

April 13, 2018



Wisconsin Department of Natural Resources
Waukesha Service Center
141 NW Barstow Street
Waukesha, Wisconsin 53188

Attention: Mr. Dave Volkert

Re: **Data Transmittal**

Clare Central Apartments
1003 and 1033 West Atkinson Avenue
Milwaukee, Wisconsin
Terracon Project No. 58107058A
WDNR BRRTS #02-41-549867
VPLE BRRTS #06-41-560680

Dear Mr. Volkert:

Terracon Consultants, Inc. (Terracon) prepared this data transmittal on behalf of Telos, Inc. (Telos) to address the Wisconsin Department of Natural Resources (WDNR) comments and present additional environmental investigative work performed at the Clare Central apartment complexes located at 1003 and 1033 Atkinson Avenue, Milwaukee, Wisconsin (site).

In their December 14, 2016 letter, the WDNR commented on Terracon's September 21, 2016 Supplemental Site Investigation (SSI) *Data Transmittal*. After subsequent discussion of the necessity for additional investigative work, an April 17, 2017 meeting was scheduled with the WDNR and Telos representatives. After the April 2017 meeting, Terracon proceeded with the agreed-upon additional investigation. A summary of the WDNR comments from their December 14, 2016 letter and the agreed-upon investigation follows:

- "It appears that the extent of soil contamination is not defined to the north/northeast beyond soil borings P-33, P-34, P-35, P-39 and P-40. Prepare a brief plan to define the extent of soil impacts in that area".

During the April 2017 meeting, we reviewed the draft soil isoconcentration maps to discuss the further soil delineation to the north/northeast. Borings (P-33, P-34, P-35, P-39, and P-40) are located within 5 to 15 feet from the property line. The property line is adjacent to the concrete sidewalk, which borders West Atkinson Avenue. Trichloroethene (TCE) was detected at concentrations above its soil to groundwater pathway residual contaminant level (RCL) in borings P-33, P-34, P-35, P-39, and P-40; however, the detected concentrations are below its non-industrial, direct-contact RCL. The RCL exceedances are significantly lower than concentrations in soil in the interior of the site. The data indicates a significant source area behind the former wire building in the interior of the site; with

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Clare Central Apartments ■ Milwaukee, Wisconsin

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groundwater flow generally to the southwest in this portion of the site, it is unlikely the TCE migrated with groundwater. Rather, Terracon believes the TCE concentrations in soil near the north/northeast property line may have migrated via diffusion from the source area in the soil gas until a stabilized condition was achieved. Given the presence of underground utilities and West Atkinson Avenue, which make further sampling to the north/northeast unsafe, and the decreased concentrations near the property line relative to the source areas, we believe it was appropriate to extrapolate the extent of the soil isoconcentration line to the north/northeast, rather than pursuing off-site sampling. Furthermore, it was discussed that because of other potential sources of chlorinated solvents in the area, off-site soil data may be difficult to interpret as it relates to the site. Specifically, the February 2014 Phase I Environmental Site Assessment (ESA) report identified the following four potential off-site sources of chlorinated solvents:

- 1102 West Atkinson (Smith Property). Open leaking underground storage tank (LUST) case, which was identified as a former service station which may have used solvents.
- 1101 West Atkinson (Historical Dry Cleaners).
- 3708 North 11th Street (Historical Dry Cleaners).
- A rail car barn formerly located immediately north of West Atkinson Avenue & West Nash Street.

A Site Plan Map (Figure 2 from the Phase I ESA), CVOC and TCE isoconcentration maps (Exhibits 1 through 3), and tabulated, historical soil analytical results (Table 1) are attached.

- “The newly acquired soil data (samples apparently collected below water table) indicate that there could be a component of groundwater flow to the north/northeast. Sample all monitoring wells except MW-4 for volatile organic compounds (VOCs). Measure groundwater elevations in all wells and prepare a groundwater flow map”.

On May 11, 2017, Terracon personnel measured static water levels and collected groundwater samples from the groundwater monitoring well network. The groundwater samples were collected using low-flow sampling methods, to reduce the potential for sample turbidity, and were submitted for laboratory analysis of VOCs by USEPA Method 8260B. The groundwater samples were collected in laboratory-supplied containers, placed in an ice chest to cool to approximately 4°C, and transferred under chain-of-custody protocol to a Wisconsin-certified laboratory for analysis. A duplicate and trip blank were also submitted for VOC laboratory analysis. Static water levels ranged from 0.77 feet (MW-1) to 8.53 feet (MW-3) below top of casing. Groundwater was mounded at monitoring well MW-1, with some radial flow east toward monitoring well MW-8. Groundwater flow was variable on site, but generally to the west/northwest near monitoring wells MW-2 and MW-4, where chlorinated VOCs (CVOCs) have been historically detected at concentrations above NR 140, Wisconsin Administrative Code (WAC), Enforcement Standards. The results of the sampling identified the vinyl chloride (VC) concentration in the groundwater sample collected from monitoring well MW-2 above its NR 140, WAC, ES, consistent with historical analytical results. VOCs were not detected at concentrations above analytical limits of detection in groundwater samples collected from the other groundwater monitoring wells and piezometer (monitoring well MW-4 was not sampled). Groundwater elevation data is presented on the

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attached Table 2, a summary of groundwater analytical tests results is presented on the attached Table 3, and a Groundwater Contour Map (5/11/2017) is presented as Exhibit 4.

- “The DNR consulted with the Wisconsin Department of Health Services (DHS) regarding ambient air sampling results in the Clare Central Apartment buildings. Because there was a detection of trichloroethylene (2.0 ug/m³) just below the indoor air vapor action level (2.1 ug/m³) in one of the samples collected in the 1003 W. Atkinson Avenue building, the DNR is requesting that you have your consultant collect another round of ambient air samples from the 1003 building. The DNR is also asking for another round of ambient air samples in the 1033 building to ensure that two samples per floor are collected in each building as required in the DNR’s May 16, 2016 letter”.

On January 18, 2018, Terracon personnel collected ambient air samples from the Clare Central complexes. The 24-hour ambient air samples were collected in laboratory-prepared 6-liter Summa canisters with a flow regulator calibrated for 24-hour collection. The ambient air samples collected within the Summa canisters were submitted to the laboratory for analysis of tetrachloroethylene (PCE), TCE, trans-dichloroethylene (DCE), cis-DCE, and VC using EPA Method TO-15. CVOCs were not detected at concentrations above vapor action levels (VALs). Historical air analytical results are summarized on Table 4, and sampling location maps for the apartment complexes are presented on Exhibits 5 and 6.

