum, that have been and will be conducted during the Site's investigation and cleanup program. The flowchart in Appendix D shows how these CP activities integrate with the site investigation and cleanup process. The public is informed about these CP activities through fact sheets and notices distributed at significant points during the program. Elements of the investigation and cleanup process that match up with the CP activities are explained briefly in Section 5.

- **Notices and fact sheets** help the interested and affected public to understand contamination issues related to a site, and the nature and progress of efforts to investigate and clean up a site.

- **Public forums, comment periods and contact with project managers** provide opportunities for the public to contribute information, opinions and perspectives that have potential to influence decisions about a site's investigation and cleanup.

- **Document repositories** allow the public to access and review project documents including investigation and cleanup work plans and final reports.

The public is encouraged to contact project staff at any time during the Site's investigation and cleanup process with questions, comments, or requests for information. This CP Plan may be revised due to changes in major issues of public concern identified in Section 3 or in the nature and scope of investigation and cleanup activities. Modifications may include additions to the site contact list and changes in planned citizen participation activities.

Technical Assistance Grant

NYSDEC must determine if the Site poses a significant threat to public health or the environment. This determination generally is made using information developed during the investigation of the Site, as described in Section 5.

If the Site is determined to be a significant threat, a qualifying community group may apply for a Technical Assistance Grant (TAG). The purpose of a TAG is to provide funds to the qualifying

group to obtain independent technical assistance. This assistance helps the TAG recipient to interpret and understand existing environmental information about the nature and extent of contamination related to the Site and the development/implementation of a remedy.

An eligible community group must certify that its membership represents the interests of the community affected by the Site, and that its members' health, economic well-being or enjoyment of the environment may be affected by a release or threatened release of contamination at the Site.

For more information about TAGs, go online at http://www.dec.ny.gov/regulations/2590.html.

Note: The table identifying the citizen participation activities related to the Site's investigation and cleanup program follows on the next page:

Citizen Participation Requirements (Activities)	Timing of CP Activity(ies)
Application Process:	
• Prepare site contact list • Establish document repositories	At time of preparation of application to participate in the BCP.
• Publish notice in Environmental Notice Bulletin (ENB) announcing receipt of application and 30-day public comment period • Publish above ENB content in local newspaper • Mail above ENB content to site contact list • Conduct 30-day public comment period	When NYSDEC determines that BCP application is complete. The 30-day public comment period begins on date of publication of notice in ENB. End date of public comment period is as stated in ENB notice. Therefore, ENB notice, newspaper notice, and notice to the site contact list should be provided to the public at the same time.
After Execution of Brownfield Site Cleanup Agreement:	
• Prepare Citizen Participation (CP) Plan	Before start of Remedial Investigation
Before NYSDEC Approves Remedial Investigation (RI) Work Plan:	
• Distribute fact sheet to site contact list about proposed RI activities and announcing 30-day public comment period about draft RI Work Plan • Conduct 30-day public comment period	Before NYSDEC approves RI Work Plan. If RI Work Plan is submitted with application, public comment periods will be combined and public notice will include fact sheet. Thirty-day public comment period begins/ends as per dates identified in fact sheet.
After Applicant Completes Remedial Investigation:	
• Distribute fact sheet to site contact list that describes RI results	Before NYSDEC approves RI Report
Before NYSDEC Approves Remedial Work Plan (RWP):	
• Distribute fact sheet to site contact list about proposed RWP and announcing 45-day public comment period • Public meeting by NYSDEC about proposed RWP (if requested by affected community or at discretion of NYSDEC project manager) • Conduct 45-day public comment period	Before NYSDEC approves RWP. Forty-five day public comment period begins/ends as per dates identified in fact sheet. Public meeting would be held within the 45-day public comment period.
Before Applicant Starts Cleanup Action:	
• Distribute fact sheet to site contact list that describes upcoming cleanup action	Before the start of cleanup action.
After Applicant Completes Cleanup Action:	
• Distribute fact sheet to site contact list that announces that cleanup action has been completed and that summarizes the Final Engineering Report • Distribute fact sheet to site contact list announcing issuance of Certificate of Completion (COC)	At the time NYSDEC approves Final Engineering Report. These two fact sheets are combined if possible if there is not a delay in issuing the COC.

3. Major Issues of Public Concern

This section of the CP Plan identifies major issues of public concern that relate to the Site. Additional major issues of public concern may be identified during the course of the Site's investigation and cleanup process.

Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Environmental justice efforts focus on improving the environment in communities, specifically minority and low-income communities, and addressing disproportionate adverse environmental impacts that may exist in those communities.

The Site is located in an area with a large African-American and Hispanic-American community nearby. All future fact sheets will be required to be translated into Spanish.

The major issues of concern to the public will be potential impacts of nuisance odors and dust during the removal of affected soil at the Site. Another example of a major issue of public concern would be the impact of increased truck traffic on the surrounding neighborhood. Construction safety issues will also be addressed. This work will be performed in accordance with procedures which will be specified under a detailed Remedial Program which considers and takes preventive measures for exposures to future residents of the property and those on adjacent properties during construction. Detailed plans to monitor the potential for exposure including a Health and Safety Plan (HASP) and a Community Air Monitoring Plan (CAMP) are required components of the remedial program. Implementation of these plans will be under the direct oversight of the NYSDEC and the New York State Department of Health (NYSDOH).

These plans will specify the following worker and community health and safety activities during remedial activity at the Site:

- On-site air monitoring for worker protection;
- Perimeter air monitoring for community protection;
- The use of odor, vapor, and dust controls, such as water or foam sprays, as needed;
- Monitoring and control of soil, sediments, and water generated during remediation; and
- Truck routes which avoid residential streets.

The HASP and the CAMP will be prepared as part of the Remedial Action Work Plan (RAWP) and will be available for public review at the document repository as identified in Appendix A (page 11).

Furthermore, the Applicant has prepared a Scoping Sheet for Major Issues of Public Concern which will assist them in identifying any concerns. Experience from similar projects, 311 complaints and other construction projects in the area will help in identifying such issues.

4. Site Information

Appendix C contains a map identifying the location of the Site.

Site Description

The Site consists of one lot in the Morrisania section of Bronx, New York and is identified as Block 2372 and Lot 37 on the New York City Tax Map. The Site is approximately 17,600-square feet and is bounded by Lots 11 (multi-family residential), 13 (vacant land), 15 (vacant land/parking) and 18 (automotive repair) to the west, which include vacant land, parking and residential uses ; to the north are two, five story commercial structures (Lot 32); Lot 41 to the south contains a multi-family residential building, and Third Avenue is located to the east. The project site is currently occupied by two structures. A two story building comprised of community space on the ground floor and offices on the second floor is located at the southern portion of the Site. To the north, and occupying the remainder of the Site, is a three story building with retail and self-storage on the ground floor and self-storage on the second and third floor. Historical operations at the southern on-site structure have included Site have included a chemical company, automotive repair, manufacture of textiles and dyingdyeing and finishing. Historical activities at the northern on-site structure have included a chemical company, manufacture of textiles, manufacture of bed springs, and dyeing and finishing.

Sensitive receptors with 500 feet of the Site include the Ready, Set, Learn LLC, daycare facility adjoining to the south at 3467 Third Avenue, and The Habitot ES, LLC daycare center adjoining to the east, at 3480 Third Avenue.

History of Site Use, Investigation, and Cleanup

The project site is currently occupied by two structures. A two story building comprised of community space on the ground floor and offices on the second floor is located at the southern end of Lot 32. To the north, and occupying the remainder of the Site, is a three story building with retail and self-storage on the ground floor and self-storage on the second and third floor. Historical operations on the property included a chemical company, automotive repair, manufacture of textiles, manufacture of bed springs, and dyeing and finishing.

Previous environmental investigations conducted at the Site indicate:

- Potential impacts from former industrial and commercial uses of the subject property; and
- Potential impacts from on-site oil storage in two vaulted fuel-oil bulk storage tanks.

The Remedial Investigation completed at the Site identified Polychlorinated Biphenyls (PCB) compounds in soil and groundwater. Semi-Volatile Organic Compounds (SVOCs) and heavy metals were also found at elevated concentrations in soil beneath the Site.

5. Investigation and Cleanup Process

Application

The Applicant has applied for entry into New York's Brownfield Cleanup Program (BCP) as a

Volunteer. This means that the Applicant was not responsible for the disposal or discharge of the contaminants or whose ownership or operation of the Site took place after the discharge or disposal of contaminants. The Volunteer must fully characterize the nature and extent of contamination on-site, and must conduct a qualitative exposure assessment, (a process that characterizes the actual or potential exposures of people, fish and wildlife to contaminants on the Site and to contamination that has migrated from the Site).

The Applicant proposes that the Site will be used for unrestricted purposes. To achieve this goal, the Applicant has conducted investigation and will perform cleanup activities at the Site with oversight provided by NYSDEC. The Brownfield Cleanup Agreement (BCA) executed by NYSDEC and the Applicant sets forth the responsibilities of each party in conducting these activities at the Site.

Investigation

The Applicant has completed a Remedial Investigation before it entered into the BCP. The Applicant will next implement a Remedial Action Work Plan (RAWP). This remedial program will be performed with NYSDEC oversight. The Applicant previously developed a Draft Remedial Action Work Plan, which was subject to public comment.

