EA Engineering, P.C. and Its Affiliate
EA Science and Technology

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22 February 2024

Mr. Steeven Imbaquingo
Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau A, Section B, 12th Floor
625 Broadway
Albany, New York 12233-7015

RE: Letter Workplan for Soil Vapor Intrusion Investigation
Site/Spill No.: South Shore Outdoor—Off-Site
Contract/Work Assignment No. D009806-33
Site No. C152228A
Bay Shore, Suffolk County, New York

Dear Mr. Imbaquingo,

This Letter Work Plan describes the proposed activities for soil vapor intrusion (SVI) investigation of the off-site area (Site No. C152228A) associated with the South Shore Outdoor site (Site No. C152228), a property located at the corner of 5th Avenue and Candlewood Road in the town of Bay Shore, Suffolk County, New York (**Figure 1**). EA had previously performed groundwater and soil vapor sampling as part of the Site Characterization activities which was performed from 10 to 13 July 2023. Upon reviewing the Site Characterization Letter Report summarizing the analytical results, the New York State Department of Health (NYSDOH) requested an SVI evaluation be conducted at the 5th Avenue Plaza (located at 1760 5th Avenue, Bay Shore, New York; Tax Parcel # 0500-182.00-01.00-042.000) due to detections of tetrachloroethene (PCE) in a soil vapor point (5AVE-SV2) located on the property. The 5th Avenue Plaza is a commercial structure located at the intersection of 5th Avenue and Candlewood Road. This work plan presents proposed SVI activities which consists of sub-slab vapor and indoor/outdoor air sampling and soil vapor point installation at the South Shore Outdoor site (Site No. C152228).

1. SITE DESCRIPTION AND HISTORY

The South Shore Outdoor site is a 1.89-acre property located at 1760 5th Avenue, Bay Shore, Suffolk County, New York (**Figure 1**). The property is currently in the New York State Brownfield Cleanup Program which is administered by the New York State Department of Environmental Conservation (NYSDEC). The site was developed sometime before 1969 and was a manufacturer of printed circuit boards. A window manufacturer and installer occupied the site sometime in the mid-1980s. Prior to the remedial action in 2017, the property was the source area of chlorinated volatile organic compounds (VOCs), which were improperly disposed of in drywells located on-site. The remedial action in 2017 demolished the former building, excavated the impacted soils and sediment, and replaced the soils with clean fill, suitable for future commercial use at the site.

Currently, South Shore Outdoor site is being used as a retail pharmacy store and the off-site area, mostly downgradient of the site, is comprised of residential and commercial properties. The 5th Avenue Plaza is immediately south of South Shore Outdoor site.

2. OBJECTIVES

Due to PCE detections in soil vapor samples adjacent to 5th Avenue Plaza, NYSDEC requested EA Engineering, P.C. and its affiliate EA Science and Technology (EA) perform an SVI evaluation at the 5th Avenue Plaza (a structure to the south of South Shore Outdoor site property). Work is being performed under the existing work assignment for site characterization activities. Proposed activity locations can be found on **Figure 1.**

Proposed field activities will include:

- Groundwater gauging of on-site and off-site monitoring wells
- Building inventory and reconnaissance of all businesses in 5th Avenue Plaza
- Installation of three temporary sub-slab soil gas monitoring points
- Concurrent sample collection from three sub-slab monitoring points and corresponding indoor air samples
- Installation of two soil vapor monitoring points, leak testing and sample collection
- Sample collection from one outdoor/ambient air location placed upwind of the plaza.
- Differential pressure monitoring of indoor and outdoor air, and indoor air and the sub-slab environment

Work performed under this work assignment will be conducted in accordance with EA's Generic Quality Assurance Project Plan[1], EA's Generic Field Activities Plan[2], EA's Generic Health and Safety Plan3, and site-specific Health and Safety Plan Addendum[4]. Field forms can be found in **Attachment A**.

1 EA. 2020. *Generic Quality Assurance Project Plan for Work Assignments under NYSDEC Contract D009806.* Revision 01. April.
2 EA. 2023. *Generic Field Activities Plan for Work Assignments under NYSDEC Contract D009806.* Revision 02. March.
3 EA. 2020. *Generic Health and Safety Plan for Work Assignments under NYSDEC Contract D009806.* Revision 01. March.
4 EA. 2023. *Health and Safety Plan Addendum South Shore Outdoor – Off-Site, Bay Shoe, New York*, Revision 02. July.

3. SITE CHARACTERIZATION: FIELD ACTIVITIES

3.1 UTILITY CLEARANCE AND SYNOPTIC WELL GAUGING OF EXISTING MONITORING WELLS

Prior to field activities, EA's subcontractor AARCO Environmental Services (AARCO) will contact Dig Safely New York so any public utilities can be marked out. AARCO will provide copies of all permits and Dig Safe New York notifications and responses to EA prior to mobilizing. AARCO will hand clear (soft dig) to 5 feet (ft) below ground surface to confirm no utility interference exists at each of the 2 proposed drilling locations.

EA will perform a synoptic gauging event of all on-site and off-site wells (**Figure 1 and Table 1**). Existing well information can be found in **Table 1**.

3.2 SOIL VAPOR INTRUSION EVALUATION

The SVI evaluation will be conducted at the 5th Avenue Plaza. The SVI evaluation will include sub-slab vapor sample collection with concurrent indoor air sample collection and outdoor air sample collection. EA assumes collection of three indoor air samples, three sub-slab vapor samples from the structure, and one outdoor air sample collected upwind of the plaza. The property has no basement. Soil-vapor sampling points will be installed on the first floor in the absence of a crawl space. Samples will be collected in accordance with Section 11 of the Generic Field Activities Plan[2] and NYSDOH SVI Guidance[5].

