



Tel: 608-838-9120

October 1, 2018

BRRTS: 02-13-415322

Ms. Cynthia Koepke, P.G.
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Madison, Wisconsin 53711

**Re: Proposed Work and Recent Results
2401 University Avenue
Miller's Liquor Property
Madison, Wisconsin**

Dear Ms. Koepke:

Seymour Environmental Services, Inc. (Seymour) is pleased to present this update for environmental work at the Miller's Liquor property. We installed a vapor mitigation system at Miller's Liquor on May 8, 2018. We collected soil samples during the mitigation system installation beneath the building slab (Figure 1). For our next phase we plan to conduct a limited Geoprobe™ soil and groundwater investigation sampling and install a vertical groundwater profiling well.

PROPOSED WORK FOR THIS COST REQUEST

Additional Geoprobe Investigation

We propose to install approximately 4 direct push sampling points to the north of the site. Sampling locations are shown on the attached Figure 1. At each location the sampler will be advanced approximately 7 feet below saturated soils so that a groundwater sample is comparable to a water-table monitoring well can be collected. The boring will then be advanced deeper within the unconsolidated materials. Generally, we anticipate collecting the water-table sample at a depth of ~25 to 30 feet and the deeper sample at 40 feet or deeper if possible. Data from the area indicates that bedrock should be 45 to 65 feet below grade. Groundwater samples will be analyzed for VOCs. Our cost for this phase of the work totals \$8,540.

Soil borings will also be installed along the sewer/sewer laterals along Chestnut Street and University Avenue. We will also attempt to collect soil samples west of the building and behind the building, although access for equipment in those areas was an issue during earlier investigation. The property owner to the west, Patrick Corcoran, has agreed to allow us access across his property. The soil borings will be installed to an estimated depth of 20 feet, unless we are detecting high levels of field screening (>100 ppm). In that case we will extend the borings deeper and collect samples beneath the water-table. We plan to use On-site Environmental Services for our Geoprobe investigation since they have a hand-truck mounted probe that will allow access where other probes cannot. Figure 2 shows the locations for the proposed Geoprobe™ boring locations. Our cost for this phase of the work totals \$7,760.

Vertical Groundwater Characterization

Multilevel wells nests will be installed to characterize the vertical variations in groundwater conditions at the site. Well nests will be installed at two locations, one of them will be approximately 250 feet northeast of the subject parcel on the University Heights Apartments property or in the right-of-way north of the property (2308 Univ. Ave.). The other will be further northeast. Drilling will be conducted using air rotary methods. We expect to terminate the initial boring at each location at a depth of 90 feet. If you believe that it is warranted, we will core the bedrock from 30-90 feet to characterize the rock and look for preferential flow horizons. The cost to rock core is approximately \$5,000 per boring. The coring costs is presented as an alternate in the commodity section of the attached budget. Upon completion of the drilling of the 90-foot borehole a piezometer in each boring. We will then also set a water-table monitoring well in the upper enlarged portion of the borings at approximately 30 feet. A mid-depth piezometer will be installed at each well nest location in a separate boring. For budgeting we have assumed that the middle piezometer will be 60-foot. However, information collected during the rock coring could identify a more appropriate depth for the piezometer. Our cost for this phase of the work total \$40,865.

The depths may be altered slightly after we have had a chance to conduct the Geoprobe™ investigation if we are able to determine the depth to bedrock. When analytical data is available a short letter update will be submitted to the WDNR. The report will include a discussion of the sampling results and recommendations for placement of permanent groundwater monitoring wells.

Recent Soil Sampling Results

The results of the recent soil samples collected beneath the building show that the levels were generally lower than those from borings outside of the building. VM-1 was installed toward the front of the building near the location of cleaning equipment and had 98.6 ug/kg PCE in the 1-foot sample and 69.7 ug/kg in the 4-foot sample. The results from VM-2, near another equipment location had lower levels of PCE, the sample collected from 1.5 feet had 54.2 ug/kg PCE and it was not detected in the 5-foot sample. Methylene chloride was detected in all the samples at levels ranging from 35.6 ug/kg to 49.3 ug/kg. Figure 3 shows the sampling locations.

Our budget totals \$57,165 and is detailed on the attached table. Field work will be scheduled upon budget approval. We anticipate completing the direct push groundwater sampling within a month of the budget approval. When analytical data from the Geoprobe and vertical profiling is available an update will be submitted to the WDNR with recommendations for further work.