Remedy Selection

When the Applicant submitted the proposed Remedial Work Plan for approval, the NYSDEC announced the availability of the proposed plan for public review during a 45-day public comment period.

Cleanup Action

NYSDEC will consider public comments, and revise the draft cleanup plan if necessary, before approving the proposed remedy. The New York State Department of Health (NYSDOH) must concur with the proposed remedy. After approval, the proposed remedy becomes the selected remedy.

The Applicant may then design and perform the cleanup action to address the site contamination. NYSDEC and NYSDOH oversee the activities. When the Applicant completes cleanup activities, it will prepare a Final Engineering Report (FER) that certifies that cleanup requirements have been achieved or will be achieved within a specific time frame. NYSDEC will review the report to be certain that the cleanup is protective of public health and the environment for the intended use of the Site.

Certificate of Completion

When NYSDEC is satisfied that cleanup requirements have been achieved or will be achieved for the Site, it will approve the FER. NYSDEC then will issue a COC to the Applicant. The Certificate of Completion (COC) states that cleanup goals have been achieved, and relieves the Applicant from future liability for site-related contamination, subject to certain conditions. The Applicant would be eligible to redevelop the Site after it receives a COC.

Site Management

Site management is the last phase of the site cleanup program. This phase begins when the COC is issued. Site management may be conducted by the Applicant under NYSDEC oversight, if contamination will remain in place. Site management incorporates any institutional and engineering controls required to ensure that the remedy implemented for the Site remains protective of public health and the environment. All significant activities are detailed in a Site Management Plan (SMP).

An institutional control is a non-physical restriction on use of the Site, such as a deed restriction that would prevent or restrict certain uses of the property. An institutional control may be used when the cleanup action leaves some contamination that makes the Site suitable for some, but not all uses.

An engineering control is a physical barrier or method to manage contamination. Examples include: caps, covers, barriers, fences, and treatment of water supplies.

Site management also may include the operation and maintenance of a component of the remedy, such as a system that is pumping and treating groundwater. Site management continues until NYSDEC determines that it is no longer needed.

Appendix A
Project Contacts and Locations of Reports and Information

Project Contacts

For information about the site's investigation and cleanup program, the public may contact any of the following project staff:

New York State Department of Environmental Conservation (NYSDEC):

Mandy Yau
Project Manager
NYSDEC
Division of Environmental Remediation
One Hunters Point Plaza 47-40 21st Street
Long Island City, NY 11101
Tel: (718)
Man-tsz.yau@dec.ny.gov

Thomas Panzone
Regional Citizen Participation Specialist
NYSDEC Region 2
Division of Environmental Remediation
One Hunters Point Plaza 47-40 21st Street
Long Island City, NY 11101
Tel: (718) 482-4953
Thomas.panzone@dec.ny.gov

New York State Department of Health (NYSDOH):
Dawn Hettrick
Public Health Specialist
New York State Department of Health
Bureau of Environmental Exposure Investigation
Empire State Plaza - Corning Tower Room 1787
Albany, New York 12237
Email: BEEI@health.ny.gov

Locations of Reports and Information

The facilities identified below are being used to provide the public with convenient access to important project documents:

Morrisania Public Library
610 East 169th Street,
Bronx, NY 10456
(718) 589-9268

Hours:
Mon 10:00 AM - 6:00 PM
Tue 10:00 AM - 7:00 PM
Wed 10:00 AM - 6:00 PM
Thu 10:00 AM - 7:00 PM
Fri 10:00 AM - 5:00 PM
Sat 10:00 AM - 5:00 PM
Sun closed

Appendix B - Site Contact List

Local Government Contacts:

City of New York
Hon. Bill de Blasio
Mayor of New York City
City Hall
New York, NY 10007

Bronx Borough President
Borough President Ruben Diaz, Jr.
851 Grand Concourse, 3rd Floor
Bronx, New York 10451
Gloria s. Alston
Chair, Bronx Community Board 3
1426 Boston Road
Bronx, NY 10456

John Dudley
District Manager, Bronx Community Board 3
1426 Boston Road
Bronx, NY 10456

Environmental Committee Chair
1426 Boston Road
Bronx, NY 10456

Luis M. Diaz, County Clerk
Bronx County Clerk's Office
851 Grand Concourse, Room 118
Bronx, NY 10451

Hon. Ruben Diaz
NYS Senator
900 Rogers Place
Bronx, NY 10459

Hon. Michael A. Blake
NYS Assemblymember
3215 Third Avenue
Bronx, NY 10451

Hon. Jose E. Serrano
U.S. House of Representatives
1231 Lafayette Avenue, 4th Floor
Bronx, NY 10474

Council Member Vanessa L. Gibson
District 16
1377 Jerome Avenue
Bronx, New 10452

New York City Department of City Planning – Bronx Borough Office:
Borough Director Carol Samol
One Fordham Plaza, 5th Fl.
Bronx, NY 10458-5891

Carl Weisbrod, Commissioner
NYC Dept. of City Planning
22 Reade St.
Third Floor
New York, NY 10007

Hon. Letitia James
Public Advocate
1 Centre Street, 15th Floor
New York, NY 10007

Hon. Scott Stringer
NYC Office of the Comptroller
1 Centre Street
New York, NY 10007

Hon. Charles Schumer
U.S. Senator
80 Third Avenue, Suite 2301
New York, NY 10017

Hon. Kirsten Gillibrand
U.S. Senator
780 Third Avenue, Suite 2601
New York, NY 10017

John Wuthenow
Office of Environmental Planning & Assessment
NYC Dept. of Environmental Protection
96-05 Horace Harding Expressway
Flushing, NY 11373

Nilda Mesa, Director
NYC Office of Environmental Sustainability
100 Gold Street, 2nd Floor
New York, NY 10038

Daniel Walsh
Director
NYC Office of Environmental Remediation
100 Gold Street, 2nd Floor
New York, NY 10038

Shaminder Chawla
Deputy Director, OER
100 Gold Street, 2nd Floor
New York, NY 10038

Local News Media:

New York Daily News
4 New York Plaza
New York, NY 10004

New York Post
1211 Avenue of the Americas
New York, NY 10036-8790

Hoy Nueva York
1 MetroTech Center, 18th Floor
Brooklyn, NY 11201

El Diario La Prensa
1 MetroTech Center, 18th Floor
Brooklyn, NY 11201

NY 1 News
75 Ninth Avenue
New York, NY 10011

Bronx Times Reporter
900 East 132nd Street
Bronx, NY 10454

Inner City Press
P.O.Box 580188, Mount Carmel Station
Bronx, NY 10458

Public Water Supplier:
New York City Department of Environmental Protection
Emily Lloyd, Commissioner
59-17 Junction Boulevard
Flushing, NY 11373

Schools and Daycare Facilities:

3467 READY, SET, LEARN, L L C
3463-673 Ave
Bronx, NY10456

HABITOT E S L L C
3480 Third Ave
Bronx, NY10456

CLAREMONT NEIGHBORHOOD CENTER, INC.
1240 Webster Ave
Bronx, NY10456

1332 FULTON AVENUE DAY CARE CENTER, INC.
1332 Fulton Ave
Bronx, NY10456

SHARON BAPTIST BOARD OF DIRECTORS, INC.
507-509E 165 St
Bronx, NY10456

Bronx-Lebanon Hospital Center
1276 FULTON AVENUE
Bronx, NY 10456

PS 132 Garret A Morgan
1245WASHINGTON AVENUE
Bronx, NY10456

PS 063 Author's Academy
1260 FRANKLIN AVENUE
Bronx, NY10456

Is 219 New Venture School
3630 THIRD AVENUE
Bronx, NY10456

PS 002 Morrisania
1363 FULTON AVENUE
Bronx, NY10456

Hs For Violin And Dance
1100 BOSTON ROAD
Bronx, NY10456

High School For Excellence
1100 BOSTON ROAD
Bronx, NY10456

Bronx International Academy
1100 BOSTON ROAD
Bronx, NY10456

Morris Hs
1100 BOSTON ROAD
Bronx, NY10456

Community, Civic, Religious and other Educational Institutions

3463 Third Avenue Realty
3463 Third Avenue
Bronx, NY 10456

Gobel Holding Corp.
1204 Washington Avenue
Bronx, NY 10456

Sinclair Sumpter
3495 Third Avenue
Bronx, NY 10456

Promesa Apartments LP
1186 Washington Avenue
Bronx, NY 10456

St. Johns Community Housing
1182 Washington Avenue
Bronx, NY 10456

New Covenant Christian Church
Attn: Pastor
1181 Boston Road
Bronx, NY 10456

Mt. Blessings Seventh Day
Attn: Pastor
1192 Fulton Avenue
Bronx, NY 10456

Church of God Evangelical
Attn: Pastor
1205 Washington Avenue
Bronx, NY 10456

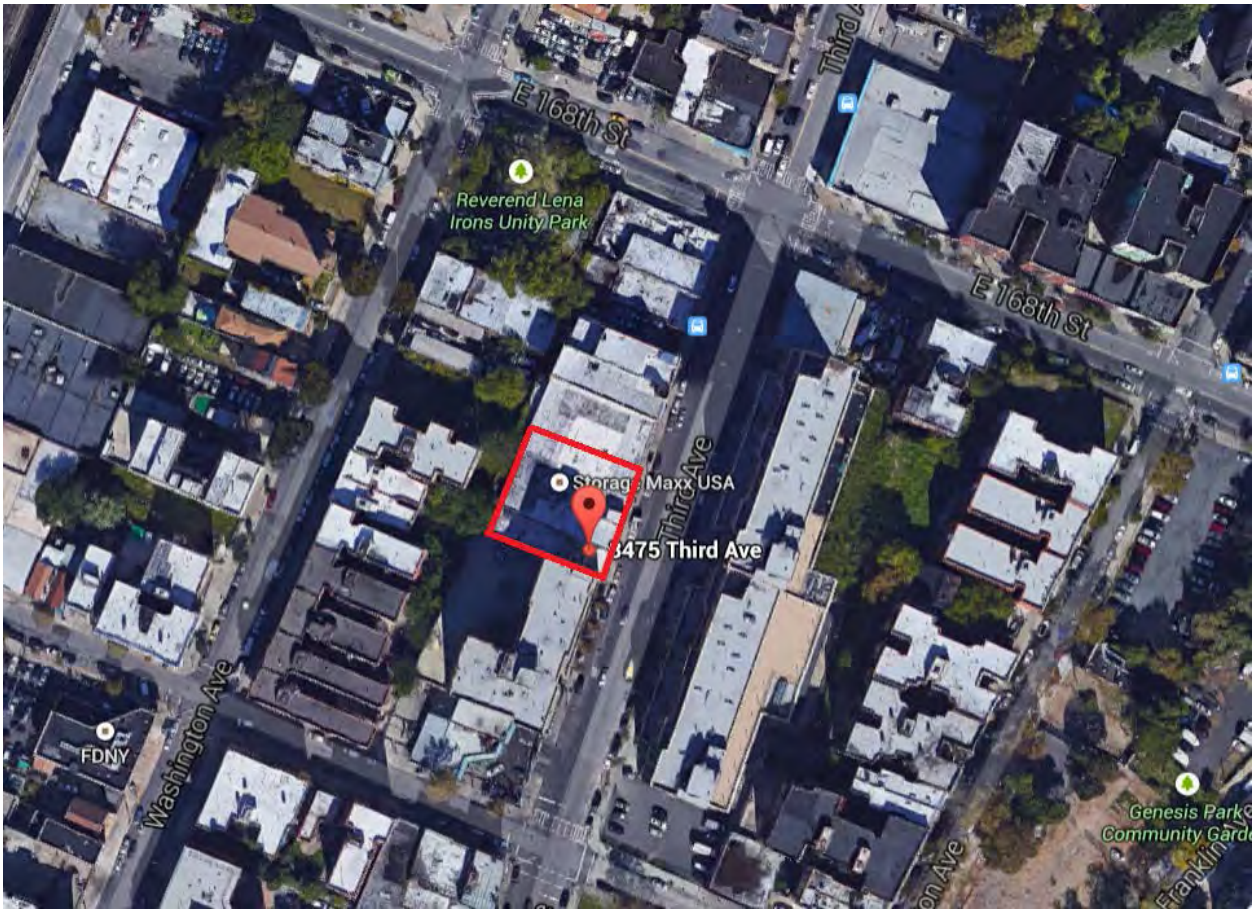
Iglesia Pentacostal A Dios Sea Toda La Gloria
Attn: Pastor
1221 Brooke Avenue
Bronx, NY 10456

Trinity United Methodist Church
Attn: Pastor
1076 Washington Avenue
Bronx, NY 10456

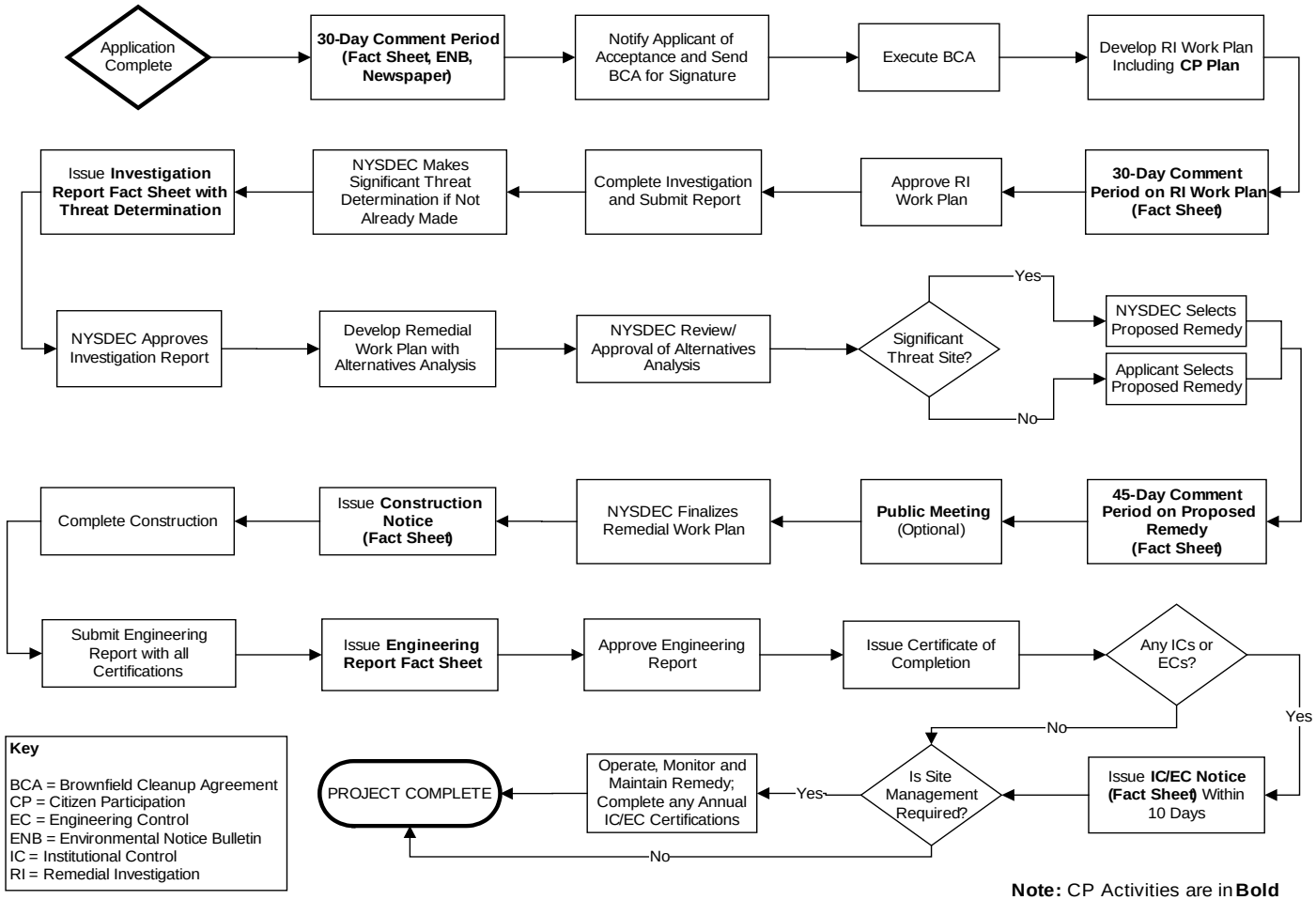
Willing Workers Baptist Church
Attn: Pastor
1165 Boston Road
Bronx, NY 10456

Morrisania Revitalization Corporation
Attn: Claudia Nisbett, Executive Director
576B East 165th Street
Bronx, NY 10456

APPENDIX C - SITE LOCATION MAP



Appendix D– Brownfield Cleanup Program Process



APPENDIX H

Cost Estimates

3475 Third Avenue Remediation Cost Estimate (Track 1 Alternative)
3475 Third Avenue, Bronx, New York
ESI File: KB15012.50
(Prepared: 10/5/2015)

Task 1: Pre-remedial Services		
ESI professional time	$15,000	
Laboratory	$3,000	
Disbursements	$2,000	
Task Subtotal	**$20,000**	
Task 2: Building Demolition Services		
Building Demolition	$450,000	
Task Subtotal	**$450,000**	
Task 3: Soil Removal		Tons
Excavator (9 days)	$27,000	
Professional Oversight	$9,000	
LCS T&D ($54/ton)	$4,200	78
Urban Fill T&D ($45/ton)	$152,100	3380
Unregulated Soil T&D ($35/ton)	$172,900	4940
Laboratory (waste characterization)	$8,000	
Laboratory (post-excavation samples)	$5,000	
Materials/disbursement	$2,000	
Community Air Monitoring Equipment	$4,000	
Task Subtotal	**$384,200**	
Task 4: Administrative Services		
Status Reports/Communications	$15,000	
Final Engineering Report	$6,000	
Meetings	$5,000	
Inspections	$5,000	
Task Subtotal	**$31,000**	
Contingency (10%)	**$80,530**	
BASE TOTAL	**$965,730**	