- “In the DNR’s March 2, 2016 letter, it was requested that the sub-slab depressurization systems (SSDSs) in the two Clare Central Apartment buildings and in the residence at 3618 North 11th Street be inspected on a regular basis and that the inspection results be documented. At that time, the DNR should have specified that maintenance plans should be prepared for the SSDSs. Therefore, prepare a maintenance plan for each SSDS. DNR guidance RR-981 titled *Maintenance Plans for Vapor Mitigation Systems* provides a description of what should be included in the maintenance plans. Please verify that the sump crocks in the building have been sealed”.

A Vapor Mitigation System Maintenance Plan for the four SSDSs is attached. Terracon and St. Clare Management personnel have made several, unsuccessful attempts to contact the resident(s) at 3618 North 11th Street (Leonard Residence) to inspect the SSDS. Most recently, on January 18, 2018, Terracon knocked on the door with no answer, noticed the mail box was full, and noticed on sign on the back door reading “Warning this property has been winterized 3.23.17”.

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April 13, 2018 ■ Terracon Project No. 58107058A



We believe the site investigation work is complete, and are requesting Department concurrence prior to the completion of the Supplemental Site Investigation report. Please contact us with questions/comments you may have.

Sincerely,

Terracon

Timothy P. Welch, P.G.
Environmental Department Manager

Blaine R. Schroyer, P.E.
Office Manager/Principal

TPW/BRS:tpw/N:\Projects\2010\58107058A\Project Documents\Data Trans_04132018.doc

Attachments Figure 2 - Site Diagram (Sigma)

Exhibit 1- Soil CVOC Isoconcentration Map (0-4' BGS)

Exhibit 2- Soil TCE Isoconcentration Map (4-8' BGS)

Exhibit 3- Soil TCE Isoconcentration Map (8-12' BGS)

Exhibit 4- Groundwater Contour Map (5/11/2017)

Exhibit 5- SSDS and Ambient Air Sampling Locations -1003 Building

Exhibit 6- SSDS and Ambient Air Sampling Locations -1033 Building

Table 1 - Soil Analytical Test Results Summary for VOCs (Detected Compounds Only)

Table 2 - Groundwater Elevation Table

Table 3 - Groundwater Analytical Test Results Summary for Detected VOCs

Table 4 – Air Analytical Test Results Summary

Vapor Mitigation System Maintenance Plan

Copy to: Margie Kidder, St. Clare Management (Electronically)
Don Gallo, Axley Brynelson (Electronically)

Created By: JVW | Date: 01/02/14

Filename: 14371_Fig 2_SPM.pdf

Directory: Figures

Project: 14371



SSB-1	
DEPTH	2-4'
DATE	12/11/14
Cis	<24
trans	<29
PCE	---
TCE	<u>127</u>
VC	<21

P-34	
DEPTH	3'
DATE	6/23/16
Cis	<25
trans	<25
PCE	<25
TCE	<u>54.1</u>
VC	<25

P-35	
DEPTH	1'
DATE	6/23/16
Cis	<25
trans	<25
PCE	<25
TCE	<u>122</u>
VC	<25

P-4	
DEPTH	4'
DATE	10/18/10
Cis	<u>925</u>
trans	<62.5
PCE	<62.5
TCE	<u>4,850</u>
VC	<62.5

P-5	
DEPTH	3'
DATE	10/18/10
Cis	<25
trans	<25
PCE	<25
TCE	<u>4,510</u>
VC	<25

P-15	
DEPTH	1'
DATE	10/20/10
Cis	34.6
trans	<u>105</u>
PCE	<25
TCE	<u>57</u>
VC	<25

P-1	
DEPTH	3'
DATE	10/18/10
Cis	<u>419</u>
trans	<25
PCE	<25
TCE	<u>64</u>
VC	<u>216</u>

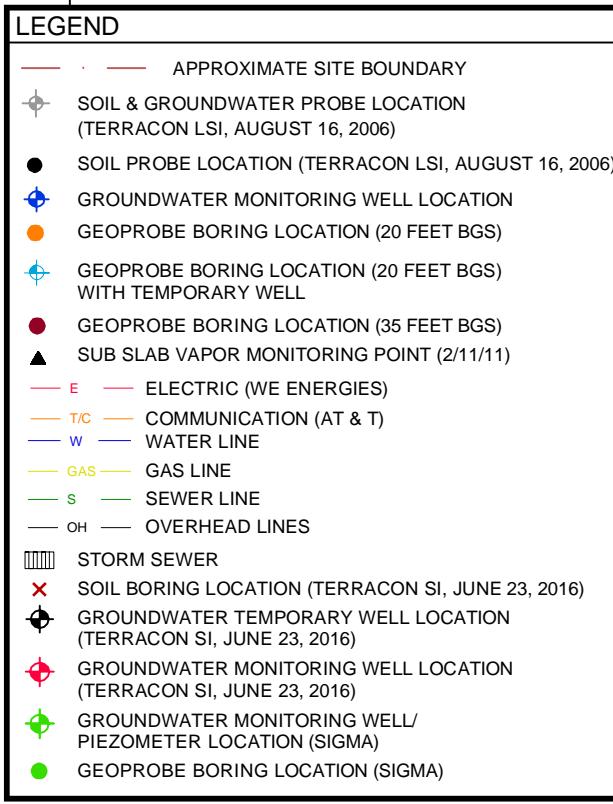
P-2	
DEPTH	3'
DATE	10/18/10
Cis	<u>462</u>
trans	<25
PCE	<25
TCE	<25
VC	<25