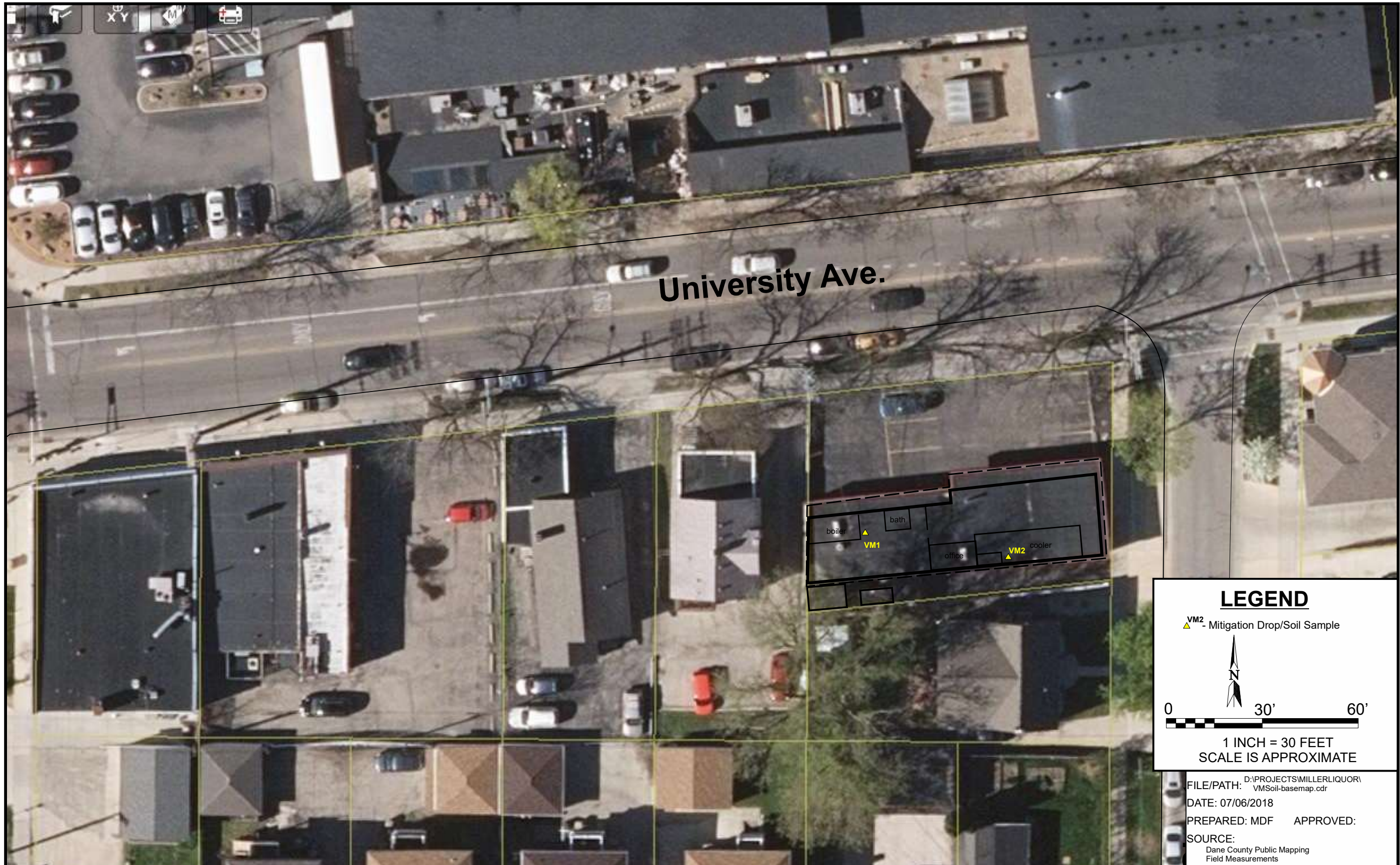
Sincerely,
Seymour Environmental Services, Inc.



Robyn Seymour, P.G.
Hydrogeologist

Enc.
Figures (3)
Budget table

Seymour Environmental 2531 Dyreson Road P.O. Box 398 McFarland, WI 53558



University Ave.

LEGEND

▲ VM2 - Mitigation Drop/Soil Sample



0 30' 60'

1 INCH = 30 FEET
SCALE IS APPROXIMATE

FILE/PATH: D:\PROJECTS\MILLERLIQUOR\ VMSoil-basemap.cdr
DATE: 07/06/2018
PREPARED: MDF APPROVED:
SOURCE: Dane County Public Mapping Field Measurements

SEYMOUR ENVIRONMENTAL SERVICES, INC.

