

**From:** Ken Ebbott <ken.ebbott@sandcountyenv.com>  
**Sent:** Monday, May 20, 2024 3:45 PM  
**To:** Michalets, Linda M - DNR  
**Cc:** Ken Ebbott; Tom Mckay  
**Subject:** Revised Vapor Mitigation Interim Action plus Additional Investigation of Groundwater and Neighboring Vapor Intrusion  
**Attachments:** 2024 05 17 NR 712 Declaration Page for Work Plan.pdf; 2024 05 20 Table A Interim Action Costs.pdf; 2024 05 20 Table B Addl Inv Costs.pdf; Fig 1 2024.04.17 SCE OHF Proposed Vapor Sample Locations.pdf

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Linda,

Per our recent phone conversations, this email presents a revised scope of work and broken out budget for the following:

1. Interim Remedial Action for Interim Remedial Action for Vapor Mitigation beneath the former Drycleaner Building (Cost on **Table A**)
2. Additional Investigation of Site Groundwater (Two sample rounds from the 8 existing wells) (Cost on **Table B**)
3. Further Assessment of Crawlspace and Indoor Air at the Neighboring Residence to the North (Cost on **Table B**)

The site is in the Drycleaner Environmental Repair Fund (DERF) and while the fund is currently not financially viable, this Work Plan is presented in a manner to maintain DERF coverage in case future funding can be found. The vapor mitigation is presented as part of an Interim Remedial Action for the project; the groundwater sampling and assessment of the northern neighbor indoor air includes further investigative efforts.

The request has been prepared by Sand County Environmental on behalf of Mr. Tom McKay, the former drycleaning owner and DERF participant.

A variance from the requirements of NR 169.13 and NR 169.23 is requested for this proposed work, as the Interim Action is necessary to protect building occupants. In addition, the proposed additional investigation activities are limited in scope, and include reasonable costs that are necessary to keep the project moving forward. A waiver from the bidding requirements for DERF is requested.

#### **NR 712 CERTIFICATION**

This work requires preparation and approval by individuals certified under NR 712 to satisfy qualification standards. The NR 712 certification page, signed by Kendrick Ebbott, Professional Geologist (PG) and Certified Ground Water Professional (CGWP), is attached and meets the requirements of the WDNR for this submitted Work Plan.

### **WORK PLAN SCOPE AND METHODS**

#### **INTERIM ACTION : VAPOR MITIGATION SYSTEM at 4704 W. Burleigh (Former Fabricare Building)**

A vapor mitigation system will be installed at the former drycleaner building. The building is a slab on grade structure measuring roughly 28 feet north / south by 66 feet east / west. The former drycleaning machine sat on the far western edge of the building in an area currently separated from the rest of the building interior space by a north / south trending wall of tall refrigeration units located approximately 15 feet east of the western wall.

The vapor mitigation system will be installed with one or two floor penetrations located near the western wall (**Figure 1**). The exhaust piping will be run outside the western wall and extend above the roof line, with connection to an exterior-mounted exhaust fan. The fan discharge will be located at least 10 feet from any doors, windows, or air intake areas of the building.

A licensed radon mitigation contractor, Wisconsin Radon of Milwaukee, will be hired to design and install the system. The design elements, such as the number of floor penetrations and location of the piping, will depend in part on the field observations during installation. A pressure field extension testing will be performed by the radon mitigation contractor during installation, and a report will be prepared that documents the installed system elements and pressure extension results.

Previous testing of the indoor air at the former Fabricare building indicated very low levels of PCE were present and no TCE was detected. The observed PCE was far below standards for both residential and small commercial indoor air. However, subslab vapor had elevated levels of PCE, and following the installation of the vapor mitigation system, the building occupants will be better protected from potential vapor intrusion.

No post-system installation chemical testing of indoor air at the former drycleaner building is planned. The cost for the mitigation system as an interim action is shown on **Table A**.

#### **ADDITIONAL INVESTIGATION: TWO ROUNDS OF GROUNDWATER SAMPLING**

Testing of groundwater from the eight site monitoring wells will be completed twice over a period of approximately four months (**Figure 1**). The wells have not been sampled since 2013, and current results should be obtained. The wells may be in relatively poor condition, and notes will be provided on the well total depth and any observed deficiencies in their current construction or condition.

The wells will be purged per DNR groundwater sampling requirements to obtain representative groundwater, and will be sampled using new, dedicated bailers, with field measurement of temperature, conductivity, and dissolved oxygen prior to testing.

