Sub-Slab Vapor and Soil Sampling Work Plan for Evaluating SVE System Effectiveness Former Trench Drain Area Buell Automatics Site

BCP Site No. C828114
381 Buell Road
Rochester, New York

Prepared for:
New York State Department of Environmental Conservation
6274 East Avon-Lima Road
Avon, New York 14414

Prepared on behalf of:
Buell Automatics, Inc.
381 Buell Road
Rochester, New York

Prepared by:
Stantec Consulting Services Inc.
61 Commercial Street, Suite 100
Rochester, New York 14614

May 9, 2014

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road, Avon, New York 14414-9519
Phone: (585) 226-5353 • **Fax:** (585) 226-8139
Website: www.dec.ny.gov

Joe Martens
Commissioner

July 2, 2014

Mr. Gary Lawton
President
Buell Automatics, Inc.
381 Buell Road
Rochester, NY 14624

Dear Mr. Lawton:

Re: Buell Automatics Site #C828114
Brownfield Cleanup Program (BCP)
Sub-Slab Vapor and Soil Sampling Work Plan for Evaluating SVE System Effectiveness
Former Trench Drain Area; May 9, 2014
Town of Gates, Monroe County

The New York State Department of Environmental Conservation (NYSDEC) has completed its review of the document entitled *"Sub-Slab Vapor and Soil Sampling Work Plan for Evaluating SVE System Effectiveness Former Trench Drain Area"* (the Work Plan) dated May 9, 2014 and prepared by Stantec Consulting Services Inc. for the Buell Automatics Site in the Town of Gates, Monroe County. Based on the information and representations given in the Work Plan, NYSDEC has determined that the Work Plan, with modifications, substantially addresses the requirements of the Brownfield Cleanup Agreement. The modifications are outlined as follows:

1. **Section 3.0:** The SVI Assessment sampling event will involve collection of samples of sub-slab vapor and indoor air at the six locations (locations A through F on the attached figure) previously sampled in December 2010. The December 2010 sub-slab vapor and indoor air results indicated that mitigation or monitoring may be needed at all of the sample locations except location F. Re-sampling all six locations will help evaluate how subsurface conditions have changed during the time the soil vapor extraction system was in operation, help determine whether any additional actions are warranted, and confirm the location F results.
2. **Section 3.0:** Sub-slab vapor, indoor air and outdoor air sampling will be completed in accordance with the Pre-Design SVI Assessment Work Plan dated June 2010 as modified by NYSDEC's approval letter of November 29, 2010.
3. **Section 3.0:** The soil sample analytical results will also include Tentatively Identified Compounds (TICs).
4. **Section 3.0:** The report documenting the activities, methods, and results of the assessment will be submitted by March 31, 2015. The report will not be approved by NYSDEC, but will be used to determine appropriate next steps. The information in this report will also be incorporated, as appropriate, into one of the reports discussed below which will be subject to NYSDEC review and approval. Next steps may include some combination of the following:

- Completion of a Construction Completion Report for the SVE system;
- Completion of a Corrective Measures Plan for the SVE system;
- Continued operation of the SVE system without significant modifications;
- Modification of the Interim Site Management Plan; and
- Completion of a soil vapor intrusion mitigation work plan.

With the understanding that the above noted modifications are agreed to, the Work Plan is hereby approved. Please attach this letter to the Work Plan and send me two (2) hardcopies of the document prior to the start of field activities.

If Buell Automatics chooses not to accept the modifications proposed by NYSDEC, you are required to notify this office within 20 days after receipt of this letter.

Based on the schedule in the Work Plan, the soil boring task will begin by September 2, 2014. Please notify me at least seven (7) days in advance of the start of field activities.

Thank you for your cooperation in this matter and please contact me at (585) 226-5357 if you have any questions.