Structure (5th Ave Plaza) Inspection/Inventory and Owner Questionnaire

EA will inspect and document the conditions at the sampling locations in 5th Avenue Plaza on the day of sample collection on a Structure Sampling Questionnaire and Building Inventory (**Attachment A**). The property currently has eight businesses, and three of the eight businesses will be sampled. Two locations are at the businesses located on the north and south end of the 5th Avenue Plaza and the third location is at the business nearest to the soil vapor boring (5AVE-SV-2) with higher soil vapor PCE detection. The building inventory and inspections conducted prior to sampling activities will be used to identify possible sub-slab soil gas-entry points and potential indoor air VOC sources that could influence sample data. A ppbRAE (a type of photoionization detector) will be used to screen for potential sources of background contaminants and entry points within the building. The pre-sampling inspection will include a record of product inventories for the three businesses at the structure to identify and pre-screen potential indoor air sources of VOCs.

In addition, EA will document weather conditions and indoor air temperature. A photographic log will be developed for the structure.

5 NYSDOH. 2006. *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*. October.

Sub-Slab Vapor Sampling

The following procedures listed will be followed during installation of the three sub-slab vapor points:

- A visual assessment of the condition of the floor slab of the building will be completed. The location of the sub-slab vapor point will be selected to be out of the line of traffic, away from major cracks and other floor penetrations (e.g., sumps, pipes, etc.), and a minimum of 5 ft from an exterior wall.

- Once the location is determined, a ¼-inch (in.) diameter hole will be drilled to approximately 2-in. below the concrete floor slab using an electric hammer drill. A 1-in. diameter drill bit will then be used to over drill the top ½-in. of the borehole to create an annular space for the surface seal.

- Concrete dust and flooring material will be cleaned from the drill hole and wiped with a dampened towel.

- Teflon™-lined polyethylene tubing (¼-in. outside diameter by ⅛-in. inside diameter, and approximately 3 ft long) will then be inserted into the borehole drilled through the floor, extending no further than 2 in. below the bottom of the floor slab.

- Melted beeswax will be poured around the tubing at the floor penetration and allowed to set tightly around the tubing.

- Once the sub-slab vapor point is installed, and the beeswax has hardened, a dry leak test will be performed using helium tracer gas. A leak test shroud will be used to infuse the area surrounding of the sub-slab vapor point with helium; once helium detector concentrations indicate greater than 50 percent helium within the shroud, a GilAir-5 air pump will be used to purge the sub-slab vapor point of approximately 2 to 3 liters (L) of air. The purge air will be discharged into a Tedlar® bag connected directly to the air pump. The Tedlar® bag will then be purged, first with the helium detector to assess the competency of the sub-slab seal and then with the ppbRAE to record total VOC concentrations. The associated readings will be recorded on the field sampling form. A sub-slab soil gas monitoring point will be considered sealed from atmospheric air intrusion if the helium concentrations are less than 10 percent of source helium concentrations infused into the shroud in the Tedlar® bag. If helium is detected in the Tedlar® bag above 10 percent, the integrity of the monitoring point will be assessed and repaired, if possible. Modeling clay may be utilized to seal potential cracks and penetrations in the monitoring point seal. Repaired/augmented sampling points will be leak tested again to confirm the seal.

- A 6-L Summa® canister (provided by an independent laboratory) with a vacuum gauge and flow controller will be connected to the sample tubing using a compression fitting and placed on the floor adjacent to the sampling point. The canister will be individually certified clean in accordance with U.S. Environmental Protection Agency (EPA) Method

TO-15 and under a vacuum pressure of no less than -25 in. of mercury (inHg). The flow controller will be set to fill the 6-L Summa® canister over an 8-hour collection period by the analytical laboratory prior to shipping.

- One duplicate sample will be collected in parallel using a stainless steel duplicate "T" supplied by the analytical laboratory.

The serial number of the canister and associated regulator will be recorded on the field sampling form (provided as **Attachment A**). Sample identification, sample start date/time, vacuum gauge pressure, and required analysis (EPA Method TO-15) will be recorded on the canister identification tag and the field sampling form.

Following the 8-hour collection period, the canister valve will be closed to terminate sample collection. If the vacuum gauge reaches -5 inHg or less before the collection period concludes, the canister valves shall be closed to terminate sample collection before the 8-hour collection period is up. Flow regulator ending gauge pressure and sample end time will be recorded on the canister identification tag and the field sampling form. Once the sample collection is completed, the canister and flow controller will be disconnected from the sample tubing. Pertinent sample information will be recorded on the associated chain-of-custody, and the canister will be repackaged into the originating box. The sub-slab vapor sample will be sent to a call-out laboratory for VOC analysis by EPA Method TO-15.

Indoor and Outdoor Air Sampling

Three indoor air samples and one duplicate indoor air sample will be collected from the structure as part of the SVI evaluation. Indoor air samples will be collected in the general vicinity of the sub-slab monitoring points. An outdoor air sample will be placed upwind and in proximity to the structure. Indoor and outdoor air samples will be set up to collect a representative air sample from within the breathing zone (i.e., 3–5 ft above the floor). If sample locations are unable to achieve the elevated sampling zone, dedicated Teflon™-lined polyethylene tubing will be used to reach the breathing zone. A 6-L Summa® canister with a vacuum gauge and flow controller will be used to collect the indoor and outdoor air samples. The canisters will be individually certified clean in accordance with EPA Method TO-15 selected ion monitoring (SIM) and under a vacuum pressure of no less than -25 inHg. The flow controller will be set to fill the 6-L Summa® canister over an 8-hour collection period by the analytical laboratory prior to shipping.