Samples will be obtained for laboratory analysis of VOC's, with analysis performed by either Synergy Laboratory or Pace Analytical Laboratory.

Upon receipt of the data, the chemistry results will be tabulated and an updated table sent via email to the client and WDNR, along with a copy of the laboratory analytical report, and a map showing the sample locations.

The second round of groundwater samples from the eight monitoring wells will be completed approximately three months after the initial round of samples has been obtained. The need for a second round of samples will be evaluated upon receipt of the first round; if the results are highly elevated there may not be a need to conduct further assessment on a quarterly basis. This decision will be made with the input of the WDNR project manager.

### **ADDITIONAL INVESTIGATION VAPOR SAMPLING AT ADJACENT NORTHERN RESIDENCE**

The adjacent house at 3119 N 47<sup>th</sup> Street was previously sampled for subslab vapors and indoor air within the crawl space of the home in June 2020. The results indicate the subslab vapors were not elevated, but the crawl space air had levels of naphthalene and tetrachloroethene (PCE) above levels of concern. Additional vapor sampling will be completed using passive samplers deployed for a 10-day duration.

#### Sample Locations

Further testing will be completed at three locations as follows (**Figure 1**):

- Ambient air on a telephone or light pole in the alley south of the home.
- Within the crawl space air.
- Within the living space of the home.

The house is one story and has a main building that measures roughly 26 feet north / south by 45 feet east / west. This part of the building is underlain by a 3' high crawlspace with a thin cement floor. Just to the west and attached to the main building is an approximately 18 foot north / south by 12 foot east / west slab on grade bedroom that extends to the west and connects to the slab on grade garage.

The crawlspace access is via an opening in a closet door in the far northwest corner of the main house, which is at the northwest corner of the crawlspace. The crawlspace cement block walls have been sprayed with a foam insulation along the interior perimeter in most places, and the material might be a source for observed chemicals in the air in a previous sampling effort.

For the proposed testing, we plan to test the approximate center of the main building in both the crawlspace and the indoor living space. The sampler in the crawlspace will be hung at a height of 1 to 3 feet off the cement floor at a location approximately 15 feet south and 20 feet east of the northwest access door.

The indoor air sampler for the building will be placed in the approximate center of the main building. The crawlspace is present under the entire eastern portion of the residence, but is not present further west, beneath the bedroom or attached garage. The sampler will be hung at approximate head

height in an area between the kitchen and the main living room, although final placement will be discussed with the owners to accommodate a location that is convenient.

To the extent possible, a brief inventory of household products will be performed and products that contain PCE, TCE, or naphthalene will be identified and removed to the adjacent garage for storage during the texting. The materials will be placed in a sealed Ziploc bag during removal. These products may include glues, paint and spot removers, rug cleaning fluids, paint, metal and automotive cleaning products, recently dry cleaned clothes, insecticides, scented candles, incense, and moth balls. Because naphthalene can be present related to combustion, we will ask the building occupants if they smoke cigarettes, and observe the indoor space for ashtrays and other indicators of tobacco use. For the 10-day duration of the sampling, we will request the residents refrain from use of these products in the house.

The outside ambient air sample will be deployed on a telephone or light pole near the home, likely along the alley just south of the residence. Prevailing winds tend to be from the west or southwest, and W. Burleigh Avenue is a relatively busy street with potentially detectable chemical emissions from automobile exhaust. The sampler will be protected from rain and the elements with a temporary shelter provided by the laboratory. The shelter has a roof and two walls and has been designed to optimize air flow while still providing protection from the elements.

#### Sample Method and Analysis

Upon collection, the samples will be shipped to Eurofins, Folsom, California for analysis using the Radiello 130 sampling and test method. Eurofins is working with the WDNR on several projects that utilize this high uptake passive vapor sampling method. A 10-day sample time is proposed with laboratory analysis for a short list of analytes that were previously identified, which include the following:

- Benzene
- Ethylbenzene
- Toluene
- Xylenes
- Naphthalene
- Tetrachloroethene (PCE)
- Trichloroethene (TCE)
- Cis – dichloroethene (DCE)

As the WDNR is aware, vinyl chloride can NOT be tested using this sampling and analytical method, but based on previous findings, vinyl chloride is not expected to be present at significant concentrations for this project.

All three samples will be tested for these analytes, with the ambient sample mounted on a nearby light post deployed to check background levels of compounds in this relatively high traffic area.