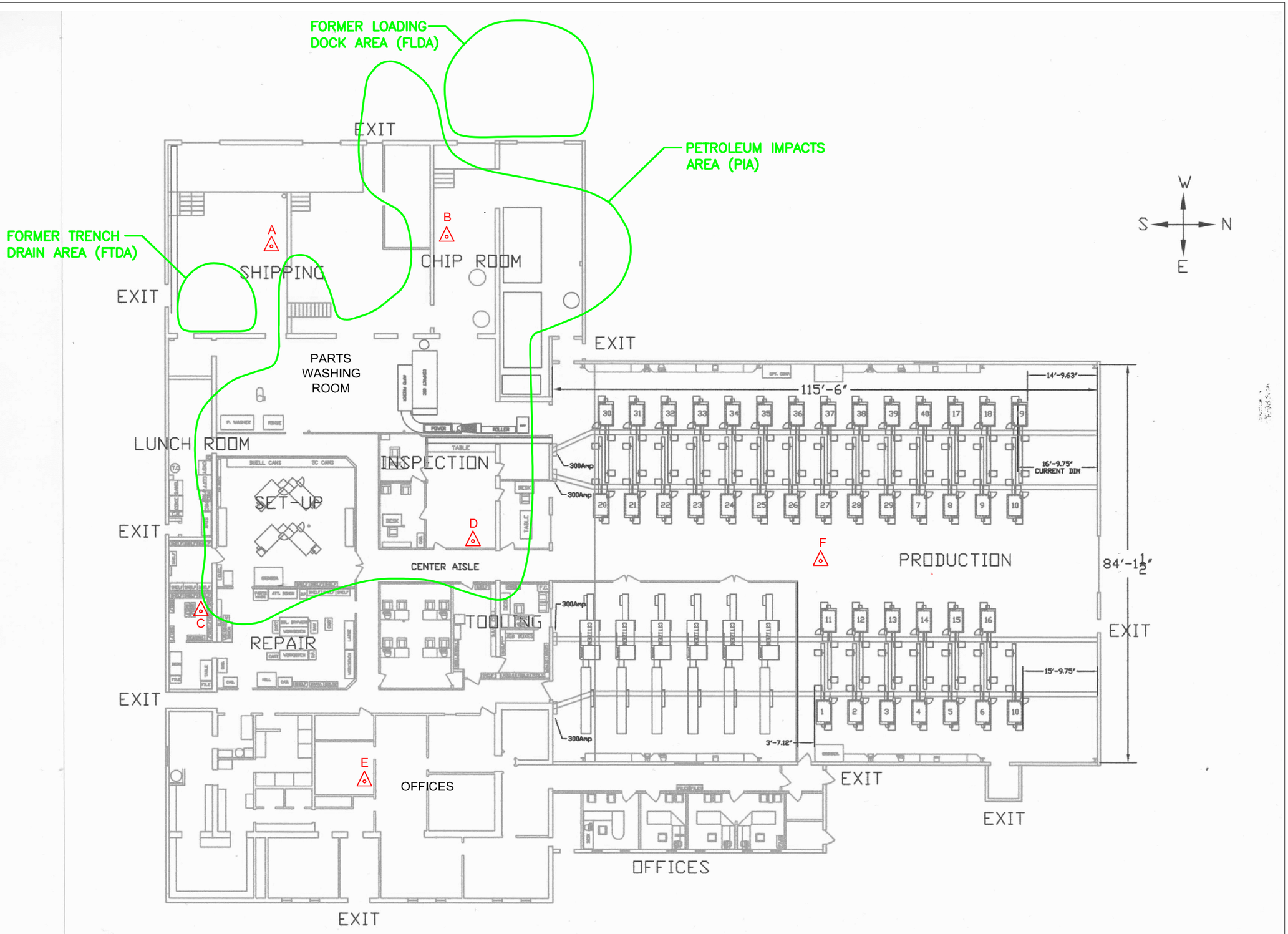
Sincerely,

Frank Sowers

Frank Sowers, P.E.
Environmental Engineer 2

attach

ec: w/attach
B. Putzig
J. Frazer
M. Storonsky
J. Mahoney
M. Sergott
P. Lytle
J. Picciotti



U:\16050\cdd\Figures for Report_8_2010\Figure 4.dwg
2010-08-24 10:10 AM Bylaska, Andy

ORIGINAL SHEET - 22 X 34

Stantec Consulting Services Inc.
2250 Brighton-Henrietta Townline Rd.
Rochester NY U.S.A.
14623-2706
Tel. 585.475.1440
Fax. 585.424.5951
www.stantec.com

Stantec

Consultants

Legend

D PROPOSED SUB-SLAB VAPOR AND INDOOR AIR SAMPLE LOCATIONS

Notes

Issued	By	Appd.	YY.MM.DD

Permit-Seal

Project/ Client

PRE-DESIGN SVI ASSESSMENT

BUELL AUTOMATICS

Rochester, New York

Title

PROPOSED SAMPLE LOCATION PLAN

Project No.	Scale		
190500033	NONE		
Drawing No.	Sheet		Revision
FIGURE 4		of	

SUB-SLAB VAPOR AND SOIL SAMPLING WORK PLAN
FOR EVALUATING SVE SYSTEM EFFECTIVENESS
FORMER TRENCH DRAIN AREA
BUELL AUTOMATICS SITE

Table of Contents

SUB-SLAB VAPOR AND SOIL SAMPLING WORK PLAN
FOR EVALUATING SVE SYSTEM EFFECTIVENESS
FORMER TRENCH DRAIN AREA
BUELL AUTOMATICS SITE

1.0 Introduction

Stantec Consulting Services Inc. (Stantec) has prepared this Work Plan for an assessment of the effectiveness of the soil vapor extraction (SVE) system that operated at the Buell Automatics Brownfield Cleanup Program (BCP) Site from 2012 to February 2014. The Site is located at 381 Buell Road in the Town of Gates, Monroe County, New York (the "Site") and is designated as BCP Site No. C828114. A map showing the location of the Site is presented in Figure 1.