Prior to initiating sampling, the serial number of the canister and associated regulator will be recorded on the field sampling form (provided as **Attachment A**). Sample identification, sample start date/time, vacuum gauge pressure, and required analysis (EPA Method TO-15 SIM) will be recorded on the canister identification tag and the field sampling form.

Following the 8-hour collection period, the canister valves will be closed to terminate sample collection. If the vacuum gauges reach -5 inHg or less before the collection period concludes, the canister valves shall be closed to terminate sample collection before the 8-hour collection period is up. Flow regulator ending gauge pressures and sample end times will be recorded on the canister identification tags and the field sampling forms. Pertinent sample information will be recorded on

the associated chain-of-custody, and the canisters will be repackaged into the originating box. Indoor and outdoor air samples will be sent to a call-out laboratory for VOC analysis by EPA Method TO-15 SIM.

3.3 SOIL VAPOR POINT INSTALLATION AND SAMPLING

Two soil vapor points will be installed within the vadose zone utilizing direct push methods as shown in **Figure 1**. The target depth for installation of soil vapor points is 10 ft below ground surface. The actual depth of installation will be based upon field conditions. A 6-inch stainless steel sampling screen attached to a dedicated section of 0.25-inch diameter Teflon™ or Teflon™-lined tubing will be installed in the borehole to collect soil gas samples. Glass beads or comparable sand will be used to backfill the borehole to a minimum of 6 inches above the stainless-steel screen. Granular bentonite pellets will be placed above the glass beads to within 1 ft of grade, hydrated concurrently with placement. The remaining 1 ft of annular space will be backfilled with sand and a 6-inch diameter steel cover and concrete pad will be installed at grade (**Figure 2**).

Twenty-four hours following soil vapor point installation, a dry leak test will be performed using helium tracer gas. A shroud will be used to infuse the area surrounding of the soil vapor point with helium; once helium detector readings indicate concentrations greater than 50 percent helium within the shroud, a GilAir-5 air pump will be used to purge the soil vapor point of approximately 2 to 3 L of air. The purge air will be discharged into a Tedlar® bag connected directly to the air pump. The Tedlar® bag will then be purged, first with the helium detector to assess the competency of the sub-slab seal and then with the ppbRAE to record total VOC concentrations. The associated readings will be recorded on the field sampling form.

Soil vapor samples will be collected using 6-L summa canisters and the samples will be collected over a 2-hour period. The canisters will be individually certified clean in accordance with EPA Method TO-15 and under a vacuum pressure of no less than -25 inHg. The flow controller will be set to fill the 6-L Summa® canister over a 2-hour collection period by the analytical laboratory prior to shipping.

Following the 2-hour collection period, the canister valves will be closed to terminate sample collection. If the vacuum gauges reach -5 inHg or less before the collection period concludes, the canister valves shall be closed to terminate sample collection before the 2-hour collection period is up. Flow regulator ending gauge pressures and sample end times will be recorded on the canister identification tags and the field sampling forms. Pertinent sample information will be recorded on the associated chain-of-custody, and the canisters will be repackaged into the originating box. Soil vapor samples will be shipped to the analytical laboratory for analysis via EPA Method TO-15.

3.4 LABORATORY ANALYSIS OF AIR SAMPLES

All samples will be submitted to Pace Analytical for analysis. It is anticipated that preliminary analytical results will be available within 2 weeks of receipt at the laboratory, and final results will be provided to the NYSDEC within the standard turnaround time (i.e., 30 days). Analytical data will be validated by a third-party data validator (Environmental Data Services LTD) and summarized in a Data Usability Summary Report. An electronic data deliverable will be submitted to the NYSDEC EQuIS database system.

4. SOIL VAPOR INTRUSION INVESTIGATION REPORT

EA will prepare a Letter Report summarizing SVI evaluation activities and analytical results following the Letter Work Plan. The report will include at a minimum:

- Summary of field activities, including daily field reports, SVP construction logs and photographs
- Summary of deviations to the work plan
- Summary and interpretation of SVI results

Please feel free to contact me if you have any questions or concerns at: 315-565-6561.

Sincerely yours,

EA SCIENCE AND TECHNOLOGY

Kritika Thapa
Project Manager

EA ENGINEERING, P.C.

Donald Conan, P.E., P.G.
Program Manager

Tables

Figures

Attachments

Tables

Table 1. Monitoring Well Gauging Data

Monitoring Well ID	Well Location	Coordinates		Coordinates		Well TOC Elevation (ft NAVD 1988)	Static Water Level (2006) (ft btoc)	Static Water Level (2022) (ft btoc)	Static Water Elevation 2022 (ft NAVD 1988)	Static Water Level (2023) (ft btoc)	Static Water Elevation 2023 (ft NAVD 1988)	Well Screen (ft btoc)	Well Depth (ft btoc)
		Latitude	Longitude	Northing (NAD 1983)	Easting (NAD 1983)								
MW-1R	On-site	40.76830000	-73.26134700	220051.821	1188852.0610	76.82	--	33.44	43.38	34.06	42.76	28-43	42.88
MW-3R	On-site	40.76902500	-73.26195300	220314.538	1188681.981	75.84	--	32.20	43.64	32.86	42.98	28-43	43.1
MW-5SR	On-site	40.76843100	-73.26176700	220098.566	1188735.324	76.22	--	32.74	43.48	33.46	42.76	28-38	38.26
MW-5DR	On-site	40.76843100	-73.26177500	220098.548	1188733.108	76.17	--	32.71	43.46	33.39	42.78	40-45	43.90
CW-01	Off-site	40.46059862	-73.15440319	220060.5009	1188607.0900	77.48	29.51	--	--	36.09	41.39	52-57	57.00
FN-19	Off-site	40.46054915	-73.15426187	220011.3581	1188716.2488	79.27	31.37	--	--	37.81	41.46	44-49	49.14