#### Results and Communication of Findings

Within 10 days of receipt of the results from the laboratory, the findings will be shared with the property owner, client, and WDNR. The results will be tabulated and compared to the WDNR Quick Look-up Values for residential air.

The information will include a brief discussion of the findings and need for additional work, if any.

#### **DRYCLEANER ENVIRONMENTAL REPAIR FUND (DERF) ELIGIBILITY**

The project is eligible for coverage under DERF, although the fund is currently not able to reimburse claims in a timely manner. To maintain potential coverage if DERF becomes more viable, we request the WDNR review and approve the budget for the proposed charges for this work, as shown on the attached cost estimate tables.

**Table A** summarizes the interim action charges and totals \$1,415 in consultant charges and \$3,000 in contractor charges, for a total of \$4,415.

**Table B** summarizes the additional investigation charges and totals \$7,675.50 in consultant charges and \$2,109.50 in contractor charges for a total of \$9,785.

The total additional DERF budget authorization being sought is \$9,090.50 in consultant charges and \$5,109.50 in contractor charges, for a total of \$14,200.

#### **SCHEDULE**

Upon review and approval of this Work Plan, we can begin the sampling of vapors and authorize the vapor mitigation contractor to install the system at the former drycleaner building.

The work should require two to three months for completion once approval has been provided.

I look forward to hearing from you with any questions or comments.

Thanks,

Ken

Regards,

**Ken Ebbott, PG, CGWP**

**Senior Project Manager/Senior Geologist**

**Sand County Environmental, Inc.** (fka Sand Creek Consultants, Inc.)

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## Signature Page

I, Kendrick A. Ebbott, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of Ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of Ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in Chs. NR 700 to 726, Wis. Adm. Code.



5/16/2024

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Kendrick Ebbott, PG, CGWP  
Project Manager/Senior Geologist

Date

TABLE A: Interim Action Cost Estimate Vapor Sample  
May 20, 2024

Install Subslab Vapor System and Verify Communication at Drycleaner Building  
One Hour Fabricare (Former), 4704 W Burleigh Ave, Milwaukee WI

ITEM DESCRIPTION	Unit Price	Quantity	Units	Total Cost
<b>CONSULTING SERVICES</b>				
<b>Task 1 Scope, Plan and Project Management</b>				
Plan, DNR Email Correspondence, Scope, Budget				
Project Manager (PG)	\$130.00	2	hour	\$260.00
Drafting	\$100.00	1	hour	\$100.00
Administrative	\$100.00	2	hour	\$200.00
<b>Subtotal Task</b>				<b>\$560.00</b>
<b>Task 2: Installation of Subslab Vapor Mitigation System at Former Drycleaner</b>				
Vapor system two floor penetrations with fan, communication testing, manometer for visual function verification				
Branch Manager	\$171.00	0	hour	\$0.00
Project Manager (PG)	\$130.00	1	hour	\$130.00
Field Technician	\$100.00	6	hour	\$600.00
PID	\$100.00	1	day	\$100.00
Field Supplies	\$25.00	1	day	\$25.00
<b>Subtotal Task</b>				<b>\$855.00</b>
<b>TOTAL CONSULTANT</b>				<b>\$1,415.00</b>
<b>CONTRACTOR SERVICES</b>				
<b>Task 5: Vapor Sampling/Mitigation System Install</b>				
VAPOR MITIGATION CONTRACTOR				
Vapor System Installation				
Electrician / Permit	\$700.00	1	each	\$700.00
Floor Penetrations	\$250.00	2	each	\$500.00
Piping and Fan	\$300.00	2	lump	\$600.00
Sealing, Manometer	\$100.00	1	lump	\$100.00
Labor	\$800.00	1	lump	\$800.00
Communication Test	\$150.00	1	lump	\$150.00
Documentation Report	\$150.00	1	lump	\$150.00
<b>Subtotal Task</b>				<b>\$3,000.00</b>
<b>TOTAL CONTRACTOR</b>				<b>\$3,000.00</b>
<b>TOTAL ESTIMATED COST</b>				<b>\$4,415.00</b>

**TABLE B: Additional Investigation Cost Estimate**

May 20, 2024

Sample Groundwater at 8 Wells Two Events, Retest Vapor at Neighbor N  
One Hour Fabricare (Former), 4704 W Burleigh Ave, Milwaukee WI

