



*Solving Environmental Problems
& Creating Redevelopment Opportunities*

February 6, 2018

VIA FEDEX

New York State Department of Environmental Conservation
Division of Environmental Remediation, Remedial Bureau C
625 Broadway, 11th Floor
Albany, New York 12233-7014

**Re: DRAFT Verification Sampling and Source Assessment Work Plan
Mr. Cleaners – Shrub Oak Shopping Center
1360 East Main Street
Shrub Oak, New York 10588
Yorktown (T), Westchester County, New York
Site No.: C360117**

Excel Environmental Resources, Inc. (Excel) has prepared this DRAFT Verification Sampling and Source Assessment Work Plan on behalf of Shrub Oak Partners, LLC (Owner) as a follow-up to New York State Department of Environmental Conservation (NYSDEC) letter dated January 22, 2018. The NYSDEC letter summarizes their review of various environmental investigations previously submitted by Excel on behalf of the Owner for the Shrub Oak Shopping Center (subject property or Site) located at 1360 East Main Street in Shrub Oak, New York.

As discussed in the letter, documents previously submitted and reviewed include:

- September 2017 Sub Slab Depressurization System Construction Completion Report;
- March 2017 Monitoring and Maintenance Plan Report; and
- All relevant data collected to date.

In response to the requests made by the NYSDEC, as discussed below, this Verification Sampling and Source Assessment Plan includes:

- Source Assessment;
- Indoor Air Sampling of five (5) tenant spaces;
- Ambient Air Sampling; and
- Sub-Slab Air Sampling.

A Site Location Map showing the location of the subject property is provided as Figure 1 and a Site Plan showing the proposed indoor, sub-slab, and ambient sampling locations is provided as Figure 2.



VERIFICATION SAMPLING AND SOURCE ASSESSMENT PLAN

As discussed with NYSDEC and as outlined in their letter dated January 22, 2018, additional indoor, sub-slab, and ambient air sampling is required in all of the tenant spaces associated with the subject property to confirm soil gas and indoor air quality at each location.

Since the NYSDEC letter was issued, several tasks have been completed to mitigate the indoor air impacts from the dry cleaner operation and the sub-slab vapor conditions:

1. On February 2, Excel technicians conducted an inspection of the dry cleaners lease space and identified all cracks and openings (pathways) on the floor and walls of the space. All identified pathways were sealed so as to prevent migration of vapors from both the sub-slab soil into the dry cleaner space, and to prevent indoor air from the dry cleaner space from migrating through the wall and into the neighboring Acme grocery store and pizzeria.
2. On February 3rd and 4th, Mr. Cleaners upgraded the dry cleaning machine to a “green” process that does not utilize tetrachloroethylene (PCE) as a cleaning solvent in the dry cleaning process.

As part of the Verification Sampling (VS) the following five (5) tenant spaces will be sampled: Acme Grocery Store, Mr. Cleaners, Pizzeria, US Post Office, and Wells Fargo.

The following procedures will be utilized during the Source Assessment and VS sampling:

Source Assessment

- Source Assessment (concurrent with VS) will include;
 - Visual inspection of the system and the completion of a Vapor Mitigation System Monitoring Data form (Attachment A);
 - Determination as to whether alterations or augmentation of the system are required;
 - Visual inspection and walkthrough of each tenant space during hours of operation to verify current operations and use;
 - A PID will be used as an initial screening tool within the building to evaluate the presence or absence of organic vapors associated with any sumps, drains, or closed spaces within the building; and
 - Trouble-shoot any problems (noise, vibration, condensate generation, floor cracks, complaints, etc.).



- Upon receipt of the sub slab and indoor air data, Excel will evaluate and compare the two data sets to determine the attenuation factor between sub slab and indoor air concentrations to further evaluate the indoor air source.
- Following the building walkthrough and pre-sampling site survey (Source Assessment), Verification Sampling will include six indoor air samples to be collected in accordance with the New York State Department of Health (NYSDOH) Guidance for Evaluating Vapor Intrusion in the State of New York dated October 2006. The indoor air samples will be collected through continuous-flow air samplers (6-liter Summa canisters) placed at the previous sample locations shown on Figure 2.
- The NYSDOH will be notified prior to the building walkthrough and pre-sampling site survey in order to provide the opportunity to review and determine sample locations.