Notes:
ft = Foot (feet)
ID = Identification
BTOC = Below Top of Casing
NAD = North American Datum
"--" = Not Available

Data is largely sourced from 1/31/2007 Candlewood Source Area Site Characterization, the 12/07/2022 Groundwater Monitoring Report, Remedial Action Update Report, and 2023 Site Characterization Letter Report.

Table 2. Sample QA/QC and Sample ID Details

Matrix	Sample Type	Location	Estimated Depth (ft)	Sample ID	Analysis
Field Samples					
Soil Vapor	Sub-slab Soil Vapor Point	Fifth Avenue SSV#1	NA	5AVE-SSV-1-DDMMYYYY	EPA TO-15
Soil Vapor	Sub-slab Soil Vapor Point	Fifth Avenue SSV#2	NA	5AVE-SSV-2-DDMMYYYY	EPA TO-15
Soil Vapor	Sub-slab Soil Vapor Point	Fifth Avenue SSV#3	NA	5AVE-SSV-3-DDMMYYYY	EPA TO-15
Indoor Air	Indoor Air	Fifth Avenue IA#1	NA	5AVE-IA-1-DDMMYYYY	EPA TO-15 SIM
Indoor Air	Indoor Air	Fifth Avenue IA#2	NA	5AVE-IA-2-DDMMYYYY	EPA TO-15 SIM
Indoor Air	Indoor Air	Fifth Avenue IA#3	NA	5AVE-IA-3-DDMMYYYY	EPA TO-15 SIM
Ambient Air	Outdoor Air	Fifth Avenue OA#1	NA	5AVE-OA-1-DDMMYYYY	EPA TO-15 SIM
Soil Vapor	Soil Vapor Point	CVS SV#1	0-10	CVS-SV-1-DDMMYYYY	EPA TO-15
Soil Vapor	Soil Vapor Point	CVS SV#2	0-10	CVS-SV-2-DDMMYYYY	EPA TO-15
QA/QC Samples					
Field Duplicate	Sub-slab Soil Vapor Point	Fifth Avenue SSV#2	NA	SSV-DUP-DDMMYYYY	EPA TO-15
Field Duplicate	Indoor Air	Fifth Avenue IA#3	NA	IA-DUP-DDMMYYYY	EPA TO-15 SIM

Notes:
ft = Foot (feet)
NA = Not applicable
QA/QC = Quality Assurance/Quality control
SIM = Selected Ion Monitoring

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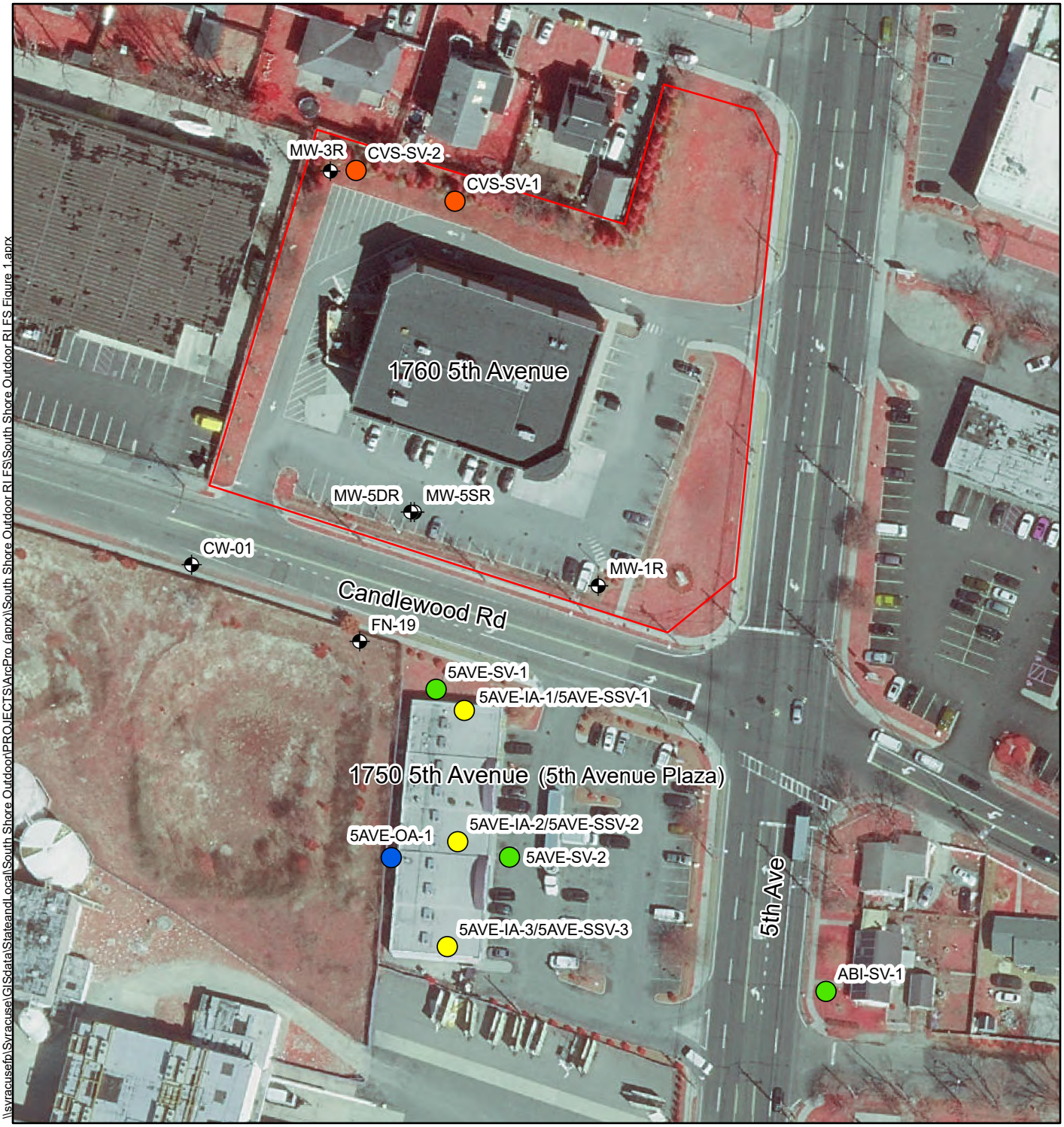
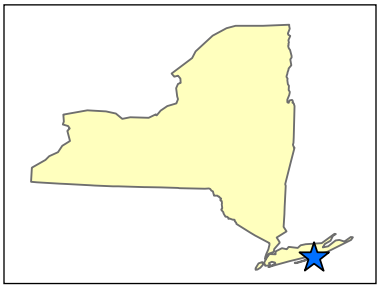
Figures