3475 Third Avenue Remediation Cost Estimate (Track 2 Alternative)
3475 Third Avenue, Bronx, New York
ESI File: KB15012.50
(Prepared: 10/5/2015)

Task 1: Pre-remedial Services		
ESI professional time	$15,000	
Laboratory	$3,000	
Disbursements	$2,000	
Task Subtotal	**$20,000**	
Task 2: Building Demolition Services		
Building Demolition	$450,000	
Task Subtotal	**$450,000**	
Task 3: Soil Removal		tons
Excavator (9 days)	$27,000	
Professional Oversight	$9,000	
LCS T&D ($54/ton)	$4,200	78
Urban Fill T&D ($45/ton)	$152,100	3380
Unregulated Soil T&D ($35/ton)	$172,900	4940
Laboratory (waste characterization)	$8,000	
Laboratory (post-excavation samples)	$5,000	
Materials/disbursement	$2,000	
Community Air Monitoring Equipment	$4,000	
Task Subtotal	**$384,200**	
Task 4: Administrative Services		
Status Reports/Communications	$15,000	
Final Engineering Report	$6,000	
Meetings	$5,000	
Inspections	$5,000	
Task Subtotal	**$31,000**	
Contingency (10%)	**$80,530**	
BASE TOTAL	**$965,730**	

3475 Third Avenue, Bronx, New York Remediation Cost Estimate (Track 4 Alternative)
3475 Third Avenue, Bronx , New York
ESI File: KB15012.50
(Prepared: 10/05/15)

Task 1: Pre-remedial Services		
ESI professional time	$15,000	
Laboratory	$3,000	
Disbursements	$2,000	
Task Subtotal	**$20,000**	
Task 2: Building Demolition Services		
Building Demolition	$450,000	
Task Subtotal	**$450,000**	
Task 3: Soil Removal		tons
Excavator (9 days)	$27,000	
Professional Oversight	$9,000	
LCS T&D ($54/ton)	$4,200	78
Urban Fill T&D ($45/ton)	$152,100	3380
Unregulated Soil T&D ($35/ton)	$172,900	4940
Laboratory (waste characterization)	$8,000	
Laboratory (post-excavation samples)	$5,000	
Materials/disbursement	$2,000	
Community Air Monitoring Equipment	$4,000	
Task Subtotal	**$384,200**	
Task 4: Design/Installation of Vapor Barrier		
Design/approval	$3,000	
Installation		
ESI (2 days)	$2,500	
Subslab materials	$3,000	
Task Subtotal	**$8,500**	
Task 5: SSDS Design/Installation		
Design/Approval	$6,000	
Installation	$50,000	
Documentation/System Testing	$5,000	
Task Subtotal	**$61,000**	
Task 6: Administrative Services		
Status Reports/Communications	$15,000	
Final Engineering Report	$10,000	
Site Management Plan	$6,000	
Meetings	$5,000	
Inspections	$5,000	
Task Subtotal	**$41,000**	
BASE TOTAL	**$964,700**	
Contingency (10%)	**$96,470**	
TOTAL	**$1,061,170**	

APPENDIX I

Significant Threat Determination

(Fact Sheet Begins Next)

Act Now to Continue Receiving Information About This Site!

DEC's Division of Environmental Remediation (DER) now distributes information about contaminated sites *electronically by email*.

If you would like to continue to receive information about the contaminated site featured in this fact sheet:

You must sign up for the DER email listserv:

www.dec.ny.gov/chemical/61092.html

DER cannot register your email address - only the email address owner can do so. If you already have signed up for the listserv for the county in which the site is located, you need do nothing.

Why You Should Go "Paperless":

- ☑ Get site information faster and share it easily;
- ☑ Receive information about all sites in a chosen county - read what you want, delete the rest;
- ☑ It helps the environment and stretches your tax dollars.

If "paperless" is not an option for you, call or write to the DER project manager identified in this fact sheet. Indicate that you need to receive paper copies of fact sheets through the Postal Service. Include the site name in your correspondence. The option to receive paper is available to individuals only. Groups, organizations, businesses, and government entities are assumed to have email access.

FACT SHEET

Brownfield Cleanup Program

3475 Third Avenue Site
3475 Third Avenue.
Bronx, NY 10456

SITE No. C203080
NYSDEC REGION 2

July 2015

Remedy Proposed for Brownfield Site Contamination; Public Comment Period Announced

The public is invited to comment on a proposed remedy being reviewed by the New York State Department of Environmental Conservation (NYSDEC) to address contamination related to the 3475 Third Avenue site ("Site") located at 3475 Third Avenue, Bronx, NY. Please see the map for the site location. Documents related to the cleanup of this Site can be found at the location(s) identified on the left-hand side of this page under "Where to Find Information."

Based on the findings of the investigation NYSDEC, in consultation with the New York State Department of Health (NYSDOH), has determined that the Site does not pose a significant threat to public health or the environment.

How to Comment: NYSDEC is accepting written comments about the proposed plan for 45 days, from **August 10** through **September 23, 2015**. The proposed plan is available for public review at the location(s) identified on the left-hand side of this page under "Where to Find Information." Please submit comments to the NYSDEC project manager listed under Project-Related Questions in the "Who to Contact" area on the left-hand side of this page.

Draft Remedial Action Work Plan: The cleanup plan is described in a detailed "Remedial Action Work Plan". The proposed Track 4 Restricted Residential Use remedy consists of:

- Removal of concrete vaulted Aboveground Storage Tanks (ASTs);
- Excavation and off-site disposal of contaminated soil to approximately 14 feet below surface grade across the majority of the Site, and to deeper depths for a small area of the Site for elevator pits;
- Installation of a vapor barrier system under the entire building slab and behind sub-grade side walls;
- Construction and maintenance of a site cover system over the entire site to prevent exposure to residual contaminated soil;
- Collection and analysis of end-point soil samples to evaluate the effectiveness of the remedy;
- Import of clean material that meets applicable Soil Cleanup Objectives for use as backfill;
- Implementation of a Health and Safety Plan and Community Air Monitoring Plan during all ground intrusive activities;
- Implementation of a Site Management Plan (SMP) for long-term maintenance of the cover system; and

Continued on back

Where to Find Information:
Project documents are available at the following location(s) to help the public stay informed.

Morrisania Public Library
610 East 169th Street,
Bronx, NY 10456
Call for hours: (718) 589-9268

NYSDEC, Region 2 Office
47-40 21st Street
Long Island City, NY 11101
Call in advance: (718) 482-4900

Who to Contact:
Comments and questions are always welcome and should be directed as follows:

Project Related Questions
Mandy Yau, Project Manager
NYSDEC, Region 2 Office
47-40 21st Street
Long Island City, NY 11101
(718) 482-7541
Mandy.Yau@dec.ny.gov

Public Health questions:
Dawn Hettrick
NYSDOH
Empire State Plaza
Corning Tower Room 1787
Albany, NY 12237
(518) 402-7860
beei@health.ny.gov

For additional information on the New York's Brownfield Cleanup Program, visit:
www.dec.ny.gov/chemical/8450.html

BROWNFIELD CLEANUP PROGRAM

- Recording of an Environmental Easement to ensure proper use of the site.

The proposed remedy was developed by 167-168 Third Avenue LLC (the "applicant(s)") after performing a detailed investigation of the site under New York's City's Voluntary Cleanup Program. A "Remedial Investigation Report", which describes the results of the site investigation was submitted concurrently with Brownfield Cleanup Program application and is also available for review at the locations identified on Page 1.

Site Description: The Site is approximately 17,600-square feet (0.4 acres) and is bordered by Third Avenue to the east, multi-family residential and commercial buildings including a daycare center to the south; automotive repair, vacant land and multi-family residential to the west along Washington Avenue, and multi-family residential and commercial buildings to the north. The Site was developed as early as 1891. The current on-site buildings were constructed sometime between 1909 and 1951 and historical operations included a chemical company, automotive repair, textiles, manufacture of bed springs, and dyeing and finishing.

Additional site details, including environmental and health assessment summaries, are available on NYSDEC's Environmental Site Remediation Database (by entering the Site ID, C203080) at:

http://www.dec.ny.gov/cfmx/extapps/derexternal/index.cfm?pageid=3

Summary of the Investigation: The primary contaminants of concern at the Site are metals, which are present site-wide in soils and were also detected in groundwater. Soil vapor results indicated elevated levels of petroleum-related and chlorinated compounds.

Next Steps: NYSDEC will consider public comments, revise the cleanup plan as necessary, and issue a final Decision Document. NYSDOH must concur with the proposed remedy. After approval, the proposed remedy becomes the selected remedy. The draft RAWP is revised as needed to describe the selected remedy, and will be made available to the public. The applicant(s) may then design and perform the cleanup action to address the site contamination, with oversight by NYSDEC and NYSDOH.

NYSDEC will keep the public informed throughout the investigation and cleanup of the site.

Brownfield Cleanup Program: New York's Brownfield Cleanup Program (BCP) encourages the voluntary cleanup of contaminated properties known as "brownfields" so that they can be reused and redeveloped. These uses may include recreation, housing, business or other uses. A brownfield is any real property that is difficult to reuse or redevelop because of the presence or potential presence of contamination.