This work plan was prepared on behalf of and at the request of Buell Automatics, Inc. (Buell). Buell is implementing an environmental remediation program (a remedy) for the Site pursuant to the terms of a Brownfield Cleanup Agreement (BCA) executed by Buell and the New York State Department of Environmental Conservation (the "Department") and pursuant to applicable regulations and guidance. The remedy is being implemented to address the presence of volatile organic compounds (VOCs) and petroleum impacts in soil and groundwater at levels exceeding applicable standards. One component of this remedy was the implementation of SVE in the Former Trench Drain Area (FTDA) of the Site. The design of the SVE system was described in the Soil Vapor Extraction Design Document and Work Plan (Stantec, December 2011) that was approved by the Department in January 2012. The goals of the system were as follows:

- to achieve sufficient vacuum propagation to treat the contaminated soil in the unsaturated zone (above the water table) in the FTDA; and
- to achieve Protection of Groundwater Soil Cleanup Objectives, to the extent practicable, for soils above the water table in the FTDA.

During the operation of the SVE system, periodic measurements at vacuum monitoring points and monitoring of vapor discharge were performed to assess the operating performance of the system. The sampling program described in this work plan has been designed to assess whether the goals and objectives established for the system were met by the almost two years of system operation.

Sampling will be performed to determine the presence and concentration of VOCs in soil vapor beneath the building floor slab (sub-slab vapor), in indoor air and outdoor air at the facility, and in subsurface soil. The design of the sampling program is based on the extent of subsurface VOC impacts identified in the FTDA prior to the implementation and operation of the SVE system. The work will be performed in accordance with current applicable guidance for evaluating SVI established by the New York State Department of Health (NYSDOH) and NYSDEC's DER Technical Guidance for Site Investigation and Remediation (DER-10).

2.0 Site Conditions

This section of the Work Plan describes the site conditions that are relevant to the SVE Effectiveness Evaluation. The section presents available information on the distribution of subsurface contamination. For information regarding building occupancy, building floor and foundation construction, and the nature and operation of the heating, ventilation, and air-conditioning (HVAC) systems for the building, see the Pre-Design SVI Assessment Work Plan (Stantec, June 2010).

The SVE system was implemented as a remedy for subsurface VOC impacts related to the Former Trench Drain Area (FTDA). As shown on attached Figure 2, the FTDA is centered on the area inside the southeast corner of the shipping area addition of the Buell building. In December 2003, an IRM involving soil removal was undertaken in the Shipping area of the Buell building to address TCE-impacted soil (Interim Remedial Measures Final Engineering Report, Stantec (formerly Sear-Brown), March 2004). Approximately 123 tons of soil and concrete were excavated and disposed of off-site. Samples were collected from the sidewalls and bottom of the excavation.

While the IRM was successful in its objective of removing the most-impacted soil from the FTDA, limitations on the area that could be excavated were imposed by the Buell building foundations, which meant that some impacted soil had to be left in place. Chlorinated VOCs were detected at relatively high concentrations at four of the locations sampled during post-excavation documentation sampling: the southeast sidewall (BU-SEWALL-S), the southeastern portion of the bottom of the excavation (BU-SEBOTT-S), two duplicate D323-02 samples collected by NYSDEC at the south end of the excavation, and a shallow sample collected in the center of the FTDA excavation from beneath a pier supporting the mezzanine (BU-PIER-NSHAL-S). Trichloroethene (TCE) and/or cis-1,2-dichloroethene (cis-,1,2-DCE) were detected in these samples at concentrations up to 140 and 190 parts per million (ppm), respectively. VOCs were detected in some of the other IRM post-excavation samples, but at concentrations that were considerably lower. Sample locations are shown on Figure 2.

In December 2010, Stantec conducted indoor air and sub-slab vapor sampling in the FTDA and elsewhere in the building. Samples of sub-slab vapor and indoor air were collected in the FTDA at a permanent sub-slab sampling point installed during the Pre-Design SVI Assessment (Pre-Design SVI Assessment Work Plan, Stantec, 2010) (Location A on Figure 2). One outdoor air sample was collected on the upwind side of the building to establish background conditions for ambient air. Nine VOCs were detected in the FTDA sub-slab vapor sample, including elevated concentrations of cis 1,2-dichloroethylene (DCE) and trichloroethylene (TCE). While there were no detections for VOCs in ambient air, there were detections of minor traces of carbon tetrachloride, cis 1,2-DCE, and TCE in indoor air. The analytical results from these samples are summarized below in Table 1.

Table 1 Summary of Analytical Results for December 2010 Indoor Air and Sub-Slab Vapor Samples

Volatile Organic Compounds	Sample Type and Results in µg/m³		
	Outdoor Air	Indoor Air	Sub-Slab Vapor
Carbon Tetrachloride (Tetrachloromethane)	(0.25)	**0.40**	(0.63)
Chloroethane (Ethyl Chloride)	(0.11)	(0.11)	**0.42**
Dichloroethane, 1,1-	(0.16)	(0.16)	**200**
Dichloroethylene, 1,1-	(0.16)	(0.16)	**7.3**
Dichloroethylene, cis-1,2-	(0.16)	**2.3**	**24000**
Dichloroethylene, trans-1,2-	(0.16)	(0.16)	**120**
Tetrachloroethylene (PCE)	(0.27)	(0.27)	**12**
Trichloroethane, 1,1,1-	(0.22)	(0.22)	**63**
Trichloroethylene (TCE)	(0.21)	**2.5**	**20000**
Vinyl chloride	(0.10)	(0.10)	**15**

Notes:
Bold-faced type indicates concentration was detected (in micrograms per cubic meter, µg/m³).
Values in parentheses indicate that the analyte was not detected above the laboratory estimated quantitation limit

The SVE system was designed and implemented in order to address the remaining subsurface impacts. The sub-slab vapor and soil sampling proposed in this Work Plan will determine whether the SVE system was successful at mitigating VOCs impacts to sub-slab vapor and soil beneath this area.