\\syracusefp\Syracuse\GISdata\StateandLocal\South Shore Outdoor\PROJECTS\ArcPro (aprx)\South Shore Outdoor RI FS\South Shore Outdoor RI FS Figure 1.aprx



0 55 110
Feet

Legend

- Site Boundary
- Monitoring Well
- Previous Soil Vapor Sample
- Proposed Indoor Air/Sub-Slab Soil Vapor Sample
- Proposed Outdoor Air Sample
- Proposed Soil Vapor Sample

Note:
MW-5SR and MW-5DR are a nested pair.

N

Figure 1
Approximate Sample Locations

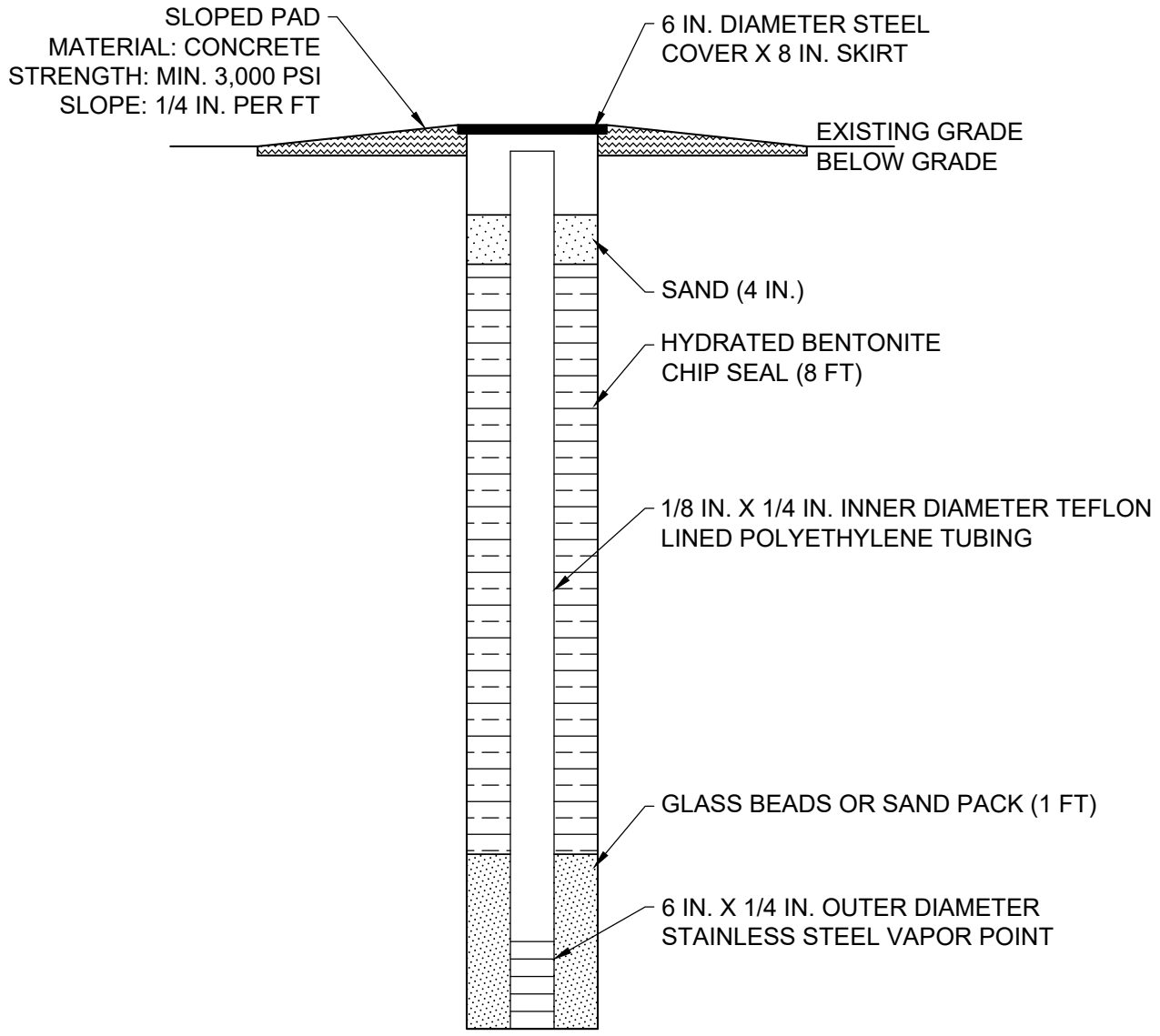
South Shore Outdoor-Off-Site
(NYSDEC Site No. C152228A)
Bay Shore, NY