For more information about the BCP, visit:

http://www.dec.ny.gov/chemical/8450.html

We encourage you to share this fact sheet with neighbors and tenants, and/or post this fact sheet in a prominent area of your building for others to see.

Receive Site Fact Sheets by Email

Have site information such as this fact sheet sent right to your email inbox. NYSDEC invites you to sign up with one or more contaminated sites county email listservs available at the following web page:

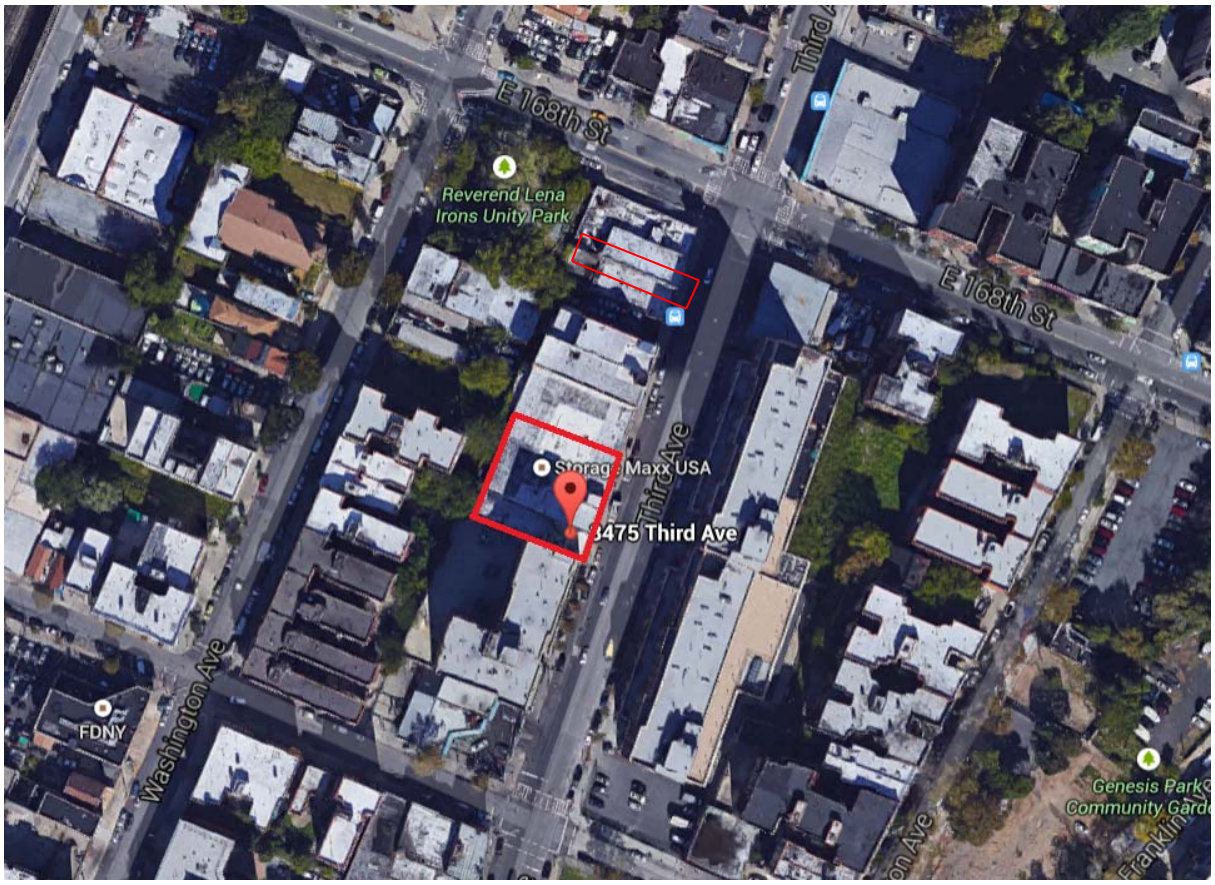
www.dec.ny.gov/chemical/61092.html

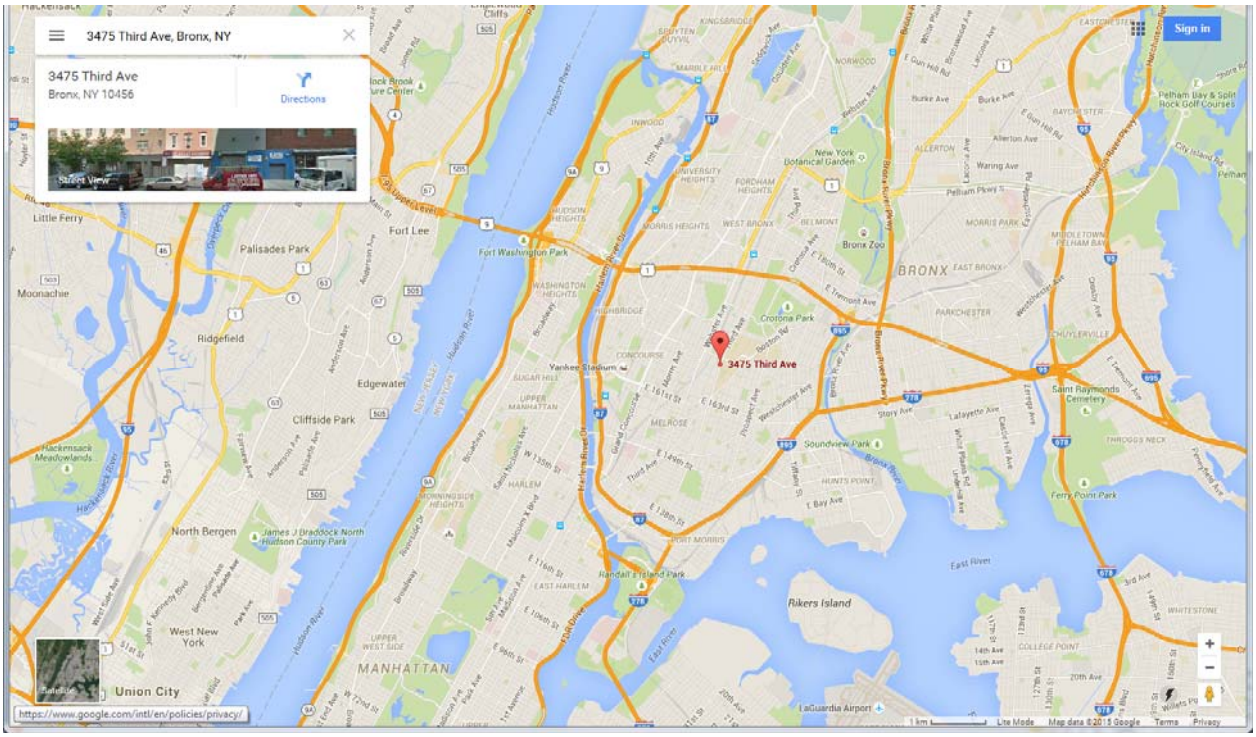
It's quick, it's free, and it will help keep you better informed. As a listserv member, you will periodically receive site-related information/ announcements for all contaminated sites in the county(ies) you select.

Note: Please disregard if you already have signed up and received this fact sheet electronically.

Continued on back

BROWNFIELD CLEANUP PROGRAM





APPENDIX J

Resumes

RESUME

Jolanda G. Jansen, P.E. 72 Colburn Drive, Poughkeepsie, NY 12603

Education

Bachelor of Civil Engineering, University of Canterbury, Christchurch, New Zealand, 1975
Juris Doctor, Pace University School of Law, 2010, admitted in NYS

Engineering License

New York State #068972-1, 1992

Professional Experience

Owner, 2009 – present, **Jansen Engineering, PLLC**
Key Projects: RAR report for PCE cleanup.
Composting Facilities Plans.
Stormwater Facilities Design
Drinking Water Facilities Design
Senior Engineer, 2010 – present, **Sloan Architects, PC**
Key Projects: Sustainability Master Plan, Camphill Village
Construction Inspection, Anderson Center for Autism
Project Manager, 2007 – 2008, **Hudson Valley Development Group, LLC**
Key Projects: 26 Home Cluster Subdivision with Central Sewer
4-story School to Condo Conversion
Project Manager, 2001 – 2007, **Spectra Engineering, P.C.**
Key Projects: 130 Lot Subdivision with Central Water and Sanitary
Vassar College Student Housing, Site Plan
Bright Horizons Children's Center, Site Plan
Project Manager, 1996 – 2001, **Hayward and Pakan Associates**
Key Projects: Buddhist Monastery Master Plan
Seventh Day Adventist Camp, WWTF
Staff Engineer, 1994 – 1996, **Morris Associates**
Assistant Engineer, 1987 – 1994, **Hayward and Pakan Associates**
Assistant Surveyor, 1986 – 1987, **Kemble Surveying**

Special Skills & Training

40-hour Safety at Hazardous Materials Sites, Annual 8-hour Refreshers
AutoCAD, bilingual Dutch

Community Service

Coordinator, 2002 – 2009, **Hudson Valley Smart Growth Alliance**

Coordinated conferences on the following topics: SEQRA & Green Building; Sustainable Energy Infrastructure; Magnetizing Downtowns; Planning for Biodiversity; Building Green; Smart Growth – Smart Jobs; Transit Oriented Development; Wind Power; Transfer of Development Rights; Cost of Sprawl; Decentralized Wastewater Systems; Strengthening our Hamlets, Villages and Cities; Affordable Housing and Smart Growth Successes.