3.0 Sampling Plan

The SVE Effectiveness Evaluation will be performed in accordance with the Health & Safety Plan (HASP) and Quality Assurance and Project Plan (QAPP) for the Buell Automatics BCP Remedial Work Plan (RWP). The project HASP and QAPP are included in the Interim Site Management Plan (SMP) for the Buell Automatics Site (Stantec, June 2010).

The SVE Effectiveness Evaluation will involve a pre-sampling SVI Assessment building inspection and product inventory, a single SVI Assessment sampling event to collect sub-slab vapor, indoor air, and ambient outdoor air samples, and a drilling program to collect subsurface soil samples. The soil boring program will be conducted within 60 days of Department approval of this Work Plan and sub-slab vapor and air sampling is proposed to take place during the heating season in December 2014.

A pre-sampling building inspection and product inventory will be performed as part of the evaluation of the effectiveness of the SVE system to document the current use and storage of petroleum products and other solvents, cleaners and chemical products that contain VOCs. The pre-sampling inspection will include the identification and documentation of floor penetrations associated with sump and utility features and floor joints, cracks or seams, if any. Photo-ionization detector (PID) readings of VOCs in indoor air will be collected at locations where chemical or petroleum products are stored or used in the

building. The NYSDOH "Indoor Air Quality Questionnaire and Building Inventory" form will be used to document the pre-sampling inspection and inventory (Appendix A of this report).

The SVI Assessment sampling event will involve collection of samples of sub-slab vapor and indoor air at one location in the Shipping area of the Buell Building (Location A on attached Figure 2). Sampling will occur at the pre-existing permanent sub-slab sampling point installed during the Pre-Design SVI Assessment (Pre-Design SVI Assessment Work Plan, Stantec, 2010). Outdoor air sampling will be performed at one location on the upwind side of the building at the time of the sampling event to establish background conditions for ambient air. A duplicate sub-slab soil vapor and duplicate indoor air sample will be collected at location A.

Sub-slab vapor, indoor air and outdoor air sampling will follow the protocols outlined in Sections 2.7.2, 2.7.3, and 2.7.4, respectively, of the NYSDOH Guidance document. Batch certification will be used by the project laboratory providing the sampling equipment to confirm that sample canisters and flow controllers are clean before sampling. To avoid the potential for introduction of VOCs from sub-slab vapors to indoor air samples, purging of sub-slab sampling points prior to sampling will be performed using Tedlar® bags to contain the purged vapor. The purged vapor will be released outside and downwind of the building. Samples will be collected over an 8-hour period using 6-liter SUMMA® canisters. The canisters will be equipped with flow controllers and vacuum gauges. Airflow into the canisters will be controlled and monitored in accordance with NYSDOH's guidance criteria of 0.2 liters/minute for maximum flow rate. Vacuum levels will be recorded at regular intervals during the sampling event.

Sub-slab, indoor, and ambient air samples will be submitted for analysis to an ELAP laboratory certified by the State of New York for the analyses to be performed. Samples will be analyzed by EPA method TO-15 for the standard list of TO-15 VOC analytes for which it routinely maintains calibration. The analyte list will include at a minimum the following chlorinated VOCs: perchloroethene (PERC), trichloroethene (TCE), 1,1,1-trichloroethane (TCA), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-DCE, 1,1-DCE, 1,1-dichloroethane (1,1-DCA), 1,2-dichloroethane (1,2-DCA), vinyl chloride, chloroethane, and carbon tetrachloride. The laboratory will seek to attain detection limits of 1.0 microgram per cubic meter (µg/m3), which are comparable to those typically achieved for indoor air samples. However, depending upon contaminant levels, detection limits may be higher in sub-slab vapor samples. For indoor air samples, the target detection limits for all compounds except for TCE, vinyl chloride, and carbon tetrachloride will be 1.0 µg/m3; the target detection limits for TCE, vinyl chloride, and carbon tetrachloride will be 0.25 µg/m3.

The soil sampling event will involve the collection of subsurface soil samples at four locations in the Shipping area of the Buell building. Proposed locations are shown on attached Figure 2. The proposed sampling locations are in the same general locations as the post-excavation sidewall and bottom samples which exhibited the most significant exceedances of NYSDEC's soil cleanup objectives for TCE and its daughter products during the 2003 IRM activities. Specific boring locations will be placed as close as feasible to the previous sample locations to attempt to access and sample the material that previously exhibited high levels of contamination. The borings will be installed with a direct push drilling rig and Macrocore® samplers.