Map Date: 1/24/2024
Projection: NAD83 State Plane New York Long Island

NEW YORK STATE Department of Environmental Conservation

FULL SIZE PLOT: 8.5" x 11"

SCALE AS SHOWN



TOTAL DEPTH OF SOIL VAPOR SAMPLER SET AT
10 FT BGS OR 2 FT ABOVE WATER TABLE.

**EA Engineering, P.C.
and Its Affiliate
EA Science and Technology**

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PROJECT NAME
NYSDEC SOUTH SHORE OUTDOOR - OFF-SITE

PROJECT ADDRESS
BAY SHORE, SUFFOLK COUNTY, NY

DRAWING TITLE
TYPICAL SOIL VAPOR POINT CONSTRUCTION DIAGRAM

FIGURE
2

DRAWING INFORMATION	DRAWN BY: KMK	DESIGNED BY: KT	CHECKED BY: DC	PROJECT MANAGER: KT	DATE: 20 JUNE 2023	PROJECT NO: 1602533

FILE PATH: \\SYRACUSEFP\SYRACUSE\PROJECTS\STATE&LOCAL\NYSDEC - D009806\WORK ASSIGNMENTS\1602533_SOUTH SHORE OUTDOOR_RI-FS\04_FIELD\02_SITE CHARACTERIZATION SAMPLING\01_FIELD PLANNING\SVP INSTALLATION\SOUTH SHORE OUTDOOR_TYPICAL SV POINT DIAGRAM 620.DWG [CONSTRUCTION DIAGRAM] KATZER, KATHRYN 6/20/2023 5:57 PM

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Attachment A

Field Forms

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FIELD CALIBRATION FORM

Site Name:

INSTRUMENT:	INSTRUMENT ID No:
OPERATOR:	WEATHER:
SPAN GAS TYPE:	DATE:
CALIBRATION NOTES:	
COMMENTS:	
SIGNATURE:	DATE:

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Site Name: _____ Site Code: _____ Operable Unit: _____

Building Code: _____ Building Name: _____

Address: _____ Apt/Suite No: _____

City: _____ State: _____ Zip: _____ County: _____

Contact Information

Preparer's Name: _____ Phone No: _____

Preparer's Affiliation: _____ Company Code: _____

Purpose of Investigation: _____ Date of Inspection: _____

Contact Name: _____ Affiliation: _____

Phone No: _____ Alt. Phone No: _____ Email: _____

Number of Occupants (total): _____ Number of Children: _____

☐ Occupant Interviewed? ☐ Owner Occupied? ☐ Owner Interviewed?

Owner Name (if different): _____ Owner Phone: _____

Owner Mailing Address: _____

Building Details

Bldg Type (Res/Com/Ind/Mixed): _____ Bldg Size (S/M/L): _____

If Commercial or Industrial Facility, Select Operations:

If Residential Select Structure Type:

Number of Floors: _____ Approx. Year Construction: _____ ☐ Building Insulated? ☐ Attached Garage?

Describe Overall Building 'Tightness' and Airflows(e.g., results of smoke tests):

Foundation Description

Foundation Type: _____ Foundation Depth (bgs): _____ Unit: FEET

Foundation Floor Material: _____

Foundation Wall Material: _____

Foundation Floor Thickness: _____

Foundation Wall Thickness: _____ Unit: INCHES

☐ Floor penetrations? Describe Floor Penetrations: _____

☐ Wall penetrations? Describe Wall Penetrations: _____

Basement is: _____ Basement is: _____ ☐ Sumps/Drains? Water In Sump?: _____

Describe Foundation Condition (cracks, seepage, etc.) : _____

☐ Radon Mitigation System Installed? ☐ VOC Mitigation System Installed? ☐ Mitigation System On?

Heating / Cooling / Ventilation Systems

Heating System: _____ Heat Fuel Type: _____ ☐ Central A/C Present?

Vented Appliances

Water Heater Fuel Type: _____ Clothes Dryer Fuel Type: _____

Water Htr Vent Location: _____ Dryer Vent Location: _____

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

PRODUCT INVENTORY

Building Name: _____ Bldg Code: _____ Date: _____

Bldg Address: _____ Apt/Suite No: _____

Bldg City/State/Zip: _____

Make and Model of PID: _____ Date of Calibration: _____

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? ☐ Were there any elevated PID readings taken on site? ☐ ☐ Products with COC?

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Site Name: _____ Site Code: _____ Operable Unit: _____

Building Code: _____ Building Name: _____

Address: _____ Apt/Suite No: _____

City: _____ State: _____ Zip: _____ County: _____

Factors Affecting Indoor Air Quailty

Frequency Basement/Lowest Level is Occupied?: _____ Floor Material: _____

☐ Inhabited? ☐ HVAC System On? ☐ Bathroom Exhaust Fan? ☐ Kitchen Exhaust Fan?

Alternate Heat Source: _____ ☐ Is there smoking in the building?