**CONSULTING SERVICES**

**Task 1 Work Plan and Project Management**

Plan, DNR Email Correspondence, Scope, Budget

Project Manager (PG)	\$130.00	2	hour	\$260.00
Drafting	\$100.00	1	hour	\$100.00
Administrative	\$100.00	2	hour	\$200.00

**Subtotal Task \$560.00**

**Task 2: Revisit Access Agreement**

Access with one neighbor

Branch Manager	\$171.00	0	hour	\$0.00
Project Manager (PG)	\$130.00	2	hour	\$260.00
Field Technician	\$100.00	2	hour	\$200.00

**Subtotal Task \$460.00**

**Task 4: Groundwater Monitoring Two Events**

Groundwater Sample wells MW1 to MW8, Analysis VOCs, Two Rounds 3 months apart

Branch Manager	\$171.00	0	hour	\$0.00
Project Manager (PG)	\$130.00	4	hour	\$520.00
Field Technician	\$100.00	22	hour	\$2,200.00
YSI Multi Meter	\$100.00	2	day	\$200.00
WL Probe	\$50.00	2	day	\$100.00
Bailers, Rope	\$20.00	16	each	\$320.00
Field Supplies	\$25.00	2	day	\$50.00

**Subtotal Task \$3,390.00**

**Task 5: Indoor Vapor Sampling at Neighbor to North**

Vapor Samples Three 10-day indoor passive samples from North Neighbor crawlspace, indoor air, and ambient outside

Branch Manager	\$171.00	0	hour	\$0.00
Project Manager (PG)	\$130.00	1	hour	\$130.00
Field Technician	\$100.00	8	hour	\$800.00
PID	\$100.00	1	day	\$100.00
Field Supplies	\$25.00	1	day	\$25.00

**Subtotal Task \$1,055.00**

**Task 6: Data Evaluation and Interpretation Two Events, Letter to Neighbor**

Tabulate Data. Letter to Off Site Owner to North. Email report to DNR with copy of off site letters

Branch Manager	\$171.00	0.5	hour	\$85.50
Project Manager (PG)	\$130.00	4	hour	\$520.00
Field Technician	\$100.00	9	hour	\$900.00
CAD	\$75.00	5	hour	\$375.00
Admin Assistant	\$55.00	6	hour	\$330.00

**Subtotal Task \$2,210.50**

**CONSULTING SERVICES TOTAL \$7,675.50**

**CONTRACTOR SERVICES**

**Task 4: Groundwater Sampling Two Events**

GW Samples, 8 wells for VOCs, Two Events

VOCs	\$87.00	16	each	\$1,392.00
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**Subtotal Task \$1,392.00**

**Task 5: Vapor Sampling**

Vapor Samples 3 Total Charcoal Sorption Method  
EUROFINS LABORATORY

Sampler Radiello 130 w SERWM Fee	\$57.50	3	each	\$172.50
Analytical TO-17 for PCE, TCE, DCE, B,E,T,X,N	\$150.00	3	each	\$450.00
Shelter Rental Outside Sampler	\$55.00	1	feet	\$55.00
Shipping Charges	\$20.00	2	each	\$40.00