VAPOR MITIGATION / SOIL SAMPLING POINTS
Miller's Liquor
2401 University Avenue
Madison, Wisconsin

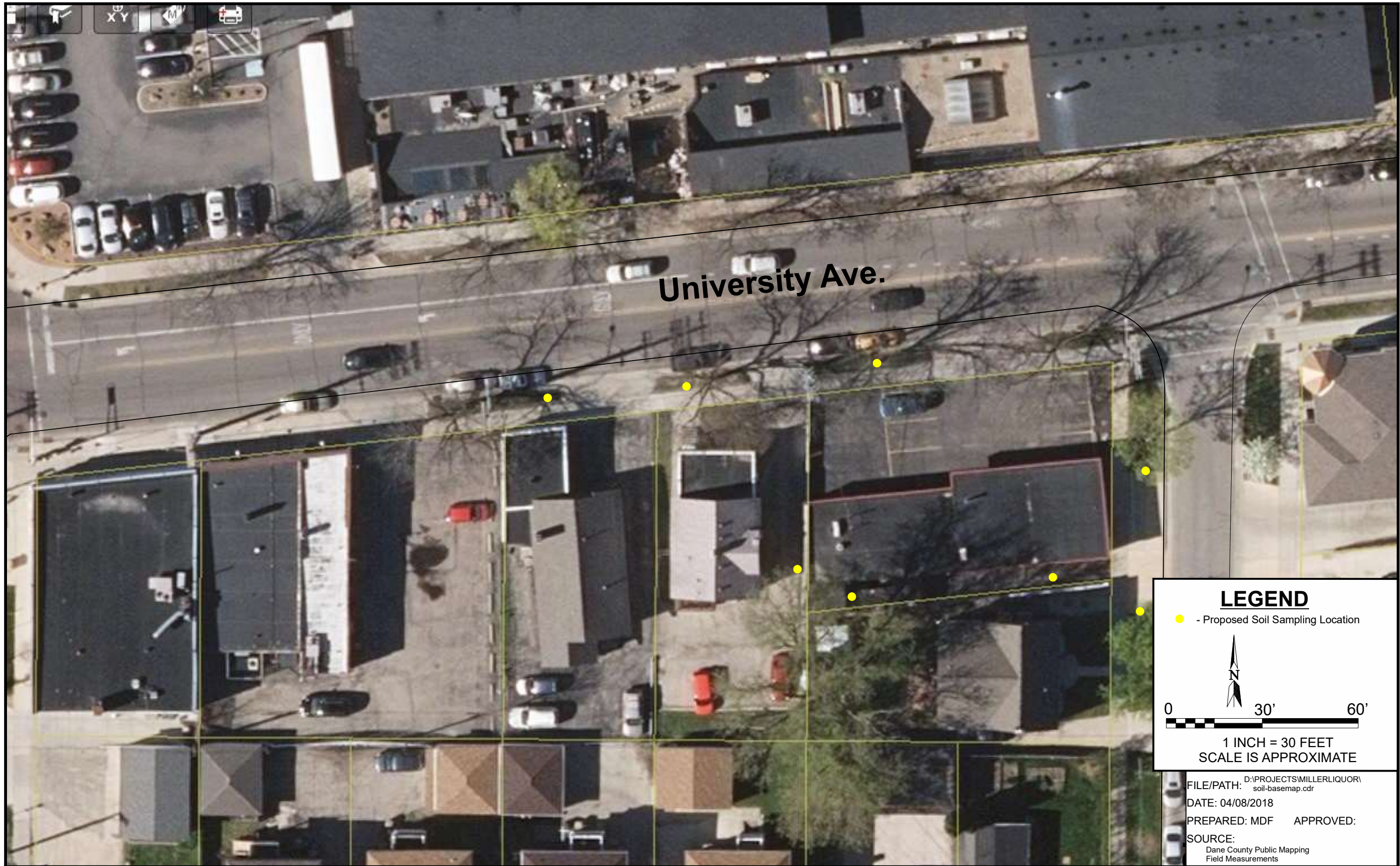
FIGURE
1



SEYMOUR
ENVIRONMENTAL
SERVICES, INC.

PROPOSED GROUNDWATER ASSESSMENT LOCATIONS
Miller's Liquor
2401 University Avenue
Madison, Wisconsin

FIGURE
2



SEYMOUR
 ENVIRONMENTAL
 SERVICES, INC.