Indoor Air Sampling

In order to evaluate the vapor intrusion pathway, indoor air sampling is required in selected tenant spaces within the Shrub Oak Shopping Center. The following summarizes the proposed indoor air sampling scope of work:

- As shown on Figure 2, six indoor air sampling locations will be selected within and around the former dry cleaner source area to evaluate the potential for vapor intrusion. Specifically, two samples will be collected inside Acme Supermarket, one sample inside Mr. Cleaners, one sample inside Francesca's Pizza & Pasta, one sample inside the US Post Office, and one sample within Wells Fargo. These samples will be collected within the 2017-2018 heating season.
- Since the building is occupied by commercial/retail businesses the indoor air samples will be collected over an 8-hour period during the time that employees and/or customers are most likely to be present.
- Prior to indoor air sampling the SSDS units in the Acme, Mr. Cleaners and Pizzeria will be shut down and the following will be recorded: historic and current storage and uses of volatile chemicals for each business, use of heating or air conditioning systems, sketch of floor plans showing sampling locations, chemical storage areas, doorways, stairways, sumps, drains etc., sketch of outdoor areas, weather conditions, pertinent observations such as spills, staining, and odors, and measurements of temperature and barometric pressure. A field sampling log sheet will also be used to document sample identification, date and time of samples, sample depths, sample methods, soil vapor purge volumes, and other field sampling observations. An Indoor Air Building Survey and Sampling Form will be completed (Attachment B).



- Each indoor air canister will be placed approximately three feet above the floor at an approximate breathing zone height. 6-liter stainless steel laboratory supplied summa canisters will be utilized for sample collection.
- As shown on Figure 2, one exterior background ambient air sample will be collected during sub-slab and indoor air sampling activities adjacent to the dry cleaners operation on the eastern side of the building.
- Following sample collection, the Summa canisters will be recovered and shipped to a New York-certified laboratory, Alpha Analytical Laboratories of Westborough, Massachusetts, for analysis using USEPA Method TO-15.
- Following receipt of the indoor air and ambient background analytical results, the data will be tabulated and evaluated in accordance with the NYSDOH VI Guidance document.
- Immediately following the collection of the indoor air samples, six sub-slab soil gas samples will be collected at each sampling location.

Sub-Slab Soil Vapor Sampling

Sub-slab soil vapor sampling is required to investigate the air quality beneath the concrete slab(s) in each of the selected tenant spaces within the Shrub Oak Shopping Center. Sub-slab soil gas samples will be collected through sub-slab vent piping vertical vent riser sampling ports which were previously installed. The sub-slab soil gas samples will also be collected with continuous-flow air samplers. The following summarizes the proposed sub-slab soil gas sampling scope of work:

- As shown on Figure 2, six (6) sub-slab soil gas sampling locations will be selected within and around the former dry cleaner source area to evaluate the potential for vapor intrusion, two samples at Acme Supermarket, one sample at Mr. Cleaners, one sample at Francesca's Pizza & Pasta, one sample at the US Post Office, and one sample at Wells Fargo. These samples will be collected within the 2017-2018 heating season.
- As requested by the NYSDEC, the Sub-Slab Depressurization System in the Acme, Mr. Cleaners and Pizzeria will be shut down during the collection of the sub-slab soil gas samples and powered back on once sampling is completed.
- 1-liter summa canisters will be used for collection of a 10-minute sub slab soil gas grab sample at each of the sub slab sampling ports. Sub-slab soil gas samples will be collected beneath the building concrete slab to evaluate air quality of soil vapors beneath the building slab.



- Prior to sub-slab soil gas sampling the following will be recorded: historic and current storage and uses of volatile chemicals for each business, use of heating or air conditioning systems, sketch of floor plans showing sampling locations, chemical storage areas, doorways, stairways, sumps, drains etc., sketch of outdoor areas, weather conditions, pertinent observations such as spills, staining, and odors, and measurements of temperature and barometric pressure. A field sampling log sheet will also be used to document sample identification, date and time of samples, sample depths, sample methods, soil vapor purge volumes, and other field sampling observations.
- Before sampling, each sampling probe will be purged at a flow rate of 0.2 liters per minute using an SKC purge pump; one to three implant volumes will be purged in total before sampling.
- Following sample collection, the Summa canisters will be recovered and shipped to a New York-certified laboratory, Alpha Analytical Laboratories in Westborough, Massachusetts, for analysis using USEPA Method TO-15.
- Following receipt of the sub-slab soil gas analytical results, the data will be tabulated and evaluated in accordance with the NYSDOH VI Guidance document.