☐ Air Fresheners? Description/Location of Air Freshener: _____

☐ Cleaning Products Used Recently?: Description of Cleaning Products: _____

☐ Cosmetic Products Used Recently?: Description of Cosmetic Products: _____

☐ New Carpet or Furniture? Location of New Carpet/Furniture: _____

☐ Recent Dry Cleaning? Location of Recently Dry Cleaned Fabrics: _____

☐ Recent Painting/Staining? Location of New Painting: _____

☐ Solvent or Chemical Odors? Describe Odors (if any): _____

☐ Do Any Occupants Use Solvents At Work? If So, List Solvents Used: _____

☐ Recent Pesticide/Rodenticide? Description of Last Use: _____

Describe Any Household Activities (chemical use,/storage, unvented appliances, hobbies, etc.) That May Affect Indoor Air Quality:

☐ Any Prior Testing For Radon? If So, When?: _____

☐ Any Prior Testing For VOCs? If So, When?: _____

Sampling Conditions

Weather Conditions: _____ Outdoor Temperature: _____ °F

Current Building Use: _____ Barometric Pressure: _____ in(hg)

Product Inventory Complete? _____ ☐ Building Questionnaire Completed?

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Building Code: _____ Address: _____

Sampling Information

Sampler Name(s): _____ Sampler Company Code: _____

Sample Collection Date: _____ Date Samples Sent To Lab: _____

Sample Chain of Custody Number: _____ Outdoor Air Sample Location ID: _____

SUMMA Canister Information

Sample ID:					
Location Code:					
Location Type:					
Canister ID:					
Regulator ID:					
Matrix:					
Sampling Method:					

Sampling Area Info

Slab Thickness (inches):					
Sub-Slab Material:					
Sub-Slab Moisture:					
Seal Type:					
Seal Adequate?:	☐	☐	☐	☐	☐

Sample Times and Vacuum Readings

Sample Start Date/Time:					
Vacuum Gauge Start:					
Sample End Date/Time:					
Vacuum Gauge End:					
Sample Duration (hrs):					
Vacuum Gauge Unit:					

Sample QA/QC Readings

Vapor Port Purge:	☐	☐	☐	☐	☐
Purge PID Reading:					
Purge PID Unit:					
Tracer Test Pass:	☐	☐	☐	☐	☐

Sample start and end times should be entered using the following format: MM/DD/YYYY HH:MM

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

LOWEST BUILDING LEVEL LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the lowest building level .
The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image

Design Sketch

Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sket
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	**######**	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

FIRST FLOOR BUILDING LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the first floor of the building.
The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image

Design Sketch

Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sket
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	**######**	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

OUTDOOR PLOT LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the outdoor plot of the building as well as the surrounding area. The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image

Design Sketch

Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sket
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	**######**	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.

FIELD AIR SAMPLING FORM

EA Engineering and Its Affiliate EA Science & Technology 269 W Jefferson St Syracuse, NY 13202	Project #: Project Name: Location: Project Manager:

Sample Location Information:

Site ID Number: 633053				Sampler(s):	
PID Meter Used: (Model, Serial #)				Building I.D. No.:	

SUMMA Canister Record:

SUBLAB SOIL GAS DUPLICATE		INDOOR AIR - BASEMENT		SUBSLAB SOIL GAS		OUTDOOR AIR	
Flow Regulator No.:		Flow Regulator No.:		Flow Regulator No.:		Flow Regulator No.:	
Canister Serial No.:		Canister Serial No.:		Canister Serial No.:		Canister Serial No.:	
Start Date/Time:		Start Date/Time:		Start Date/Time:		Start Date/Time:	
Start Pressure: (inches Hg)		Start Pressure: (inches Hg)		Start Pressure: (inches Hg)		Start Pressure: (inches Hg)	
Stop Date/Time:		Stop Date/Time:		Stop Date/Time:		Stop Date/Time:	
Stop Pressure: (inches Hg)		Stop Pressure: (inches Hg)		Stop Pressure: (inches Hg)		Stop Pressure: (inches Hg)	
Sample ID:		Sample ID:		Sample ID:		Sample ID:	

Other Sampling Information:

Basement or Crawl Space?		Story/Level		Basement or Crawl Space?		Direction from Building	
Floor Slab Thickness (inches) *[if present]*		Room		Floor Slab Thickness (inches) *[if present]*		Distance from Building	
Potential Vapor Entry Points Observed?		Indoor Air Temp		Potential Vapor Entry Points Observed?		Intake Height Above Ground Level (ft.)	
Ground Surface Condition (Crawl Space Only)		Barometric Pressure?		Ground Surface Condition (Crawl Space Only)		Intake Tubing Used?	
If slab, intake Depth If Crawl Space, intake height		Intake Height Above Floor Level (ft.)		If slab, intake Depth If Crawl Space, intake height		Distance to nearest Roadway	
Noticeable Odor?		Noticeable Odor?		Noticeable Odor?		Noticeable Odor?	
PID Reading (ppb)		PID Reading (ppb)		PID Reading (ppb)		PID Reading (ppb)	
Duplicate Sample?		Duplicate Sample?		Duplicate Sample?		Duplicate Sample?	