P-39	
DEPTH	1'
DATE	6/23/16
Cis	<25
trans	<25
PCE	<25
TCE	<u>33.3</u>
VC	<25

P-40	
DEPTH	3'
DATE	6/23/16
Cis	<25
trans	<25
PCE	<25
TCE	<u>925</u>
VC	<25

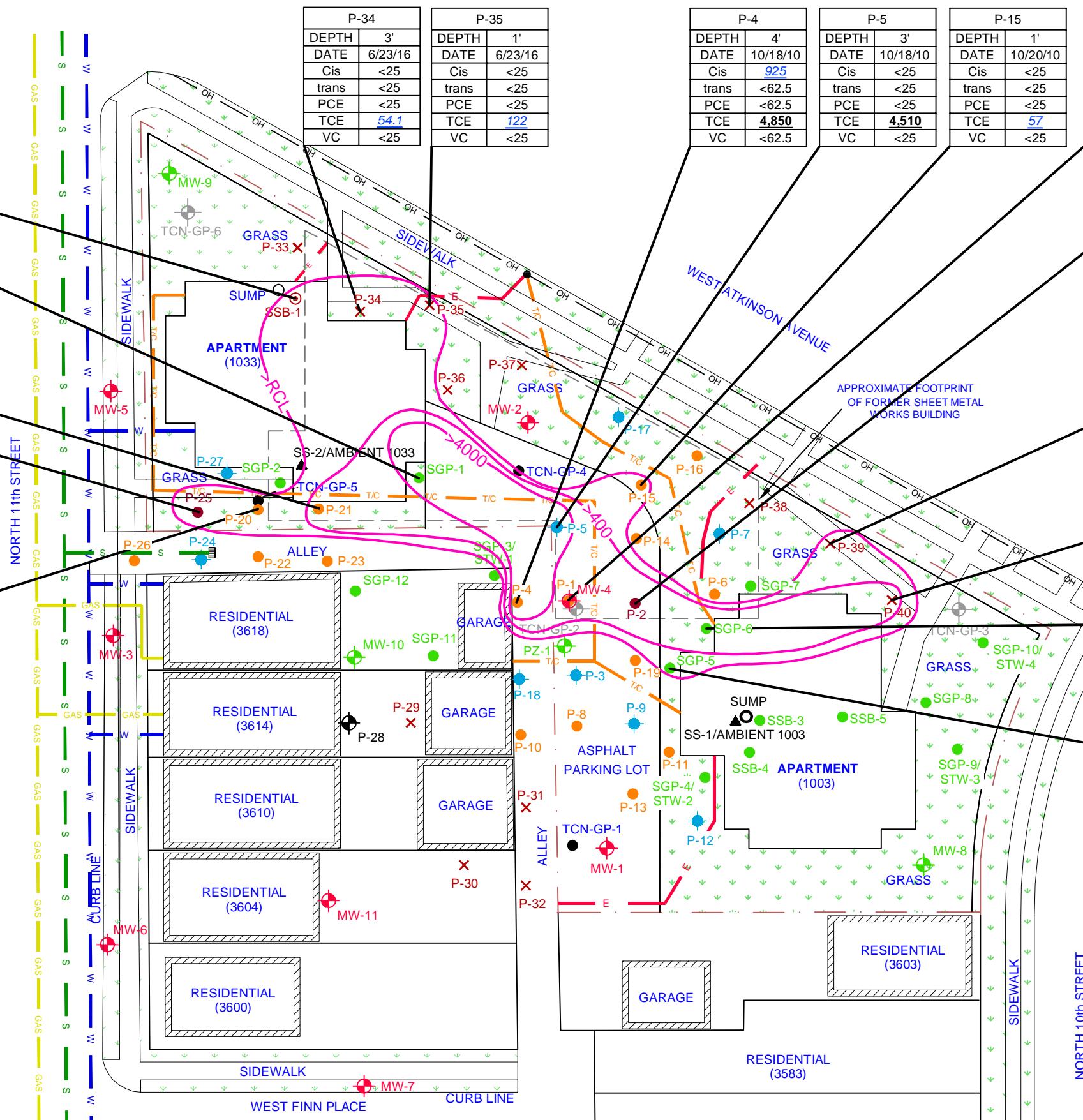
SGP-6	
DEPTH	2-4'
DATE	12/11/14
Cis	<24
trans	<29
PCE	---
TCE	<u>400</u>
VC	<21

SGP-5	
DEPTH	1-3'
DATE	5/14/14
Cis	<24
trans	<29
PCE	---
TCE	<u>340</u>
VC	<21



(1) MAP SOURCE: MILWAUKEE COUNTY LAND INFORMATION OFFICE INTERACTIVE MAPPING SERVICE WEBSITE (2010 AERIAL)
(2) DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES. LOCATIONS OF SIDEWALKS, PROPERTY LINES, AND OTHER SITE FEATURES ARE APPROXIMATE. SCALE IS APPROXIMATE, SITE HAS NOT BEEN SURVEYED.

40 0 40
APPROXIMATE SCALE: 1" = 40'



Project Mngr: TPW
Drawn By: JLM (41)
Scale: AS SHOWN
Checked By: DMB
File No.: 58107058AC1
Approved By: TPW
Date: 4/2017

Project No.: 58107058
Scale: AS SHOWN
Checked By: DMB
File No.: 58107058AC1
Approved By: TPW
Date: 4/2017

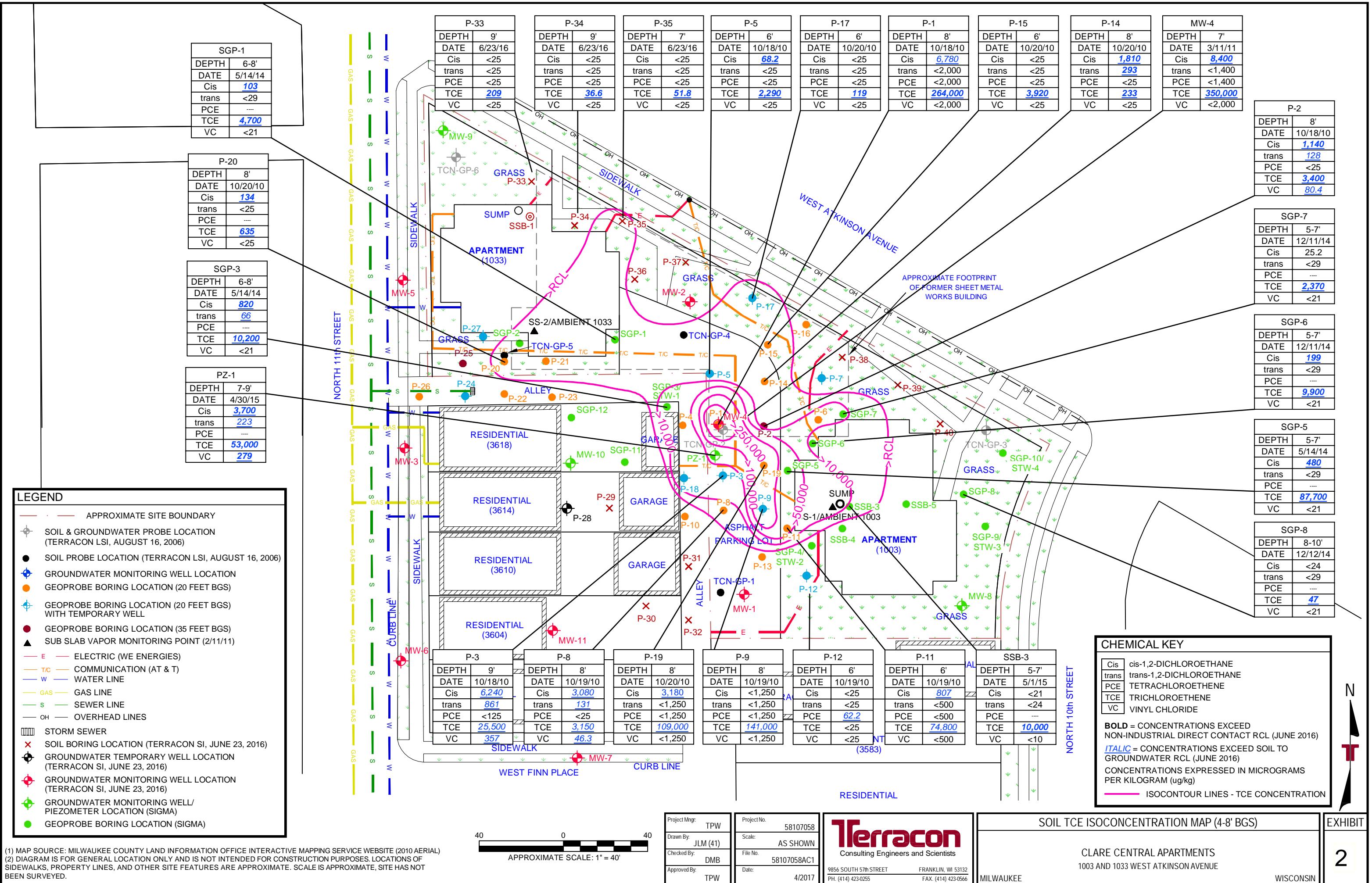
Terracon
Consulting Engineers and Scientists