Public Speaking

Sustainability Knowledge Exchange with the Netherlands, 2009
Carbon Neutral Community Planning in the Netherlands, 2008
Reducing the Carbon Footprint of Used-Water Treatment, 2008
Innovative Wastewater Treatment in Dutchess County, 2007

References

Available upon request

Ecosystems Strategies, Inc.

Paul H. Ciminello, CEM, CAQS
PRESIDENT
paul@ecosystemsstrategies.com

EDUCATION

Master of Environmental Management, 1986
School of the Environment, Duke University, Durham, North Carolina

Master of Arts in Public Policy Sciences, 1986
Institute of Policy Sciences and Public Affairs, Duke University, Durham, North Carolina

Bachelor of Arts, 1980
Tufts University, Medford, Massachusetts

CERTIFICATIONS AND TRAINING

Certified Qualified Environmental Professional (QEP), Institute of Professional Environmental Practice (Cert. Number 08130024)
In compliance with OSHA Hazardous Materials Safety (29 CFR 1910) requirements (updated 2012)
Certified Air Quality Specialist, Environmental Assessment Association, 2007
Certified Environmental Manager, Environmental Assessment Association, 2006
NJ Dept. of Environmental Protection Licensed Subsurface Evaluator (License Number: 0014686)
NYS Dept. of Labor Certified Asbestos Building Inspector (Cert. Number: AH92-14884)
NYS Department of State, Division of Licensing Services, Real Estate Instructor

PROFESSIONAL EXPERIENCE

President, Ecosystems Strategies, Inc., Poughkeepsie, New York *1992 to present*

Coordinates corporate strategic planning, financial management and marketing activities. Oversees corporate work on state and federal superfund sites and manages education/training services. Responsible for technical services in areas of pollution prevention, contaminant delineation and site remediation. Twenty years experience in the investigation and remediation of petroleum contamination at commercial and residential properties. Major recent projects of relevance include:

- Irvington Waterfront Park (Irvington, NY): Project Manager for site investigation and remedial design of abandoned industrial riverfront properties. Documented soil and groundwater contamination and designed remediation including soil removal and site capping. Project completed in 2000; project awarded the 2000 Gold Medal Award by Consulting Engineers Council of New York State.

- Greyston Bakery Site (Yonkers, NY): Project Manager for site investigation and remedial design of former manufactured gas plant site for future use as a bakery. Documented soil, groundwater and soil gas contamination. Remedial systems included installations of a DNAPL collection system, a barrier layer, a subslab depressurization system under the building, and groundwater monitoring. Project completed in 2004.

- 400 Block Redevelopment (Poughkeepsie, NY): Project Manager for site investigation and remedial design of multi-use industrial development property (boiler repair, clothing manufacturer, auto repair) for future retail/residential use. Documented soil (petroleum, PCBs, metals) and groundwater (petroleum) contamination. Remedial systems include: soil (and tank) removal, installation of a barrier, and groundwater monitoring. Project completed in 2006.

- Prospect Court Housing Site (Bronx, NY): Project Manager for site investigation and remediation of a former gas station/auto repair facility. Documented contamination included both dissolved and free-phase petroleum hydrocarbons, dissolved halogenated solvents, and metals contamination in soil. Remedial systems consisted of In-Situ Chemical Oxidation, soil excavation, vapor interception systems, and on-going groundwater monitoring. Project anticipates securing Certificate of Completion from the NYSDEC in December 2012.

- Parkview Commons Site (Bronx, NY): Project Manager for site investigation and remedial design of former gas station/auto repair facility for future use as a residential/commercial building. Certificate of Completion was secured from the NYSDEC in 2007.

Senior Hazardous Waste Specialist, U.S. Hydrogeologic, Inc., Poughkeepsie, New York 1986 to 1992

Supervisor for corporate hazardous and solid waste investigatory and remedial services. Major projects included:

- Coordination of subsurface investigations at a New York State Superfund site (former industrial facility); project manager in charge of site reclassification (delisted as of January, 1991).
- Coordination of petroleum storage tank management plan for Dutchess County (NY) Department of Public Works, including an assessment of regulatory compliance, product utilization and physical conditions of more than 100 tanks at over 20 facilities.
- Environmental compliance Audit of 42,000-square foot printing facility with specific remediations for solvent handling/disposal, inks storage and metal recovery processes.

Adjunct Professor, (various institutions) *1991 to Present*

Dutchess Community College, Poughkeepsie, New York
*M*arist College, Poughkeepsie, New York
Vassar College, Poughkeepsie, New York

Courses: Macroeconomics, Environmental Economics (DCC)
Introduction to Environmental Issues (Marist)
Environmental Geology (Vassar)

Policy Intern, Southern Growth Policies Board, North Carolina *1985*

Prepared several in-depth and short analyses of environmental and economic issues, with specific concern for their impact on Southern state policies. Analyses included: hazardous waste facility setting policies and environmental impacts of "high tech" industries on host communities.

Research Assistant, University of Oregon, Eugene, Oregon *1983*

Analyzed (with Dr. John Baldwin, Chairman of the Department of Planning, Public Policy and Management, U. of Oregon) the "Oregon Riparian Tax Incentive Program". Designed survey, conducted interviews and analyzed data. Summary paper with programmatic recommendations, was presented at the Annual Conference of the National Association of Environmental Educators.

PRESENTATIONS

- "Environmental Risks in Lending" Training Session for Pawling Savings Bank employees, December 18 and 19, 1989; and July 1, 1993.
- "Identifying Environmental Concerns in Appraisals", Workshops for Lakewood Appraisal Corporation, October, and November, 1989 and April, 1990.
- "State and Local Groundwater Protection Strategies", Annual meeting of the New York State Association of Towns, February, 1990.
- "Environmental Audits on Orchards and Agricultural Properties", Resource Education Institute, Inc., Real Estate Site Assessment and Environmental Audits Conference, December 4, 1990.

- "Environmental Audits on Orchards and Agricultural Properties", National Water Well Association Annual Conference, July 29-31, 1991.
- "Principles of Environmental Economics for Ground Water Professionals", National Groundwater Association Outdoor Action Conference, May 27, 1993.
- "Impact of Environmental Liabilities on Real Estate Transactions", a NYS Department of Education approved course for licensed real estate professionals, March 1995; April 1995; May 1995; October 1995.
- "Brownfields Redevelopment in New York: A Discussion of Two Case Studies", New England Environmental Conference 1996, March, 1996.
- "Quantifying Environmental Liabilities", a NYS Department of Education approved course for licensed real estate professionals, March 1997.
- "Environmental Assessments in Urban Settings", Vassar College, Fall 1999 and Fall 2000.
- "Navigating Property Contaminant Problems", Land Trust Alliance Rally 2001, Oct 2001.

ARTICLES

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PROFESSIONAL AFFILIATIONS

American Water Resources Association
National Groundwater Association
Hazardous Materials Control Research Institute
Environmental Assessment Association

ADDITIONAL INFORMATION

Member, Dutchess County (NY) Youth Board (1987-1992); Chairman, 1992
Member, City of Poughkeepsie (NY) School District Ad Hoc Committee on Teen Parents and Pregnancy Prevention (1991)
Member, City of Poughkeepsie School District Budget Advisory Committee (1994 to 2000)
Member, City of Poughkeepsie PTA and Middle School Building Level Team

Ecosystems Strategies, Inc.

Richard Hooker
Project Manager

PROFESSIONAL EXPERIENCE

Project Manager, Ecosystems Strategies, Inc., Poughkeepsie, NY *2001 - present*

- Conducts Environmental Site Investigations and prepares final site assessment reports. Over 300 Investigations and Final Reports completed to date.
- Investigates site histories.
- Conducts facility inspections.
- Reviews regulatory agency records.
- Documents facility compliance with relevant State and Federal regulations.
- Conducts Phase II Technical Environmental Investigations and prepares technical reports.
- Researches field and regulatory information.
- Manages tank removals.
- Coordinates subcontractors.
- Oversees fieldwork and handles collection of material, soil and water samples.

EDUCATION

Ph.D. from the University of St. Andrews, St. Andrews, Scotland *1997*
BA from Staffordshire University, Stoke-on-Trent, England *1989*

SELECT PROJECTS

Former Fur Processing Facility, Bronx, NY

Documented the presence of chlorinated hydrocarbon, petroleum, and metals contamination beneath and/or near a former industrial structure. Coordinated the sampling and removal of multiple drums of hazardous and non-hazardous material from the structure and secured NYCDEP approval. Developed a Workplan for site remediation and directed environmental restoration activities, including: excavation and removal of both aboveground and underground storage tanks, removal of contaminated soils, installation of a barrier layer soil cap, and pre-demolition removal of asbestos materials.