At each test boring, soil samples will be obtained continuously to a depth of eight feet using standard direct-push methods. Soils will be field-screened for the presence of VOCs, visually described and classified, and the results recorded on test boring logs.

Two samples from each boring will be selected and submitted to the project laboratory for analysis. Sample selection will be performed in accordance with DER-10. Sample selection will take into account field observations and screening results at each individual boring, including elevated PID readings, visual evidence of staining or sheens, and/or odors, vadose zone/water table depths, and the depth of the previous post-excavation sample in which contamination was detected.

Soil samples will be submitted for analysis to an ELAP laboratory certified by the State of New York for the analyses to be performed. Samples will be analyzed by EPA method SW-846 Method 8260B for the USEPA TCL VOC analytes and NYSDEC's Part 375 and CP-51 VOCs. The analyte list will include at a minimum the following chlorinated VOCs: PERC, TCE, TCA, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, 1,1-DCA, 1,2-DCA, vinyl chloride, chloroethane, and carbon tetrachloride. One duplicate soil sample, one matrix spike/matrix spike duplicate (MS/MSD), and one equipment rinsate blank from non-dedicated sampling equipment will be collected.

Quality assurance and quality control will be performed in accordance with the Quality Assurance Project Plan for Remedy Implementation activities at the Buell Site (Stantec, June 2010). QA/QC samples will be collected as described in Table 2 below.

Table 2 Summary of QA/QC Samples

Sample Type	Duplicate	MS/MSD	Rinsate Blank
Sub-slab vapor	1	-	-
Indoor air	1	-	-
Outdoor air	1	-	-
Soil	1	1	1

Sample analysis results will be reported in ASP Category B Deliverable and NYSDEC EDD formats. Analytical results will be validated and a Data Usability Summary Report will be prepared by an independent third party data validator.

A report documenting the activities, methods, and results of the assessment will be submitted for the review and approval of NYSDEC. The report will present conclusions regarding the apparent effectiveness of the SVE system component of the remedy, and it will indicate whether modifications to the Interim SMP will be needed to address any remaining impacts that may be apparent in the FTDA.