9856 SOUTH 57th STREET
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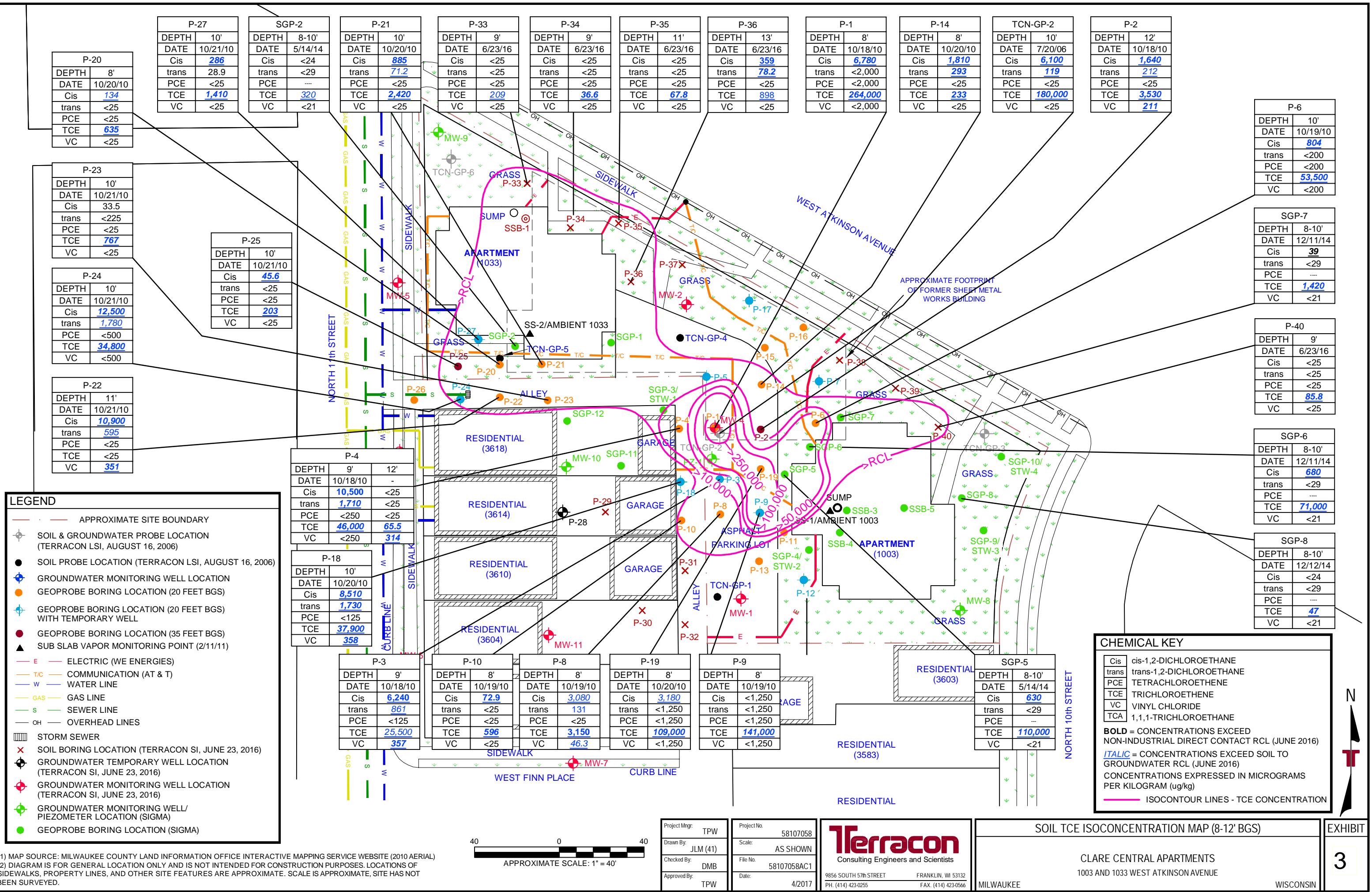
MILWAUKEE