The samples will be analyzed for VOCs according to United States Environmental Protection Agency (USEPA) Method TO-15. The analytical data will be tabulated and compared to the appropriate regulatory criteria to evaluate the effectiveness of the SSDS.

OPERATION, MAINTENANCE, AND MONITORING PLAN

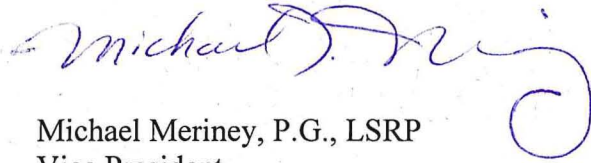
To verify the continued proper operation of the mitigation system, an OMM program shall be instituted. The program will consist of inspections and diagnostic measurements from the mitigation system to verify the proper operation indicating the continued system effectiveness in the mitigation of VI. A Vapor Mitigation System Monitoring Data form along with an Indoor Air Building Survey and Sampling Form will be completed to assist and document each OMM visit.

As recommended in the NYSDOH Soil Vapor Intrusion Guidance Document, all soil gas, sub-slab soil gas, indoor air, and outdoor ambient air samples will be collected within the same 8-hour time frame.



If you have any questions regarding the work plan proposed for the Site, please contact Michael Meriney, P.G., at (732) 545-9525.

Sincerely,
EXCEL ENVIRONMENTAL RESOURCES, INC.



Michael Meriney, P.G., LSRP
Vice President

Figures 1 through 2
Attachments A and B

Cc: Shrub Oak Partners, LLC
Wanda Monahan, Esq.
John C. Hart Memorial Library, Attn: Patricia Baressi, Repository Director



ATTACHMENT A

VAPOR MITIGATION SYSTEM MONITORING DATA FORM

VAPOR MITIGATION SYSTEM MONITORING DATA

Date: _____

Building Address: _____

Company: _____

Technician: _____

Weather Conditions: _____

FAN/BLOWER DATA

FAN/Blower ID:	Current Reading	Commission Value	% Difference	Re-Commission Required?	Re-Commission value
Vacuum (in-wc)					
Airflow (CFM)					

SUCTION POINT DATA

Suction Point ID:	Current Reading	Commission Value	% Difference	Re-Commission Required?	Re-Commission value
Vacuum (in-wc)					
Airflow (CFM)					

Suction Point ID:	Current Reading	Commission Value	% Difference	Re-Commission Required?	Re-Commission value
Vacuum (in-wc)					
Airflow (CFM)					

VAPOR MITIGATION SYSTEM MONITORING DATA

INACCESSIBLE CRAWLSPACE VENTILATION (ICV) DATA

ICV ID:	Current Reading	Commission Value	% Difference	Re-Commission Required?	Re-Commission value
Vacuum (in-wc)					
Airflow (CFM)					
Air Exchanges/hr.					
Crawlspace Volume (ft3)					

SUB-MEMBRANE DEPRESSURIZATION (SMD) DATA

SMD ID:	Current Reading	Commission Value	% Difference	Re-Commission Required?	Re-Commission value
Vacuum (in-wc)					
Airflow (CFM)					

SUB-SLAB POINT (SSP) DATA

SSP ID:					
Vacuum (in-wc)					

ATTACHMENT B

INDOOR AIR BUILDING SURVEY AND SAMPLING FORM

INDOOR AIR BUILDING SURVEY & SAMPLING FORM

Survey Completed by: _____ Date: _____

Site Name: _____ Case #: _____

Part I - Occupants

Building Address: _____

Property Contact: _____ Owner / Renter / other: _____

Contact's Phone: home () _____ work () _____ cell () _____

Building occupants: Children under age 13 _____ Children age 13-18 _____ Adults _____

Part II – Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: _____

Number of floors - below grade: _____ (full basement / crawl space / slab) at or above grade: _____

Basement size: _____ ft² Basement floor: concrete / dirt / floating / other (specify): _____