Geographic Information Systems

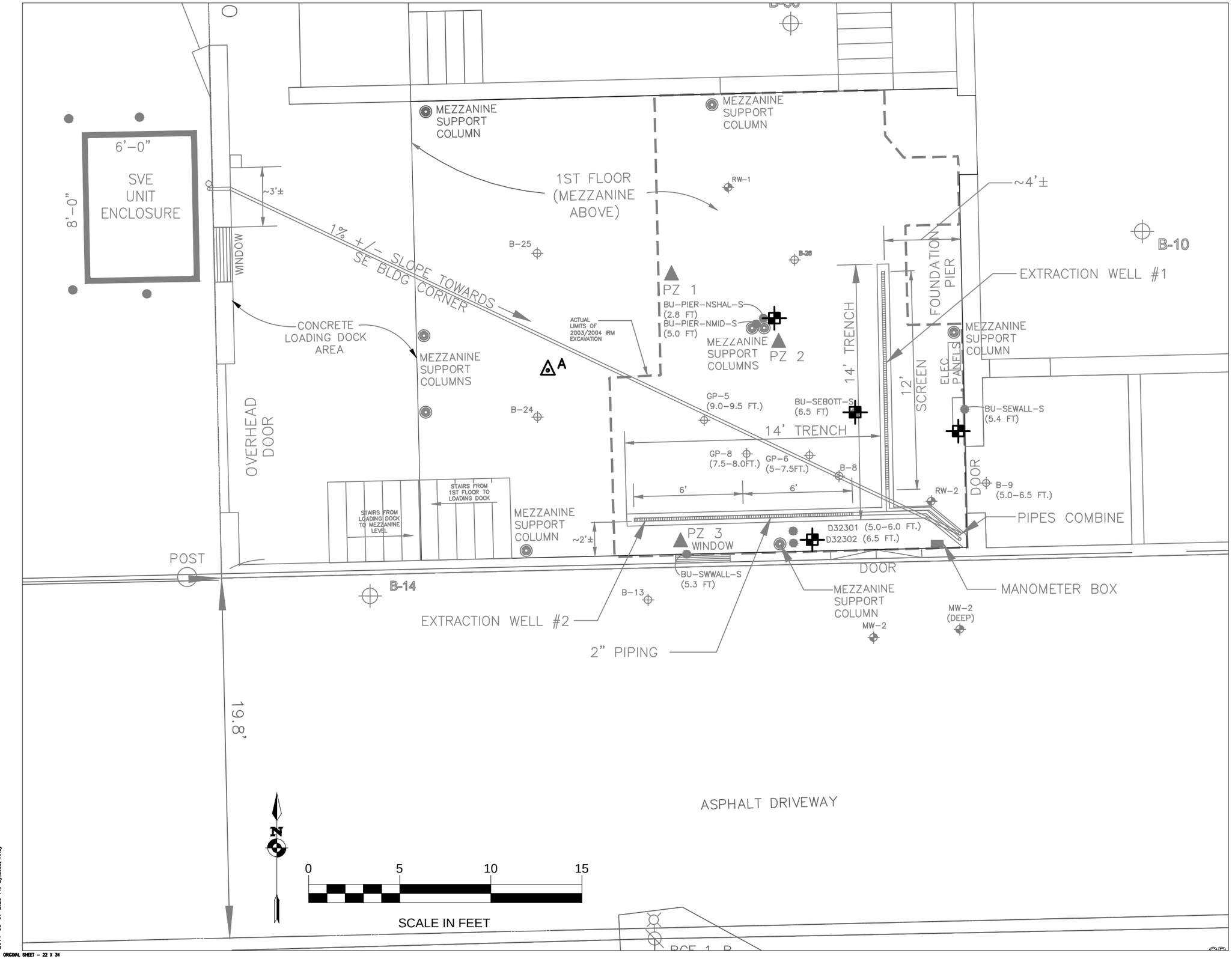
Cartographic Design By: Andrew Less

Monday, June 21, 2010 7:39:10 AM
U:\16059\GIS\Figures_update 06_21_10\Fig1-Buell_Site_Location_Map.mxd

Stantec Consulting
2250 Brighton Henrietta Townline Road
Rochester, NY 14623
Phone 585.475.1440 Fax 585.424.5951
www.stantec.com

Figure 1 - Site Location Map

Buell Automatics
Rochester, NY



U:\190500_civil\Effectiveness Evaluation\Figure 2 – Previous and Proposed Sample Location Plan.dwg
2019-05-07 2:28 PM Bykles, Andy

ORIGINAL SHEET – 22 X 34

Stantec Consulting Services Inc.
61 Commercial Street
Rochester NY U.S.A.
14614–1009
Tel. 585.475.1440
Fax. 585.272.1814
www.stantec.com

Stantec

Consultants

Legend

- IRM POST–EXCAVATION SAMPLE LOCATION (AND DEPTH) WITH VOCs >1PPM
- B–13 PREVIOUS TEST BORINGS (WHERE SAMPLE DEPTH IS SHOWN, VOCs WERE >1PPM)
- MW–2 EXISTING MONITORING WELLS
- EXISTING SUB–SLAB VAPOR MONITORING POINT
- EXISTING SOIL–VAPOR AND VACUUM MONITORING PIEZOMETER
- PROPOSED TEST BORING LOCATIONS

Notes

Issued	By	Appd.	YY.MM.DD

Permit-Seal

Project/ Client

SOIL VAPOR EXTRACTION SYSTEM
EFFECTIVENESS EVALUATION

BUELL AUTOMATICS

Rochester, New York

Title

PREVIOUS AND PROPOSED SAMPLING LOCATION PLAN

Project No.	Scale	
190500033	SEE SCALE BAR	
Drawing No.	Sheet	Revision
FIGURE 2	of	

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name _____ Date/Time Prepared _____

Preparer's Affiliation _____ Phone No._____

Purpose of Investigation_____

1. OCCUPANT:

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location _____ Age of Occupants _____

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	Commercial/Multi-use
Industrial	Church	Other: _____

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? _____

If the property is commercial, type?

Business Type(s) _____

Does it include residences (i.e., multi-use)? Y / N If yes, how many? _____

Other characteristics:

Number of floors_____ Building age_____

Is the building insulated? Y / N How air tight? Tight / Average / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

_____

_____

_____

Airflow near source

_____

_____

_____

Outdoor air infiltration

_____

_____

_____

Infiltration into air ducts

_____

_____

_____

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: _____(feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

_____

_____

6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: _____

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other_____
Air conditioning:	Central Air	Window units	Open Windows	None

Are there air distribution ducts present? Y / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

_____

_____

_____

_____

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom Almost Never

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	_____
1st Floor	_____
2nd Floor	_____
3rd Floor	_____
4th Floor	_____

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y / N

b. Does the garage have a separate heating unit? Y / N / NA

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / N / NA
Please specify_____

d. Has the building ever had a fire? Y / N When?_____

e. Is a kerosene or unvented gas space heater present? Y / N Where? _____

f. Is there a workshop or hobby/craft area? Y / N Where & Type? _____

g. Is there smoking in the building? Y / N How frequently? _____

h. Have cleaning products been used recently? Y / N When & Type? _____

i. Have cosmetic products been used recently? Y / N When & Type? _____

j. Has painting/staining been done in the last 6 months? Y / N Where & When? _____

k. Is there new carpet, drapes or other textiles? Y / N Where & When? _____

l. Have air fresheners been used recently? Y / N When & Type? _____

m. Is there a kitchen exhaust fan? Y / N If yes, where vented?_____

n. Is there a bathroom exhaust fan? Y / N If yes, where vented?_____

o. Is there a clothes dryer? Y / N If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / N When & Type?_____