Jamaica Hospital Medical Center, Queens, NY

Coordinated and supervised the removal of two, large underground storage tanks and documented site conditions through soil and groundwater sampling. Secured NYSDEC approval of PBS tank closure and registration requirements.

The Point CDC, Bronx, NY

ESI assisted with the open space for community access to the waterfront in revitalization of a former fur processing plant. Activities included subsurface investigation, hazardous waste characterization/disposal program. Worked with architects, engineers, and demolition contractors to demolish existing structure and assisted with site redesign as a multi-purpose community access point to the Bronx River.

PROFESSIONAL CERTIFICATIONS

- OSHA Hazardous Waste Site Operations
- OSHA Emergency Response Training
- 29 CRF 1910.120 (e) – 40 Hour Hazwoper

Scott Spitzer
Director of Environmental Investigations
scott@ecosystemsstrategies.com

PROFESSIONAL EXPERIENCE

Director of Environmental Investigations, Ecosystems Strategies, Inc., Poughkeepsie, NY 2013 - present

Management and quality review of environmental site assessments, technical environmental investigations, and remedial projects including Brownfield sites. Conducts research to obtain field and regulatory information about the environmental status of a designated area. Reviews all documents prepared by ESI to ensure consistency and technical accuracy. Responsibilities associated with the preparation of site assessments include: investigating site histories, conducting facility inspections, reviewing regulatory agency records, documenting facility compliance with relevant State and Federal regulations, and preparing reports. Management of complex technical environmental investigations (including sites currently on the NYSDEC Registry of Inactive Hazardous Waste Sites), including coordinating subcontractors, overseeing fieldwork, designing and implementing sampling plans, preparing technical reports, and interfacing with regulatory agency personnel.

Senior Project Manager, Long-Form Reports, The 451 Group, Inc., New York, NY 2008-2011

- Managed the production of over 150 technical white papers.

Senior Project Manager, Ecosystems Strategies, Inc., Poughkeepsie, NY 2001 - 2008

- Conducted Environmental Site Investigations and prepared final site assessment reports. Over 300 Investigations and Final Reports completed as lead manager.
- Investigated site histories.
- Conducted facility inspections.
- Reviewed regulatory agency records.
- Documented facility compliance with relevant State and Federal regulations.
- Conducted Phase II Technical Environmental Investigations and prepared technical reports.
- Researched field and regulatory information.
- Managed tank removals.
- Coordinated subcontractors.
- Oversaw fieldwork and handled collection of material, soil and water samples.

Select Projects

Scenic Hudson Land Trust, Inc., Beacon Waterfront Project, Beacon, NY

ESI conducted soil and groundwater investigations on a former MOSF and adjacent scrap yard. Projects involved soil remediation of both petroleum and PCB-contaminated soils and long-term groundwater monitoring. Both projects were classified as Voluntary Clean-Up projects by the NYSDEC and closure status was attained.

Sakmann Restaurant Corporation Site, Fort Montgomery, NY

Conducted Phase I Environmental Site Assessment and Phase II Subsurface Investigations for former filling station and automotive repair garage contaminated by solvent and waste-oil discharges to an on-site drywell.

Designed and implemented a sampling plan for soils impacted by chlorinated hydrocarbons, petroleum, and metals. Created Workplan (in coordination with the NYSDEC Voluntary Cleanup Program) for remediation of on-site contamination and long-term sampling of on-site groundwater monitoring wells.

Staten Island Marina Site, Staten Island, NY

Conducted Phase I Environmental Site Assessment and Phase II Subsurface Investigation for an active marine facility engaged in boat painting and engine maintenance activities. Coordinated the delineation of metals contamination over a three-acre area and analyzed potential impacts from on-site fill materials. Submitted remedial and budgetary analysis in support of regulatory agency approval for conversion of boatyard into a public park.

Octagon House Development Site, Roosevelt Island, NY

Conducted Phase I Environmental Site Assessment and Phase II Subsurface Investigations at the former site of a large, urban hospital. Interpreted the results of geotechnical studies, extended test pits, and conducted extensive soil sampling, to document subsurface soil conditions in support of client's application to the U.S. Housing and Urban Development Agency (HUD). Created Workplan (in coordination with the NYCDEP Office of Environmental Planning and Assessment) for site-wide remediation of contaminated soils and secured NYCDEP approval for site remediation as required by HUD.

Camp Glen Gray Boy Scout Facility, Mahwah, NJ

Conducted Phase I Environmental Site Assessment and Phase II Subsurface Investigations at an approximately 800-acre campground containing numerous structures. Documented subsurface soil conditions at the locations of aboveground and underground storage tanks, and delineated lead contamination at a former firing range. Assisted in design and implementation of remediation plans for removal of petroleum and lead contaminated soils, and obtained NJDEP approvals.

EDUCATION

SUNY at Stony Brook, Bachelor of Science - Biology, SUNY at Stony Brook *May 1992*
SUNY at Purchase, extensive studies in Environmental Science

PROFESSIONAL CERTIFICATIONS

OSHA Hazardous Waste Site Operations and Emergency Response (HAZWOPER) – 40 hr

APPENDIX K

BCP Signage

Brownfield Cleanup Program

3475 Third Avenue
Site Number: **C203080**
3475 Third Avenue Owner Realty, LLC

Governor: Andrew M. Cuomo
Commissioner: Joseph Martens
Mayor: Bill de Blasio

Transform the Past…. Build for the Future

APPENDIX L

QAPP

QUALITY ASSURANCE PROJECT PLAN

for the

3475 Third Avenue
Borough of Bronx
New York

NYSDEC Brownfields Site: C203080

October 2015

ESI File: KB15152.45

Prepared By:

Ecosystems Strategies, Inc.
24 Davis Avenue, Poughkeepsie, NY 12603
phone 845.452.1658 | fax 845.485.7083 | ecosystemsstrategies.com

TABLE OF CONTENTS

1.0 PROJECT MANAGEMENT

1.1 Project/Task Organization

The following individuals are major participants in the project. Following each project participant is their specific responsibilities and authorities for the project. Resumes detailing project personnel are located in Appendix G of the Remedial Action Work Plan (RAWP).

Man-tsz Yau New York State Department of Environmental Conservation (NYSDEC)

Man-tsz Yau is the project manager for the NYSDEC. She is responsible for review and approval of all project submittals.

Jolanda Jansen, P.E. Jansen Engineering, P.L.L.C.

The Remedial Engineer will be responsible for final review and approval of all project submittals prior to submission to the NYSDEC.

Paul Ciminello President, Ecosystems Strategies, Inc. (ESI)

Paul Ciminello will be responsible for overview of all project activities. Mr. Ciminello has authority over all Ecosystems Strategies, Inc (ESI) personnel and subcontractors.

Richard Hooker Project Manager, ESI

Richard Hooker will be responsible for directing and coordinating all project activities, reviewing all project documents, and ensuring that project plans are followed. Ms. Lawson has authority to direct the activities of the field team (OSC and drilling subcontractor).

Field Personnel ESI On-Site Coordinator (OSC) ESI

The OSC will be responsible for the completion of all on-site fieldwork, collection of all samples, completion of the field log, and chains of custody. The OSC will have authority over all on-site subcontractors.

Laboratory Subcontractor

The laboratory subcontractor will be responsible for the analysis of samples. The laboratory subcontractor will be New York State Department of Health Environmental Laboratory Approved Program (ELAP) certified in the appropriate categories.

1.2 Principal Data Users

The principal users of the generated data in this project are listed below.

a. Residents of the Borough of Bronx, especially those residing in the vicinity of the Site

b. 167 - 168 Third Avenue LLC.

c. NYSDEC

1.3 Problem Definition/Background

The Project Site (3475 Third Avenue, in Morrisania section of Bronx, NY 10456) is a mid-block parcel (Block 2372 Lot 37) containing one vacant two story and one vacant three story building and is approximately 17,600-square feet in size.

Historical records indicate that the Site was developed as early as 1891. The current on-site buildings were constructed sometime between 1909 and 1951 and historical operations included a chemical company, automotive repair, manufacture of textiles, manufacture of bed springs, and dyeing and finishing. The Site was formerly registered as a large quantity generator of hazardous waste (1996), and a small quantity generator (1998 and 2002) . The USEPA ID for the site is NYR000013144. Wastes generated included non-listed corrosive wastes, non-listed ignitable wastes, non-listed reactive wastes, toluene diisocyanate, and phenol. Two fuel-oil aboveground storage tanks (both approximately 2,5001,080 gallons in size) are located within concrete vaults , one at the northern portion of the southern building cellar and one at the southern portion of the northern storage building cellar. The Site has been accepted into the New York State Brownfield Cleanup Program and has been assigned site number C203080.

The primary objective of the proposed action is to remediate the Site under the Brownfield Cleanup Program for re-use as a residential property while being protective of human health and the environment.

1.4 Project/Task Description

The project will meet its objective through the following actions:

- Compliance with DER-10 Technical Guidance for Site Investigation and Remediation, dated May 3, 2010;
- Excavation of site soils to a depth of 14 feet below grade;
- End point sampling to document site integrity subsequent to excavation of soils;
- Management and disposal of soils generated during construction excavations;
- If necessary, installation of a vapor barrier and a sub-slab depressurization system in order to prevent any organic vapors from entering the new on-site structure;
- If necessary, implementation of a Site Management Plan to ensure the long-term effectiveness of the SSDS, including provisions for groundwater monitoring, periodic inspections and contingency plans for soil management.