Comments:

Sampler Signature:

Site Name:	
Date/Time:	
Inspector(s):	
Weather Conditions:	

MONITORING POINT GAUGING LOG

Well ID	Depth to Product (ft bTOIC)	Depth to Water (ft bTOIC)	Depth to Bottom (ft bTOIC)	Well Condition / Notes

FIELD SOIL VAPOR SAMPLING FORM

EA Engineering, P.C. and Its Affiliate EA Science and Technology **SOIL VAPOR SAMPLING LOG**	Project #: Project Name: Location: Project Manager:

Sample Location Information:

Site ID Number:				Sampler(s):	
PID Meter Used (Model, Serial #) :				Soil Vapor I.D. No.:	

SUMMA Canister Record:

SOIL VAPOR POINT		DUPLICATE SAMPLE (IF COLLECTED)	
Flow Regulator No.:		Flow Regulator No.:	
Canister Serial No.:		Canister Serial No.:	
Start Date/Time:		Start Date/Time:	
Start Pressure: (inches Hg)		Start Pressure: (inches Hg)	
Stop Date/Time:		Stop Date/Time:	
Stop Pressure: (inches Hg)		Stop Pressure: (inches Hg)	
Sample ID:		Sample ID:	

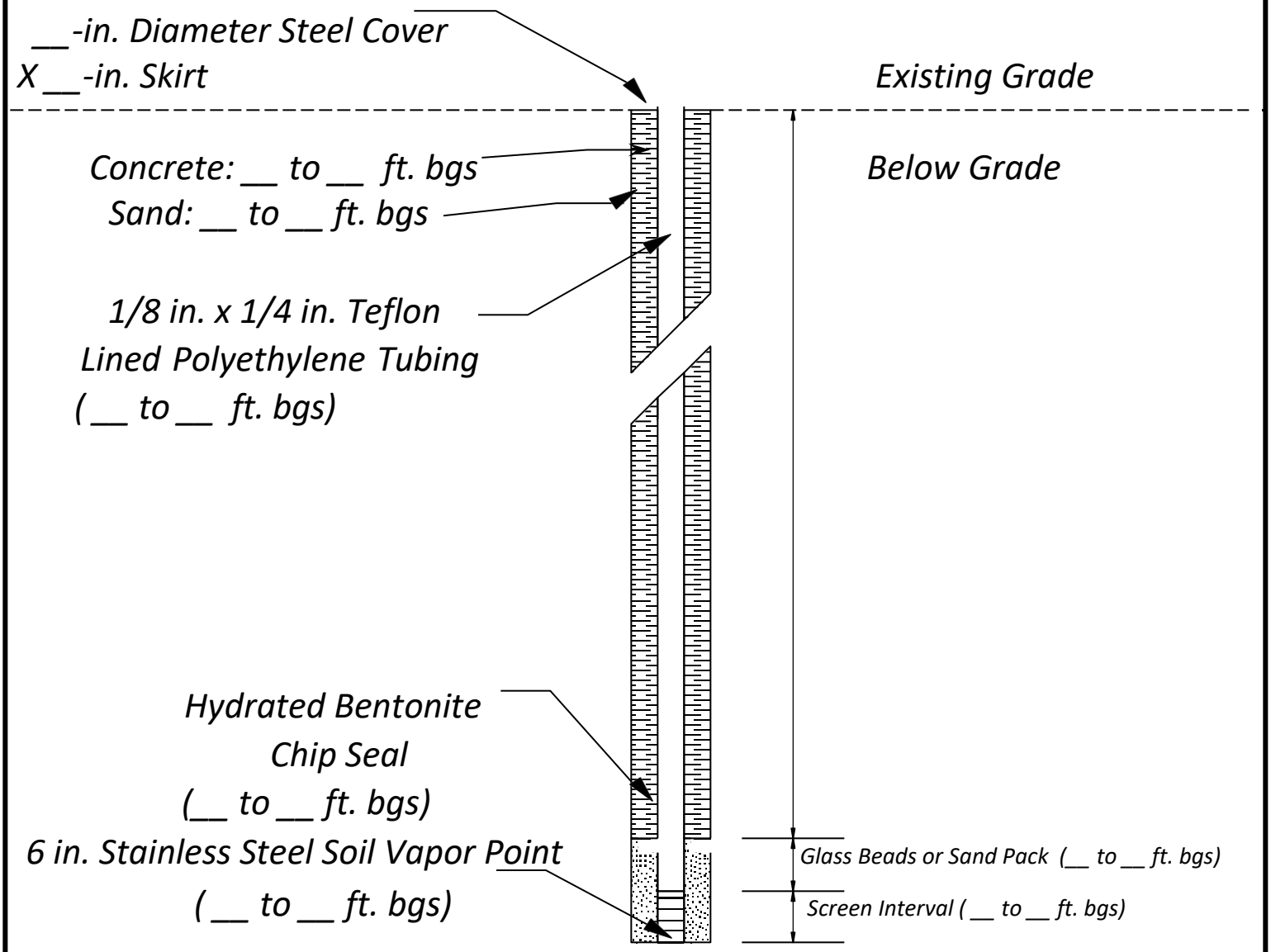
Other Sampling Information:

Helium percentage achieved in enclosure for Tracer Gas Test:		Depth to sample point:	
Tracer Gas test result (% of Helium):		Nearest Groundwater Elevation:	
Noticeable Odor?		Additional info:	
Purge Volume PID Reading (ppb)			
Duplicate Sample?			
Outdoor Ambient Temperature:			
Wind Direction:			

Comments:

Sampler Signature:

Soil Vapor Point Construction Diagram



Total Depth of Soil vapor sampler set at __ ft bgs or __ ft above water table.

New York State Department of Environmental Conservation
*Contract No:*_____
Site: _____
*Logged by:*_____ *Date:*_____
Drilling Contractor: _____
Driller: _____

SVP-__
Temporary Soil Vapor Point Construction Diagram

NEW YORK STATE | Department of Environmental Conservation