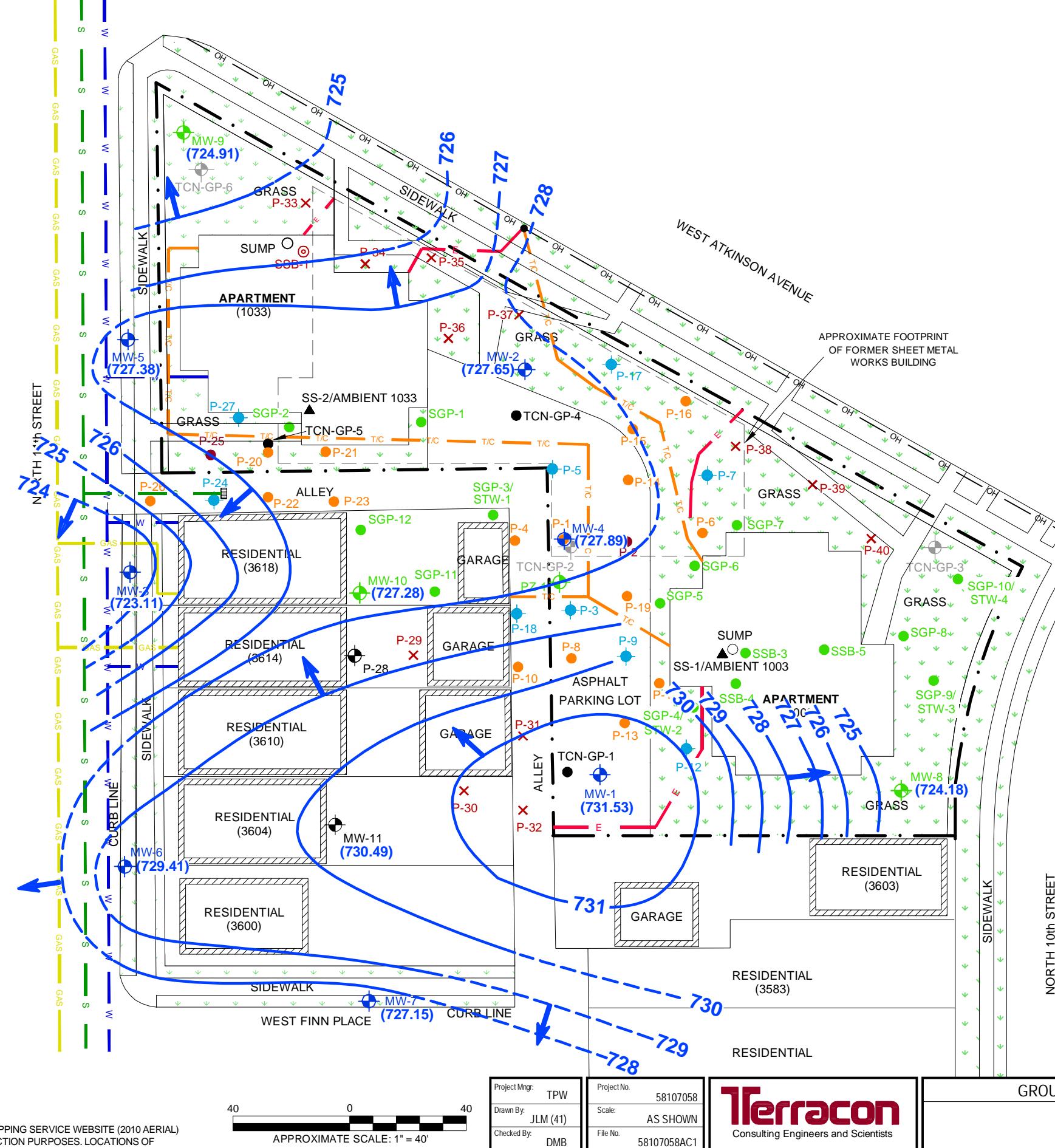
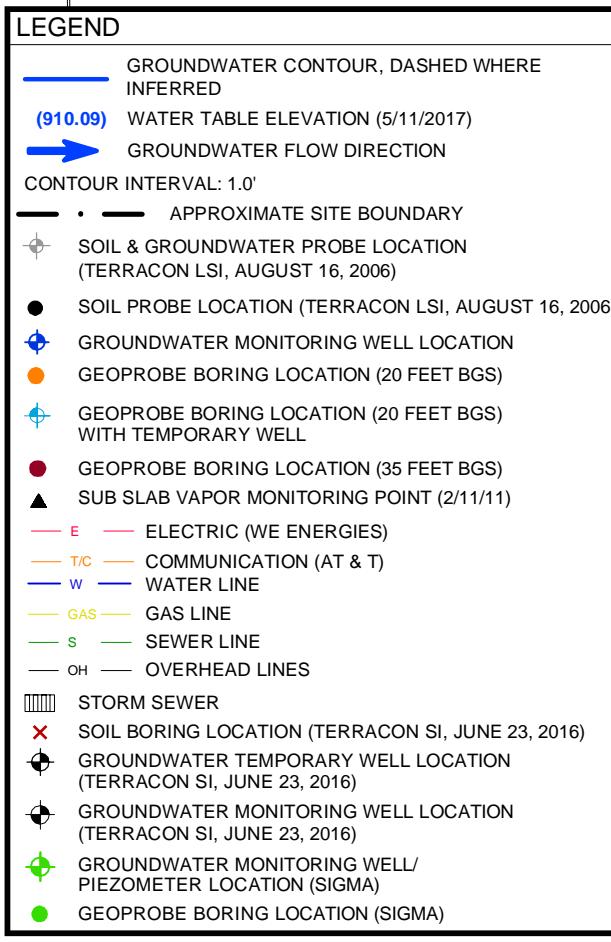
SOIL CVOC ISOCONCENTRATION MAP (0-4' BGS)
CLARE CENTRAL APARTMENTS
1003 AND 1033 WEST ATKINSON AVENUE
WISCONSIN

EXHIBIT
1



(1) MAP SOURCE: MILWAUKEE COUNTY LAND INFORMATION OFFICE INTERACTIVE MAPPING SERVICE WEBSITE (2010 AERIAL)
(2) DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES. LOCATIONS OF SIDEWALKS, PROPERTY LINES, AND OTHER SITE FEATURES ARE APPROXIMATE. SCALE IS APPROXIMATE, SITE HAS NOT BEEN SURVEYED.





(1) MAP SOURCE: MILWAUKEE COUNTY LAND INFORMATION OFFICE INTERACTIVE MAPPING SERVICE WEBSITE (2010 AERIAL)
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40
0
40
APPROXIMATE SCALE: 1" = 40'

Project Mgr:	TPW
Drawn By:	JLM (41)
Scale:	AS SHOWN
Checked By:	DMB
File No.:	58107058AC1
Approved By:	TPW
Date:	6/2017

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GROUNDWATER CONTOUR MAP (5/11/2017)
CLARE CENTRAL APARTMENTS
1003 AND 1033 WEST ATKINSON AVENUE
MILWAUKEE
WISCONSIN
EXHIBIT 4