Foundation type: poured concrete / cinder blocks / stone / other (specify) _____

Type of ground cover around outside of building: grass / concrete / asphalt / other (specify) _____

Basement sump present? *Yes / No* Sump pump? *Yes / No*

Type of heating system (circle all that apply):

hot air circulation hot air radiation wood steam radiation hot water radiation
kerosene heater electric baseboard heat pump other (specify): _____

Type of ventilation system (circle all that apply):

central air conditioning mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan other (specify): _____

Type of fuel utilized (circle all that apply):

Natural gas / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used) / No* Irrigation/private well? *Yes / Yes (but not used) / No*

Existing subsurface depressurization (radon) system in place? *Yes / No* and running? *Yes / No*

Part III - Outside Contaminant Sources

NJDEP Comprehensive Site List (1000-ft. radius): _____

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): _____

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item was removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Removed Prior to Sampling? (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies - glues, paints, etc.		

Part V – Miscellaneous Items

Do any occupants of the building smoke? *Yes / No* How often? _____

Has anyone smoked within the building within the last 48 hours? *Yes / No*

Does the building have an attached garage? *Yes / No*

If so, is a car usually parked in the garage? *Yes / No*

Do the occupants of the building have their clothes dry-cleaned? *Yes / No*

When were dry-cleaned clothes last brought into the building? _____

Have the occupants ever noticed any unusual odors in the building? *Yes / No*

Describe (with location): _____

Any known spills of a chemical immediately outside or inside the building? *Yes / No*

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes / No*

If so, when and which chemicals? _____

Building address: _____

Part VI – Sampling Information

Sample Technician: _____ Phone number: () _____ - _____

Sampler Type: Tedlar / Sorbent / Canister Analytical Method: TO-15 / TO-17 / other: _____

Laboratory: _____ NJ Certified Lab? Yes / No

Sample #	Floor	Room	Canister / Tube #	Pump ID # (if applicable)	Sample Start Date / Time	Sample End Date / Time

Sample location(s):

Provide Drawing of Sample Location(s) in Building

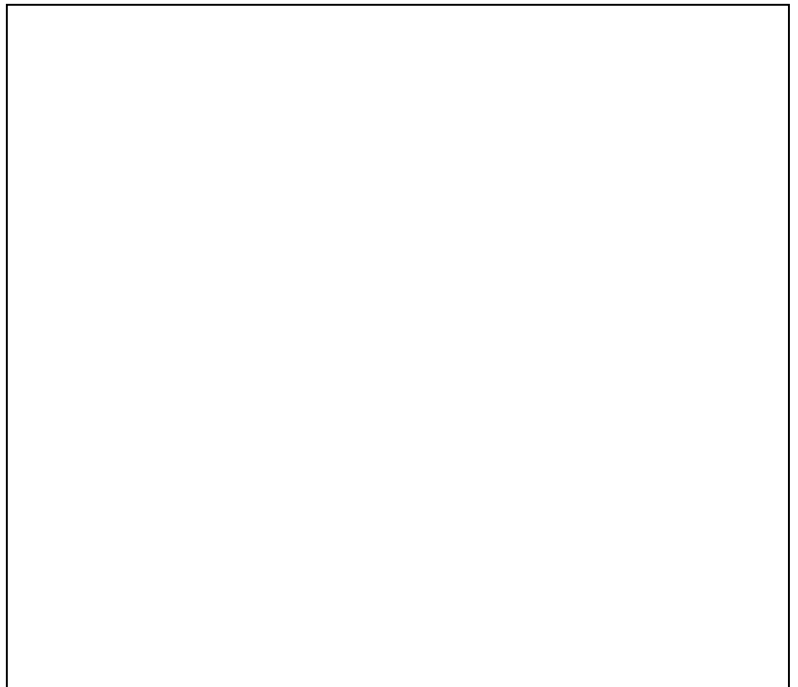
Sample # _____ - _____

Sample # _____ - _____

Sample # _____ - _____

Did the occupants **not** follow any of the “Instructions for Residents” directions? Yes / No