PROPOSED SOIL SAMPLING LOCATIONS
 Miller's Liquor
 2401 University Avenue
 Madison, Wisconsin

FIGURE

3

Site Name: **Miller's Liquor**
 BRRS #: **02-13-415322**
 Type of Action: **Site Investigation / Interim Action**

TASKS	BUDGET							INSERT	Total Approved Budget
	Bid / Budgeted Description (approval date)	SI - 2008 (01/06/2009)	V11 - 2012 (05/02/2012)	V11-change order (10/12/2012)	V12- 2014 (05/13/2014)	Mitigation Change (Nov. 2017)	GW Extent (Sept. 2018)		
Consultant Costs									
Scoping									
Workplan									
Soil and GW Sampling Report									
Sampling Consumables and Equip. (PID)									
Initial Site Investigation									
Workplan	\$ 320.00								\$ 320.00
Access	\$ 160.00								\$ 160.00
Waste Characterization	\$ 160.00								\$ 160.00
Well Installation/Soil Sampling	\$ 2,250.00								\$ 2,250.00
GW sampling/well development	\$ 1,940.00								\$ 1,940.00
SSRCL Calculations	\$ 320.00								\$ 320.00
SI report	\$ 3,220.00								\$ 3,220.00
Project Management	\$ 960.00								\$ 960.00
Surveying	\$ 280.00								\$ 280.00
Soil Sampling Equipment	\$ 150.00								\$ 150.00
Groundwater Sampling Equipment	\$ 125.00								\$ 125.00
Surveying Equipment	\$ 40.00								\$ 40.00
Sewer Sampling									
Vapor Intrusion Evaluation									
Access		\$ 1,025.00							\$ 1,025.00
Receptor Survey		\$ 840.00							\$ 840.00
Vapor Point Installation		\$ 2,240.00							\$ 2,240.00
Vapor Sampling		\$ 1,680.00	\$ 400.00						\$ 2,080.00
Report		\$ 1,615.00							\$ 1,615.00
Vapor Probe Installation Materials		\$ 900.00							\$ 900.00
Vapor Sampling Equipment		\$ 700.00	\$ 100.00						\$ 800.00
Mitigation Sampling Ports		\$ 100.00							\$ 100.00
Vapor Intrusion Phase II									
Access				\$ 1,125.00					\$ 1,125.00
Vapor Point Installation				\$ 2,480.00					\$ 2,480.00
Vapor Sampling				\$ 2,160.00					\$ 2,160.00
Report				\$ 1,220.00					\$ 1,220.00
Vapor Probe Materials				\$ 1,125.00					\$ 1,125.00
Vapor Sampling Equipment				\$ 800.00					\$ 800.00
Vapor Mitigation Change Order									
Coordination/Oversight					\$ 640.00				\$ 640.00
Site Investigation Phase II									
Access						\$ 1,990.00			
Field Work GP groundwater Sampling						\$ 1,500.00			
Field Work Soil Sampling						\$ 1,500.00			
Field Work Groundwater Profiling						\$ 3,000.00			
Surveying/Initial Well Sample						\$ 1,120.00			
SI report						\$ 4,660.00			
Groundwater Sampling Equipment						\$ 370.00			
Surveying Equipment						\$ 75.00			
Soil Sampling Equipment						\$ 550.00			
Consultant Cost Total	\$ 9,925.00	\$ 9,100.00	\$ 500.00	\$ 8,910.00	\$ 640.00	\$ 14,765.00	\$ -		\$ 29,075.00
Sub-Contractor Costs									
Service	\$ -							\$ -	\$ -
Scoping									
GP installation									
Soil Analysis									
Initial Site Investigation									
Waste Characterization (lab)	\$ 150.00								\$ 150.00
Well Installation	\$ 6,778.50								\$ 6,778.50
GP installation	\$ 1,958.00								\$ 1,958.00
Soil Analysis	\$ 900.00								\$ 900.00
GW Analysis	\$ 960.00								\$ 960.00
Waste Disposal	\$ 2,810.00								\$ 2,810.00
Vapor Intrusion Evaluation									
Vapor Analysis (lab)		\$ 3,750.00	\$ 2,000.00						\$ 5,750.00
Mitigation System Installation (2)		\$ 3,000.00							\$ 3,000.00
Vapor Intrusion Phase II									
Vapor Analysis (lab)				\$ 5,000.00					\$ 5,000.00
Vapor Mitigation Change Order									
Mitigation System Installation					\$ 800.00				\$ 800.00
Site Investigation Phase II									
Geoprobe - groundwater						\$ 3,000.00			
Geoprobe - soil						\$ 1,800.00			
Drilling for Well Nests						\$ 25,500.00			
Alternate- Rock Coring 1 location						\$ 5,000.00			
Soil Analysis						\$ 1,350.00			
GW Analysis						\$ 1,050.00			
Waste Disposal						\$ 1,500.00			
Permits-Public Access						\$ 3,200.00			
Sub-Contractor Cost Total	\$ 13,556.50	\$ 6,750.00	\$ 2,000.00	\$ 5,000.00	\$ 800.00	\$ 42,400.00	\$ -		\$ 28,106.50
DERF ELIGIBLE SUB-TOTALS	\$ 23,481.50	\$ 15,850.00	\$ 2,500.00	\$ 13,910.00	\$ 1,440.00	\$ 57,165.00	\$ -		\$ 57,181.50