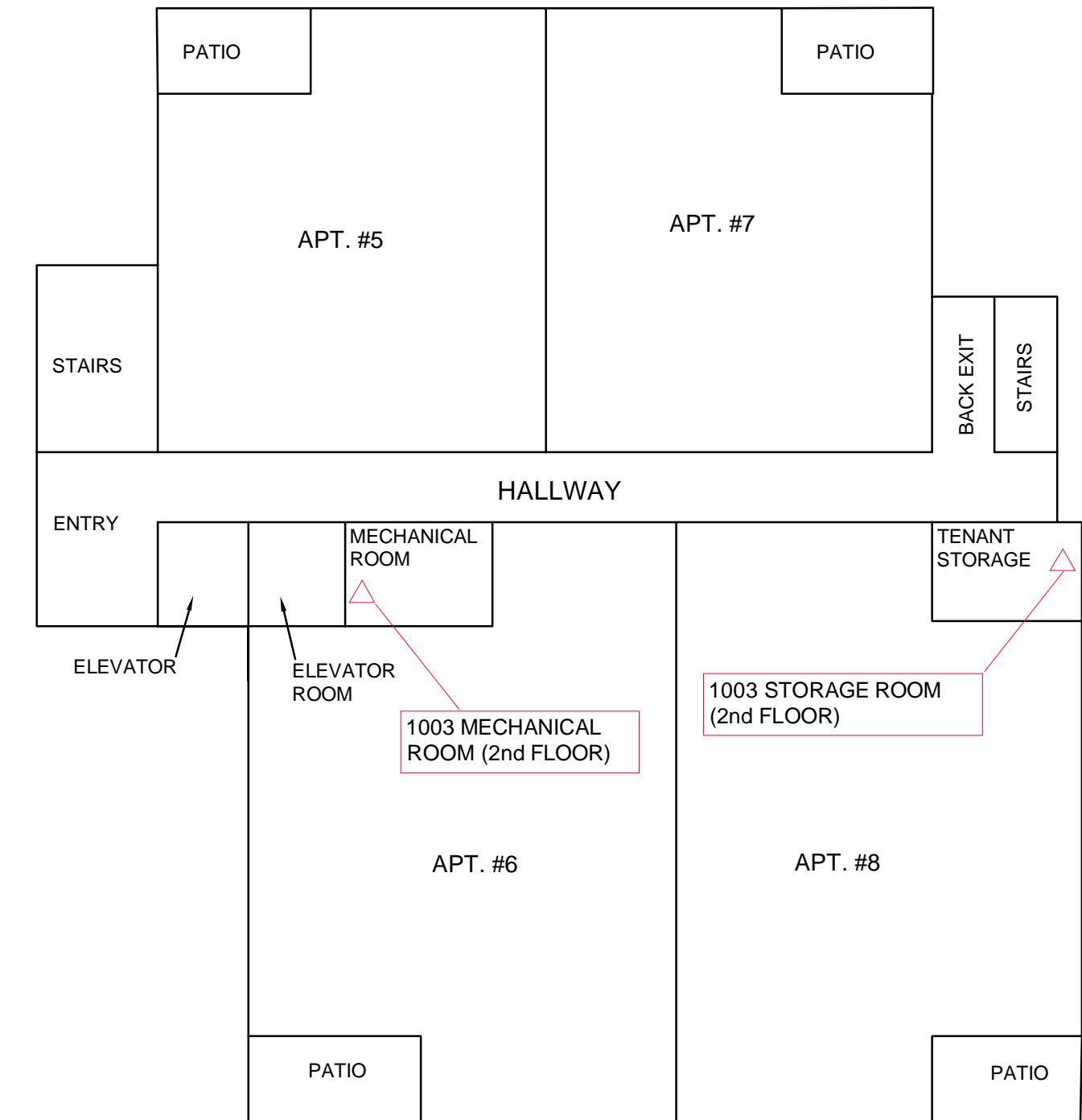
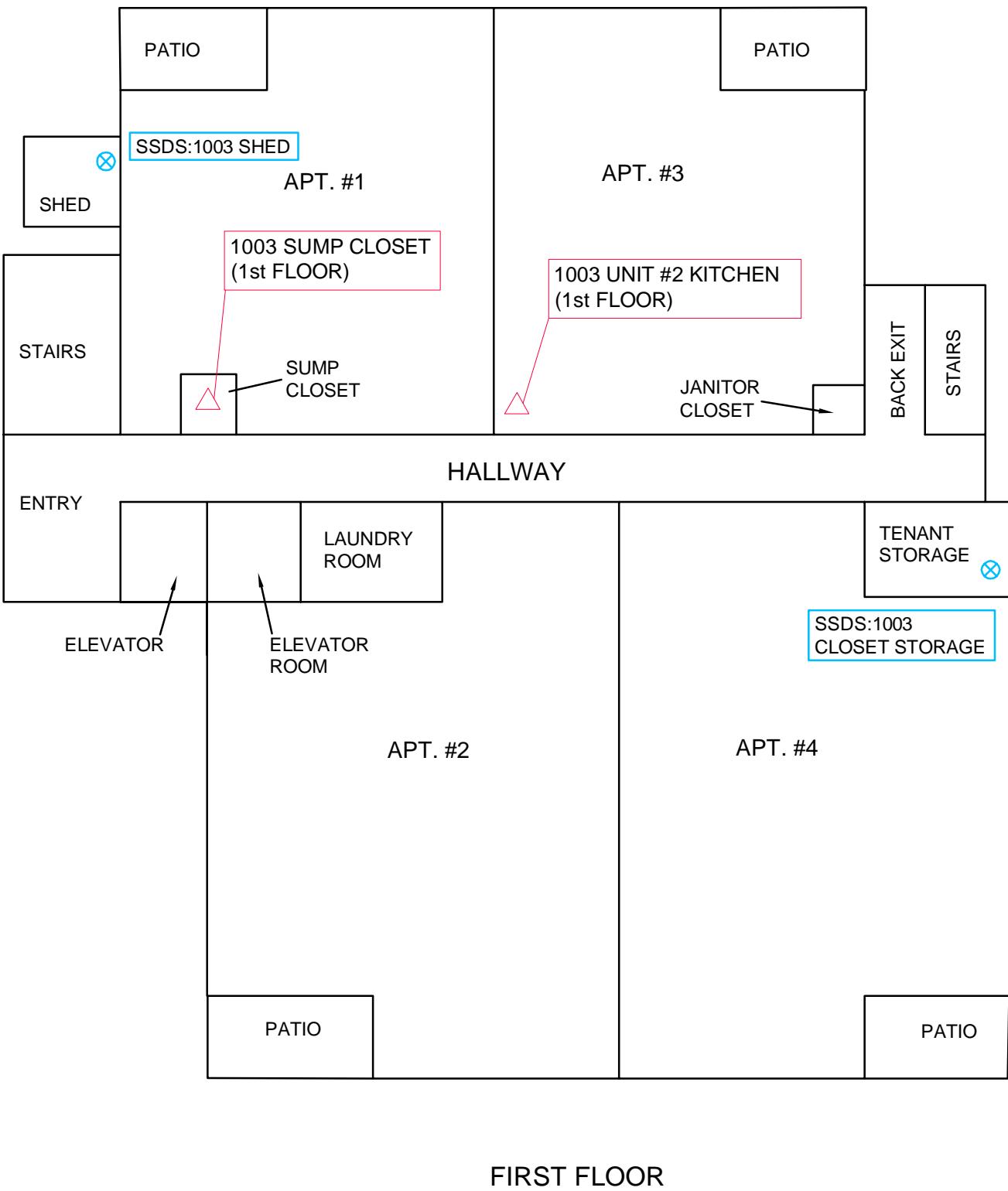


DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

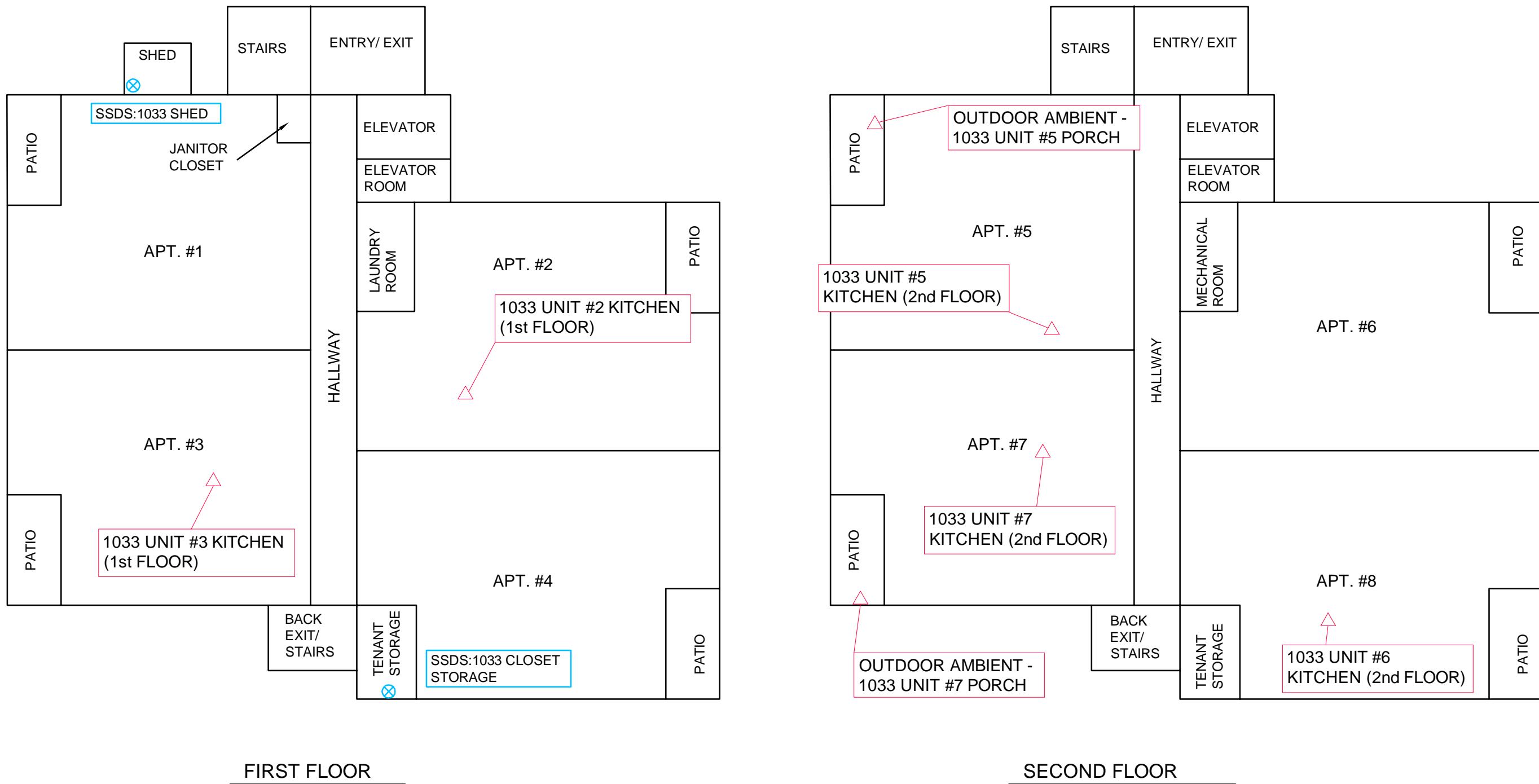
LEGEND	
△	AMBIENT AIR SAMPLE LOCATION
⊗	SSDS PICKUP POINT LOCATION
	SSDS: SUB-SLAB DEPRESSURIZATION SYSTEM

Project Mgr:	TPW
Drawn By:	JLM (41)
Checked By:	DMB
Approved By:	TPW
Project No.	58107058
Scale:	NOT TO SCALE
File No.	58107058AC1R1
Date:	3/2018

Terracon Consulting Engineers and Scientists
9856 SOUTH 57th STREET FRANKLIN, WI 53132 PH. (414) 423-0255 FAX. (414) 423-0566

SUB-SLAB DEPRESSURIZATION SYSTEM & AMBIENT AIR SAMPLING LOCATIONS - 1003 BUILDING CLARE CENTRAL APARTMENTS 1003 WEST ATKINSON AVENUE MILWAUKEE
WISCONSIN




LEGEND

- ▲ AMBIENT AIR SAMPLE LOCATION
- ⊗ SSDS PICKUP POINT LOCATION
- SSDS: SUB-SLAB DEPRESSURIZATION SYSTEM

DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

Project Mgr:	TPW	Project No.	58107058
Drawn By:	JLM (41)	Scale:	NOT TO SCALE
Checked By:	DMB	File No.	58107058AC1R1
Approved By:	TPW	Date:	3/2018

Terracon	Consulting Engineers and Scientists
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SUB-SLAB DEPRESSURIZATION SYSTEM & AMBIENT AIR SAMPLING LOCATIONS - 1033 BUILDING	
CLARE CENTRAL APARTMENTS 1033 WEST ATKINSON AVENUE	WISCONSIN

N
E
6
EXHIBIT

Table 1
Soil Analytical Test Results Summary for VOCs (Detected Compounds Only)

Clare Central
1003 and 1033 West Atkinson Avenue
Milwaukee, Wisconsin
Terracon Project No. 58107058

Table 1
Soil Analytical Test Results Summary for VOCs (Detected Compounds Only)

Clare Central
1003 and 1033 West Atkinson Avenue
Milwaukee, Wisconsin
Terracon Project No. 58107058