If so, describe modifications: _____



Part VII - Weather Conditions

Outside temperature at time of sampling: _____ °F

Expected high temperature: _____ °F

Expected low temperature: _____ °F

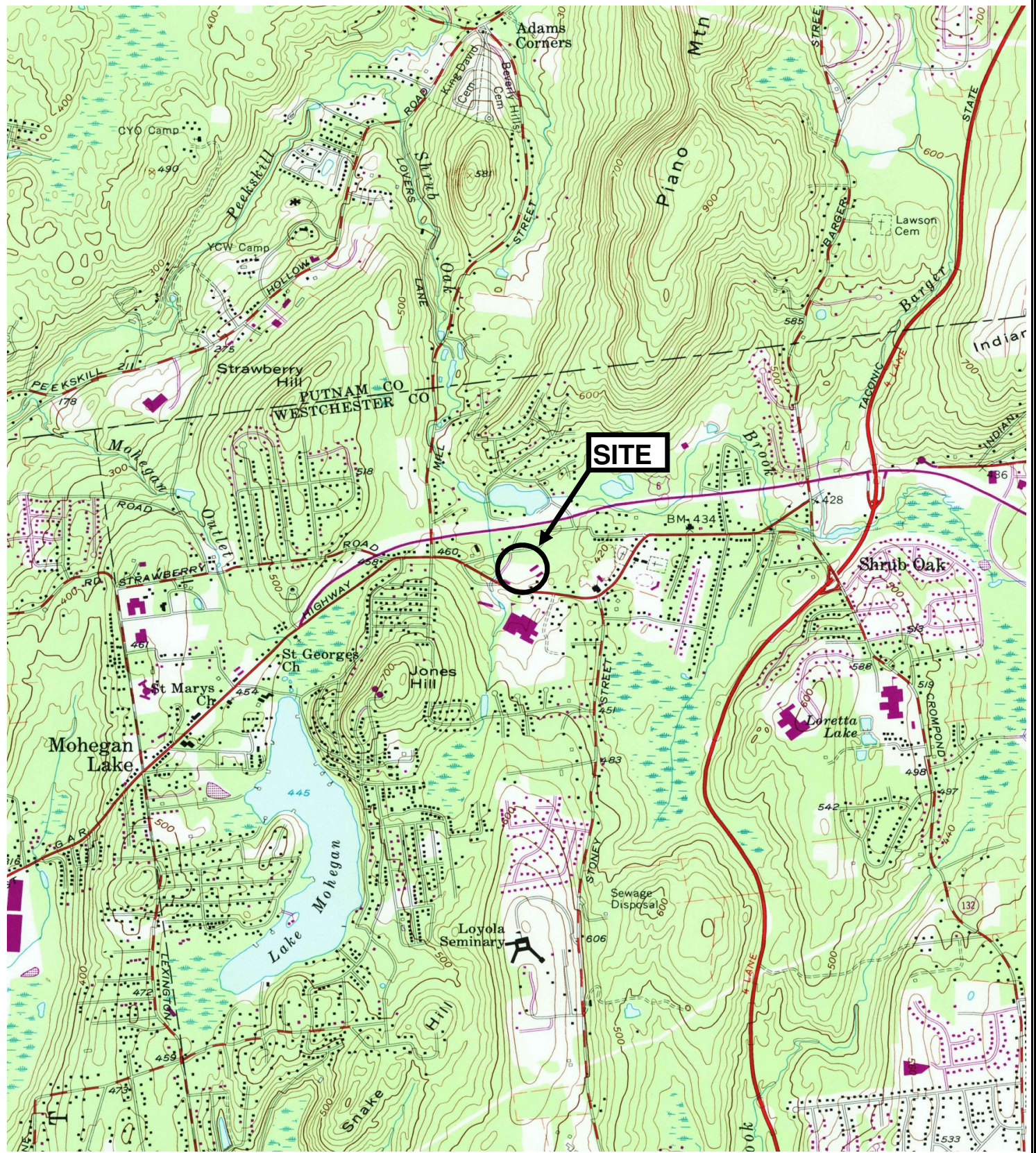
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / No