**Subtotal Task \$717.50**

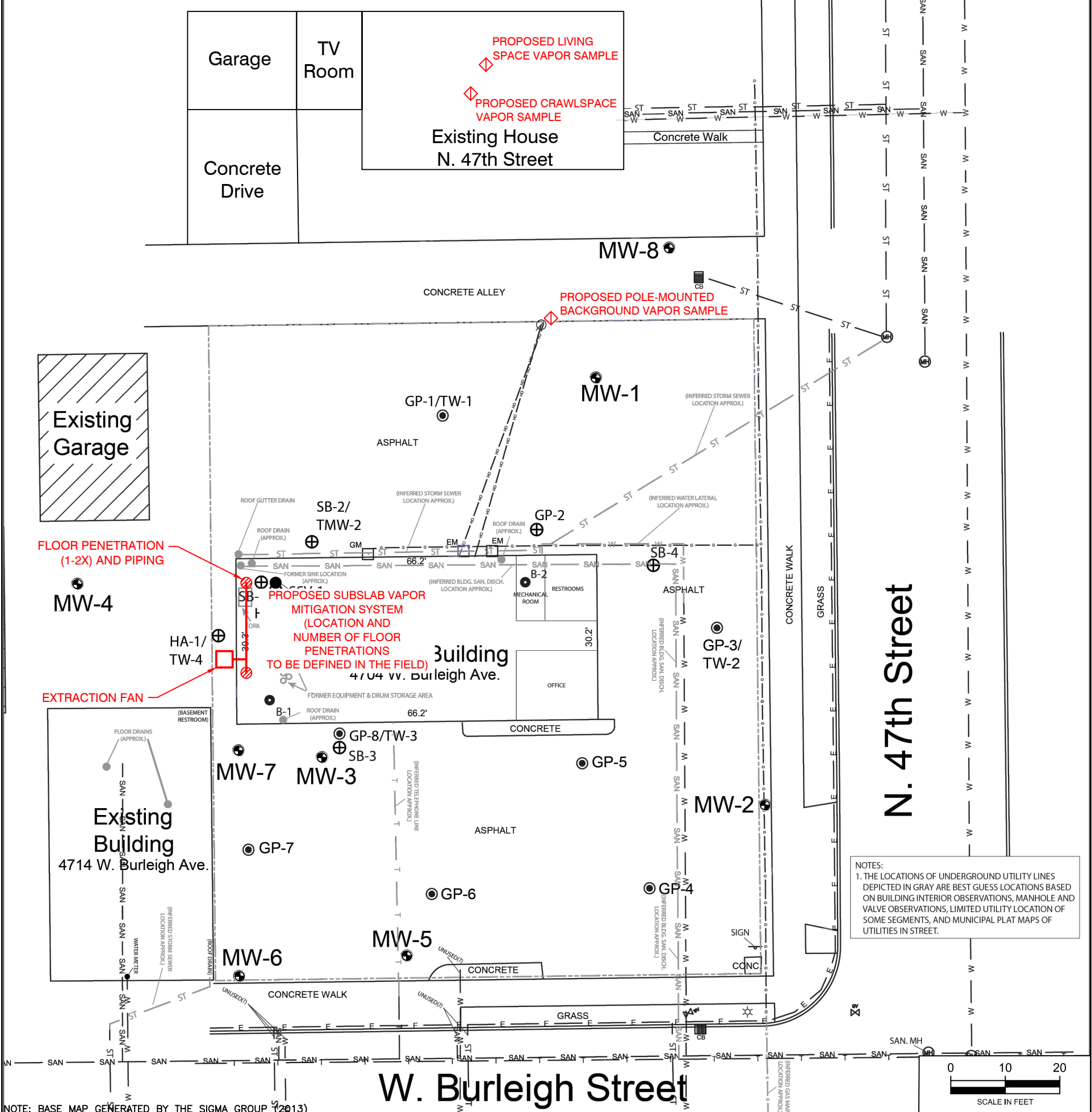
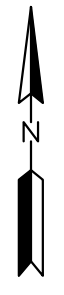
**CONTRACTOR SERVICES TOTAL \$2,109.50**

**TOTAL ESTIMATED COST \$9,785.00**




**LEGEND**

- SSV- Sub-Slab Vapor Sample Location
- ⊕ HA- / TW- Hand Auger Boring & Temporary Well Location (06/02/2009)
- ⊕ SB- Soil Boring Location (10/09/2006)
- ⊕ SB- / TMW- Soil Boring & Temporary Well Location (10/09/2006)
- ⊙ GP- Soil Boring Location (06/02/2009 and 03/12/2013)
- ⊙ GP- / TW- Soil Boring & Temporary Well Location (06/02/2009)
- B- Soil Boring Location (03/12/2013 and 04/04/2013)
- ⊕ MW- Monitoring Well Location (05/05/2010 and 03/12/2013)
- ◇ Proposed Passive Vapor Sample Location (April 2024)



NOTES:  
 1. THE LOCATIONS OF UNDERGROUND UTILITY LINES DEPICTED IN GRAY ARE BEST GUESS LOCATIONS BASED ON BUILDING INTERIOR OBSERVATIONS, MANHOLE AND VALVE OBSERVATIONS, LIMITED UTILITY LOCATION OF SOME SEGMENTS, AND MUNICIPAL PLAT MAPS OF UTILITIES IN STREET.

NOTE: BASE MAP GENERATED BY THE SIGMA GROUP (2013)

	<b>PROPOSED VAPOR SAMPLE LOCATIONS (APRIL 2024)</b>		<b>FORMER ONE HOUR FABRICARE 4704 WEST BURLEIGH STREET MILWAUKEE, WISCONSIN</b>	
	DATE:	APRIL 2024	DRAWN BY:	ASR
	SCALE:	1"=20'	APPROVED BY:	KE
<b>FIGURE 1</b>				