Are there odors in the building? Y / N
If yes, please describe: _____

Do any of the building occupants use solvents at work? Y / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) No
Yes, use dry-cleaning infrequently (monthly or less) Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply:	Public Water	Drilled Well	Driven Well	Dug Well	Other: _____
Sewage Disposal:	Public Sewer	Septic Tank	Leach Field	Dry Well	Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

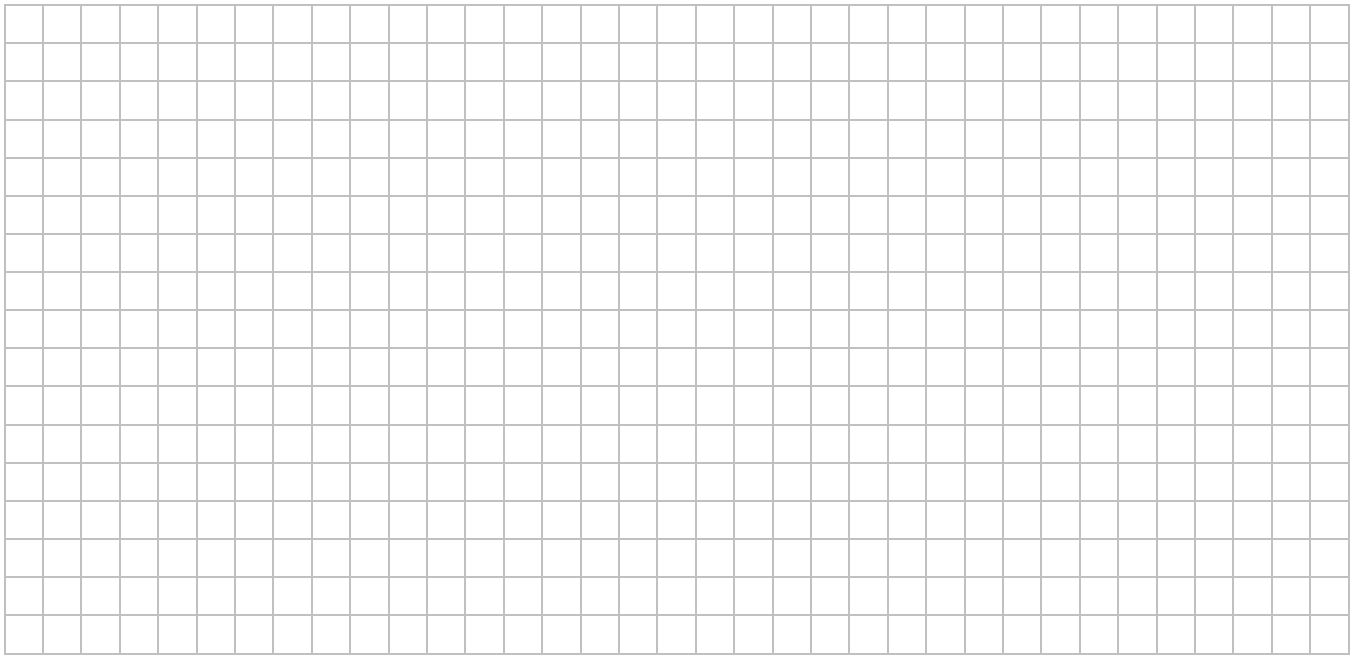
c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

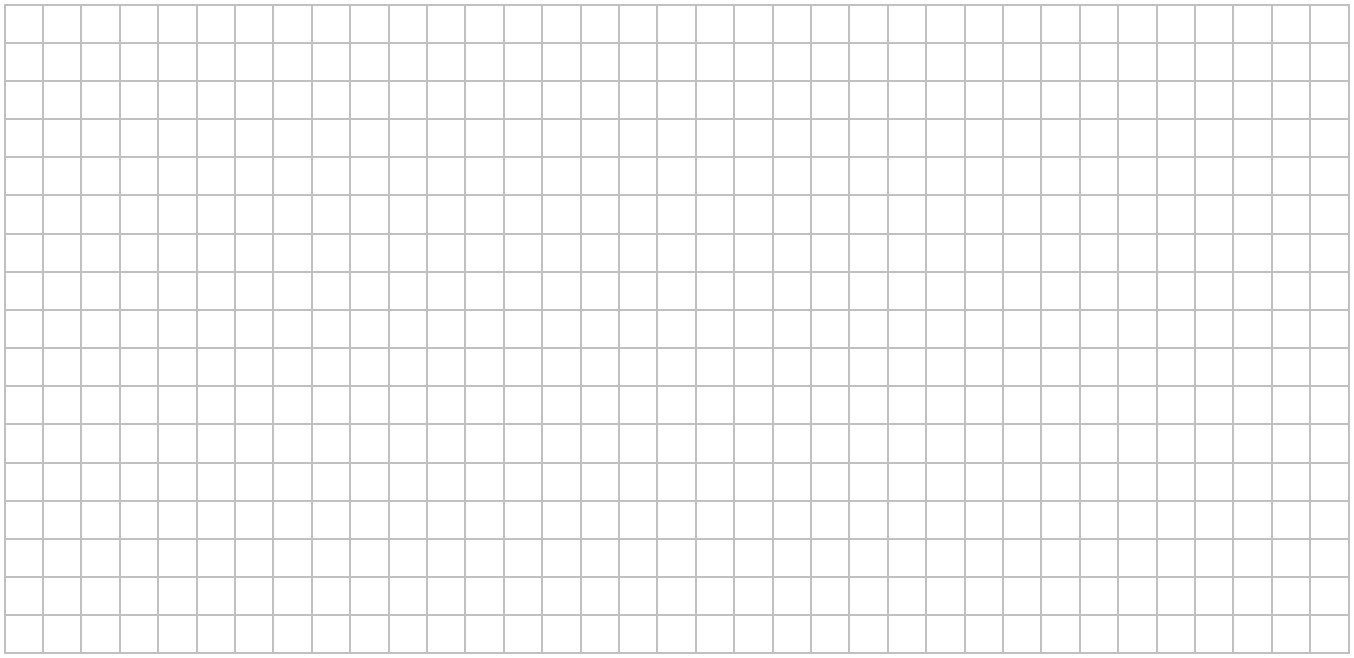
11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:



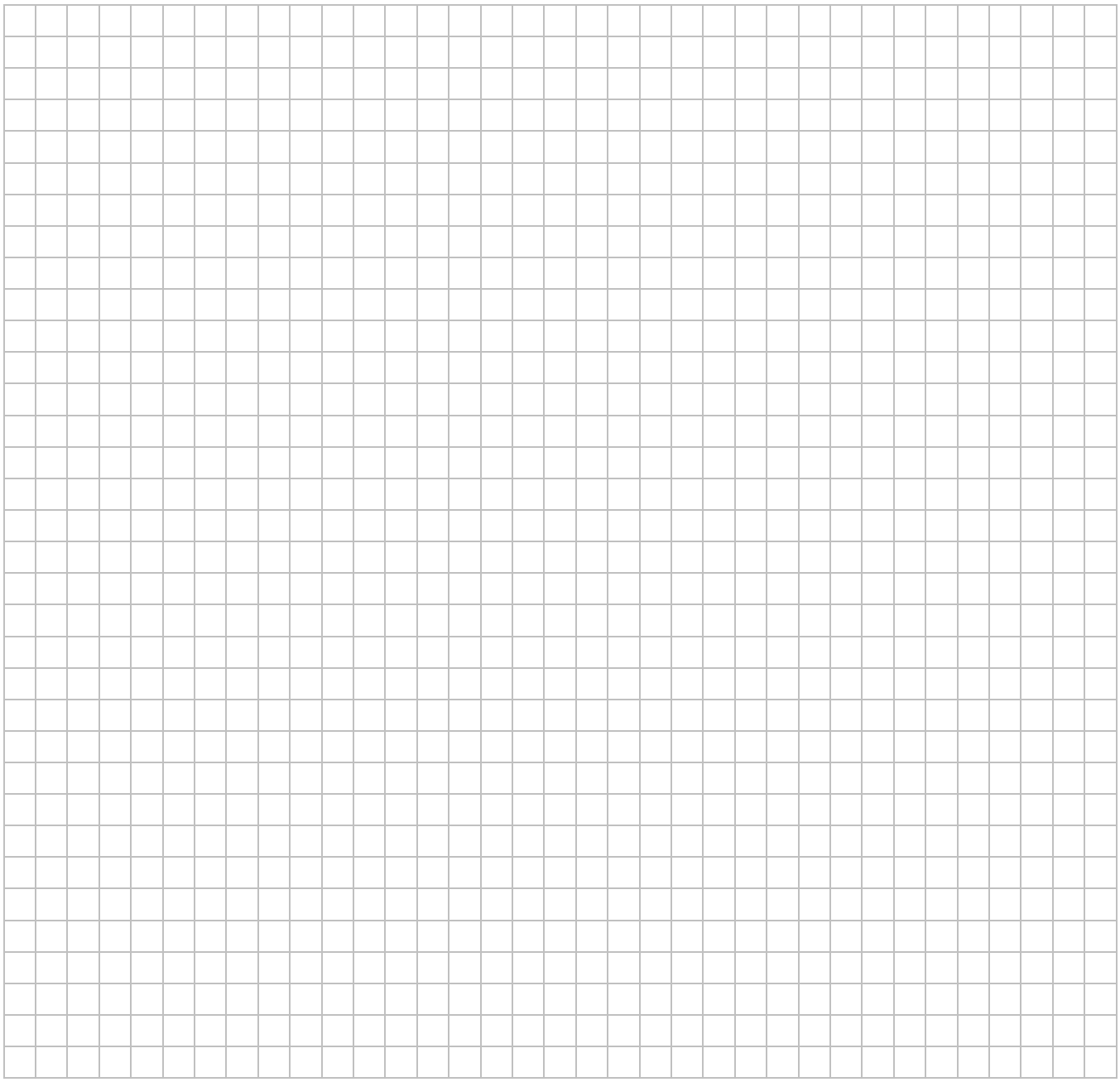
First Floor:



12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: _____

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** 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.