Describe the general weather conditions: _____

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

FIGURES



SOURCE:
 UNITED STATES GEOLOGICAL SURVEY
 7.5 MINUTE SERIES (TOPOGRAPHIC)
 MOHEGAN LAKE QUADRANGLE 1981



EXCEL ENVIRONMENTAL RESOURCES, INC.
 MR. CLEANERS, 1360 EAST MAIN STREET
 SHRUB OAK, YORKTOWN, NEW YORK

FIGURE 1 - SITE LOCATION MAP

DRAWN BY: N/A

SCALE: 1:24,000

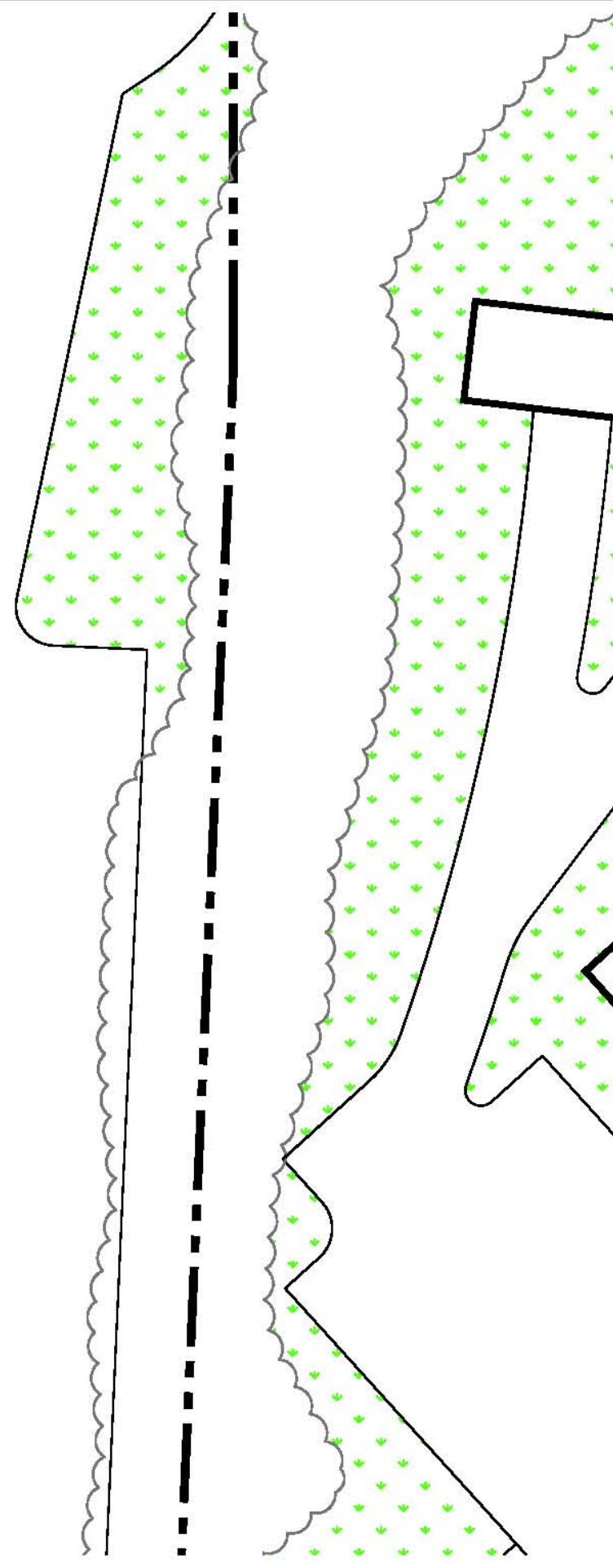
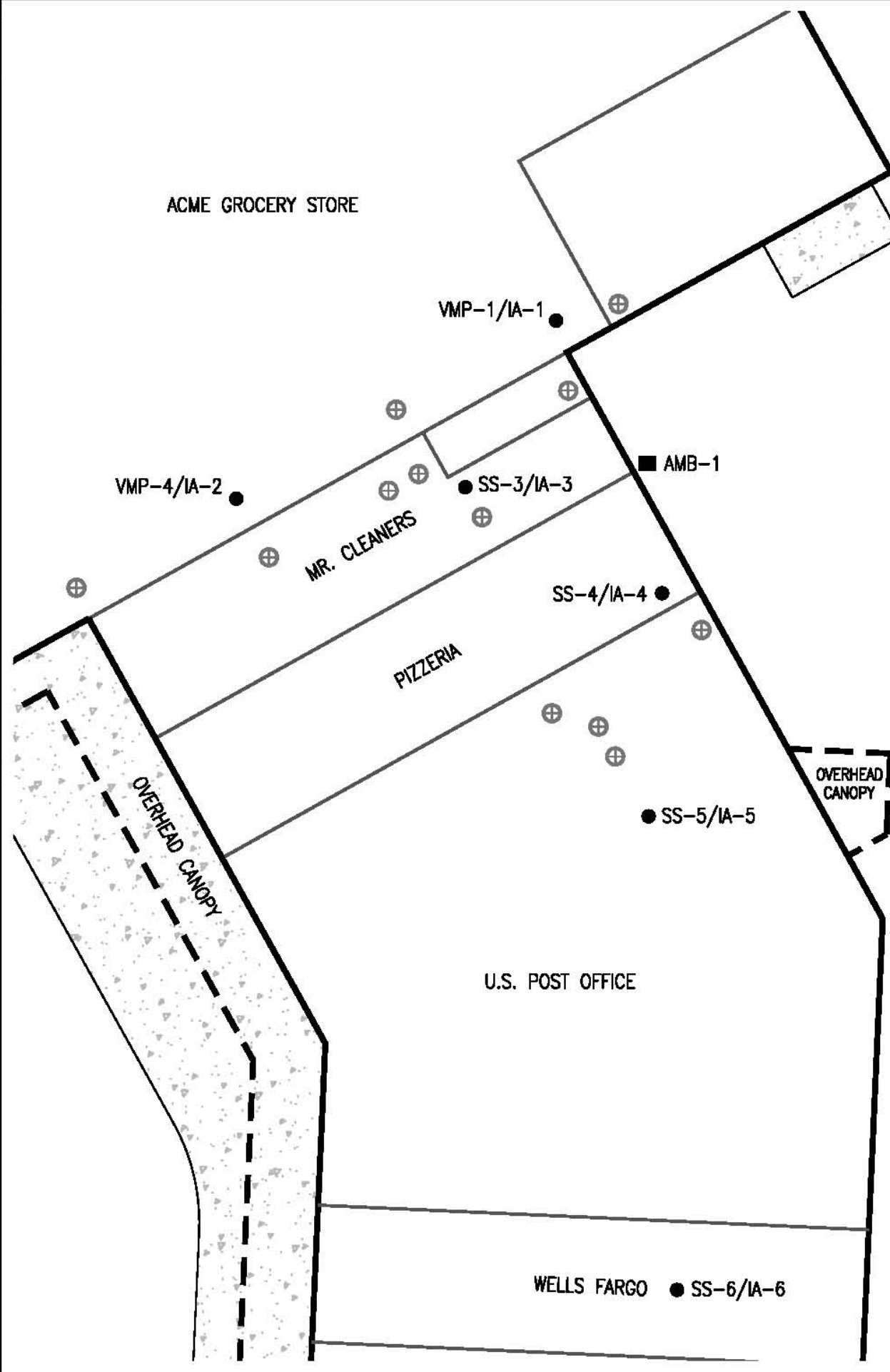
7/24/2013