Endpoint soil and post-remediation groundwater sampling will be conducted per the approved RAWP.

1.5 Quality Objectives and Criteria

The data collected in this project will be used for the following purposes:

- To document removal of on-site soil contamination;
- To inform and educate the public about potential impacts to human health; and,
- To collect baseline data for planning future IC/IE controls, if necessary.

In order to meet the data quality objectives of precision, accuracy, representation, comparability, and completeness the following actions will be taken:

- Duplicate samples will be collected and analyzed (see Section 2.4, below) in order to determine the degree to which measurements obtained under the same protocols are consistent and reproducible.
- Matrix spike samples will be collected and analyzed (see Section 2.4, below) in order to determine accuracy for the samples.
- Endpoint soil samples will be collected based on the procedures in Section 3.4 of the RAWP so that there will be consistency between the data sets.
- Additional sampling will be conducted, if necessary, based on field observations (elevated PID readings, unusual odors, discoloration, or, any other field evidence of contamination) in order to obtain a representative sample from any areas of residual contamination (if encountered).
- Data generated during the completion of the RAWP will be submitted for review by a third, independent party (see Section 3.2.1, below).

Prior to field activities, the Project Manager and the OSC will review the RAWP to ensure that the data quality objectives of precision, accuracy, representation, comparability, and completeness will be met during the field activities. At the completion of field activities, the Project Manager will review field logs and chains of custody to ensure that field activities met the intent of the RAWP. If a problem is identified, Mr. Paul Ciminello and the Project Manager will meet to determine corrective measures necessary to meet data quality objectives.

1.6 Documents and Records

Electronic and paper copies of all measurements will be retained by Ecosystems Strategies, Inc. As part of the process, documentation of sufficient quality and quantity to represent subsurface conditions at the Site will be provided to the NYSDEC in a Final Engineering Report (FER). The FER will include necessary institutional/engineering controls (IC/IE controls), if any.

2.0 DATA GENERATION AND ACQUISITION

2.1 Sampling Methods

Samples will be collected in appropriately-sized containers provided by the laboratory, in the manner outlined in the RAWP. Containers will be labeled indicating sample location and depth (if applicable). Soil samples will be collected using properly decontaminated stainless steel trowels and/or dedicated disposable latex gloves. During the sampling procedure, samples will be stored in a cooler prior to transport to the approved laboratory.

2.2 Sample Handling and Custody

Samples will be handled by the OSC. After each sample is collected, it will be placed in a sample cooler that is maintained at 4 (+/-2) °C. For each sampling day, sampling personnel will be required to complete a sampling custody worksheet indicating all pertinent information about the samples collected, handling methods, name of the collector, and chain of custody. Upon the completion of each day of sample collection activities, all samples will be shipped via either courier or overnight delivery (per laboratory requirements) to a NYSDOH ELAP approved laboratory. Laboratory personnel will record the cooler temperature upon receipt and analyze the samples prior to the expiration of the hold times as specified in the Analytical Service Protocol Exhibit I Sample Container Cleaning Procedures, Sample Preservation, and Holding Times.

2.3 Analytical Methods

Selected samples (as outlined in the RAWP) will be analyzed for the following:

Table 1: Analytical Methods/Quality Assurance Summary Table

Matrix	Sample Analysis	Analytical Method	Container (per sample)	Preservative	Number of Samples
Soil	VOC+10	8260C	4, 40 mil vials	None	1 per 30' of sidewall and 1 per 900 feet of floor***
Soil	SVOCs+20	8270B	1, 8 oz glass jar	None	Dependent on the Repositories' Requirements
Soil	Priority Pollutant Metals	6010C and 7471B	**	None	Dependent on the Repositories' Requirements
Soil	RCRA Characteristics*	Various	1, 8 oz glass jar	None	Dependant on the Repositories' Requirements
Soil	TCLP (Organics and Metals)*	Various	1, 8 oz glass jar	None	Dependant on the Repositories' Requirements
Groundwater	VOC+10	8260C	2, 40-ml vials	HCL	Quarterly

*****Testing for RCRA characteristics and TCLP will be based on the requirements of the disposal facility.
**SVOCs and metals for soils require 1, 8-ounce glass jar.
***Floor samples will only be collected if soil is left a bottom of excavation.

2.4 Quality Control

Accuracy and precision will be determined by repeated analysis of laboratory standards, and matrix effects and recovery will be determined through use of spiked samples. With each sample run, standards, blanks, and spiked samples will be run.

One duplicate sample will be collected for every 20 matrix samples (or one per week). One in 20 samples will also be submitted for Matrix spike (MS) and Matrix Spike Duplicate (MSD) analysis. One rinse blank will be prepared for each non-dedicated piece of sampling equipment for every 20 analytical samples collected using that piece of equipment. For each day of sampling, a trip blank will be included with each sample cooler and analyzed for VOCs only.

Samples will be identified using a unique ID number. This ID will be recorded on the sampling log and/or field record and the sampling container. Samples for each day of fieldwork will be assigned to a Sample Delivery Group (SDG) for that day and will be shipped via either courier or overnight delivery to the laboratory following proper chain of custody procedure, as described above.

2.5 Instrument/Equipment, Testing, Inspection, and Maintenance

Field measurements will be collected using a PID during all sampling. The PID will be stored at Ecosystems Strategies, Inc. offices when not in use. The instrument will be calibrated each day in accordance with the manufacturer's instructions. Instrument malfunction is normally apparent during calibration. In the event of malfunction, equipment will be cleaned and tested. Equipment testing, inspection, and maintenance will be the responsibility of the Project Manager and/or the OSC for the project.

2.6 Inspection/Acceptance of Supplies and Consumables

All supplies and consumables will be inspected and tested (if necessary) by either the Project Manager or the OSC upon receipt. The following supplies and consumables will be used:

The following supplies and consumables will be used:

- One 8-oz (for SVOCs and Metals) and 4, 40 ml vials (for VOCs) clear glass jar will be used for each soil sample. Duplicate soil samples will each require one additional sample volume. Two 40-ml HCL preserved glass vials (for VOCs), two amber liters (for SVOCs), and one 250-ml plastic jar (for metals) will be used for each groundwater sample
- Disposable gloves (nitrile or equivalent).
- Distilled water (for decontamination and the preparation of rinse blanks)

2.7 Data Management

For the purpose of data management, the data can be divided into field and laboratory data. Field data will be recorded at the time of measurement on written field logs. Laboratory data will be reviewed upon receipt and summarized in data summary tables.

3.0 DATA VAILDATION AND USABILITY

3.1 Data Review, Verification, and Validation

Data generated by this project will be reviewed, verified and validated as follows

3.1.1 Field Measurements

If field instruments are determined to be functioning correctly through calibration and measurements of standards, and if there are no inconsistencies between written records and data recorded in the meters, the data will be assumed to be valid and will be accepted as an indication of field conditions. If instruments malfunction prior to field measurement, they will be restored to proper function prior to re-use. If they malfunction immediately after field measurements are taken, the measurements will be retaken as soon as possible. Inconsistencies between written records and recorded meter data will be resolved by re-testing the material, if possible. If re-testing is not possible, (i.e. the sample has been shipped to the laboratory), the inconsistency will be described in the FER and the laboratory analysis will be utilized to classify the material. In addition, all field data will be reviewed by the Project Manager for consistency and plausibility.

3.1.2 Laboratory Analysis

As a NYSDOH ELAP-certified laboratory will provide a NYSDEC ASP Category B data package for the determinative sample analyses, as described in Section 2 of DER-10 and the July 2005 NYSDEC ASP.

3.2 Verification and Validation Methods

3.2.1 Verification Method

Once collected, all data will go to the Project Manager for review and verification. Review will involve determining that all data has been collected at the proper locations by the proper persons and that all field and laboratory logs are complete. In addition, a Data Usability Summary Report (DUSR) will be prepared by a third, independent party, which maintains NYSDOH ELAP CLP Certification. A current resume outlining the education and experience with data validation of the individual preparing the DUSR will be provided to the NYSDEC for review and approval.

3.2.2 Authority for Verification

Authority for verification, validation, and resolution of data issues will be distributed among the investigators. Authority to resolve issues regarding verification of field measurements will rest with the Project Manager and Mr. Paul Ciminello.

3.2.3 Project Reports

Daily and monthly reports will be submitted to the NYSDEC as specified in the RAWP. The Project Manager will pass pertinent information to the other project participants, as needed.

Following review, validation, and verification, all data will be conveyed to users via the FER. This report will include the following:

- All laboratory analytical results obtained from the field sampling event(s). The analytical results will be summarized in tables.
- A detailed account of any field procedures used which deviate from those established in the RAWP.
- A complete set of field notes and/or Field Observation Tables.
- Results of the DUSR review of all laboratory results.

3.2.4 Calculations

There are no project specific calculations required.

APPENDIX M

CAMP

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50^{o} C (14 to 122^{o} F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.