CHECKED BY: RH

REVISION: 0

PROJECT #: 12229

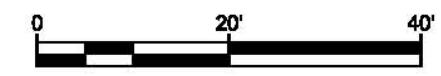
K:\Projecta\12229 Mr Cleaners-Shrub Oak SC\Figures\Proposed Sub Slab-Indoor Air-dwg Layout: BSIZE Date: 2/6/2018 10:40 AM Login: Ryan Corman



LEGEND:

- PROPERTY BOUNDARY
- EXISTING BUILDING
- OVERHEAD CANOPY
- PROPOSED SUB-SLAB VAPOR/INDOOR AIR SAMPLE LOCATION
- AMBIENT AIR SAMPLE LOCATION
- MONITORING POINT
- CONCRETE
- GRASS
- TREELINE

DRAFT



PROJECT : **MR. CLEANERS**
1360 EAST MAIN STREET
SHRUB OAK, YORKTOWN, NEW YORK

DESCRIPTION : **FIGURE 1**
GENERALIZED SITE PLAN SHOWING PROPOSED
SUB SLAB/INDOOR AIR SAMPLE LOCATIONS

DRAWN BY :	RC	SCALE :	1"=20'	DATE :	2/6/18
CHECKED BY :	MM	REVISION :		PROJECT #	12229