				Detected VOCs (ug/kg)																				
Sample ID	Sample Depth (feet)	Sample Date	PID (iu)	Benzene	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	p-Isopropyltoluene	Naphthalene	Styrene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Toluene	Trichloroethylene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl chloride	Total xylenes		
				Direct Contact Non-Industrial RCL ¹	4,720	608	342,000	156,000	1,560,000	7,470	-	162,000	5,150	-	867,000	4,810,000	1,480	30,700	818,000	1,260	89,800	182,000	67	260,000
				Soil to Groundwater Pathway RCL ²	5.1	483.4	2.8	5	41.2	62.6	1,570	--	--	658.2	--	220	140.2	3.2	4.5	1,107.2	3.6	1,382.1	0.1	3,960
P-8	4	10/19/2010	13	<100	<100	<100	<100	<100	1,460	670	<100	328	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	25,130	
P-8	8	10/19/2010	35	<25.0	<25.0	<25.0	<25.0	<25.0	3,080	131	<25.0	49.5	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	3,150	<25.0	<25.0	46.3	<75.0
SGP-8	2-4	12/11/2014	0	--	<19	--	<21	<24	<29	--	--	--	<110	--	--	<38	<23	--	--	<28	--	--	<21	--
SGP-8	8-10	12/11/2014	0	--	<19	--	<21	<24	<29	--	--	--	<110	--	--	<38	<23	--	--	47	--	--	<21	--
P-9	8	10/19/2010	302	<1,250	<1,250	<1,250	<1,250	<1,250	<1,250	<1,250	<1,250	<1,250	<1,250	<1,250	<1,250	<1,250	<1,250	<1,250	141,000	<1,250	<1,250	<1,250	<3,750	
SGP-9	2-4	12/12/2014	<1	--	<19	--	<21	<24	<29	--	--	--	<110	--	--	<38	<23	--	--	<28	--	--	<21	--
SGP-9	6-8	12/12/2014	<1	--	<19	--	<21	<24	<29	--	--	--	<110	--	--	<38	<23	--	--	<28	--	--	<21	--
P-10	8	10/19/2010	9	<25.0	<25.0	<25.0	<25.0	<25.0	72.9	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	596	<25.0	<25.0	<25.0	<75.0	
SGP-10	2-4	12/12/2014	<1	--	<19	--	<21	<24	<29	--	--	--	<110	--	--	<38	<23	--	--	<28	--	--	<21	--
SGP-10	4-6	12/12/2014	2	--	<19	--	<21	<24	<29	--	--	--	<110	--	--	<38	<23	--	--	<28	--	--	<21	--
SGP-10	4-6 (DUP)	12/12/2014	2	--	<19	--	<21	<24	<29	--	--	--	<110	--	--	<38	<23	--	--	<28	--	--	<21	--
SGP-10	7-9	12/12/2014	1	--	<19	--	<21	<24	<29	--	--	--	<110	--	--	<38	<23	--	--	<28	--	--	<21	--
P-11	6	10/19/2010	346	<500	<500	<500	<500	807	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	74,800	<500	<500	<500	<1,500	
P-12	6	10/19/2010	14	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	52.2	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	62.2	<25.0	<25.0	<25.0	<25.0	160.7
P-13	10	10/19/2010	15	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<75.0
P-14	8	10/20/2010	28	<25.0	<25.0	<25.0	<25.0	<25.0	1,810	293	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	233	<25.0	<25.0	<25.0	<109.9	
P-15	1	10/20/2010	30	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	419	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	57.0	<25.0	<25.0	<25.0	<75.0	
P-15	6	10/20/2010	44	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	3,920	<25.0	<25.0	<25.0	<92.4	
P-16	10	10/20/2010	9	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<75.0	
P-17	6	10/20/2010	8	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	119	<25.0	<25.0	<25.0	<25.0	<75.0
P-18	10	10/20/2010	47	<125	<125	<125	<125	8,510	1,730	<125	<125	<125	<125	<125	<125	<125	<125	37,900	<125	<125	<125	358	<375	
P-19	8	10/20/2010	172	<1,250	<1,250	<1,250	<1,250	3,180	<1,250	<1,250	<1,250	<1,250	<1,250	<1,250	<1,250	<1,250	<1,250	109,000	<1,250	<1,250	<1,250	<1,250	<3,750	
P-20	2	10/20/2010	<1	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	95.8	<25.0	<25.0	<25.0	<25.0	<75.0	
P-20	8	10/20/2010	4	<25.0	<25.0	<25.0	<25.0	<25.0	134	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	635	<25.0	<25.0	<25.0	<25.0	<75.0	
P-21	2	10/21/2010	4	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	890	<25.0	<25.0	<25.0	<		

Table 1
Soil Analytical Test Results Summary for VOCs (Detected Compounds On

Clare Central
1003 and 1033 West Atkinson Avenue
Milwaukee, Wisconsin
Terracon Project No. 58107058

Table 2
Groundwater Elevation Data

Clare Central
1003 and 1033 West Atkinson Avenue
Milwaukee, Wisconsin
Terracon Project No. 58107058A

Measured Location	Date	Depth to Groundwater ¹	Reference Elevation (top of casing)	Groundwater Elevation	Screened Interval
MW-1	3/16/2011	0.40	732.30	731.90	718.3 - 728.3
	4/22/2011	0.60	732.30	731.70	
	6/24/2011	0.75	732.30	731.55	
	2/12/2015	2.24	732.30	730.06	
	8/9/2016	3.49	732.30	728.81	
	5/11/2017	0.77	732.30	731.53	
MW-2	3/16/2011	4.06	730.65	726.59	715.7 - 725.7
	4/22/2011	2.55	730.65	728.10	
	6/24/2011	2.87	730.65	727.78	
	2/12/2015	6.37	730.65	724.28	
	8/9/2016	5.12	730.65	725.53	
	5/11/2017	3.00	730.65	727.65	
MW-3	3/16/2011	10.25	731.64	721.39	715.6 - 725.6
	4/22/2011	8.15	731.64	723.49	
	6/24/2011	8.60	731.64	723.04	
	2/12/2015	10.28	731.64	721.36	
	8/9/2016	10.61	731.64	721.03	
	5/11/2017	8.53	731.64	723.11	
MW-4	3/16/2011	9.91	731.93	722.02	716.9 - 726.9
	4/22/2011	5.71	731.93	726.22	
	6/24/2011	5.57	731.93	726.36	
	2/12/2015	7.53	731.93	724.40	
	8/9/2016	6.02	731.93	725.91	
	5/11/2017	4.04	731.93	727.89	
MW-5	3/16/2011	1.72	730.71	728.99	714.7 - 724.7
	4/22/2011	1.64	730.71	729.07	
	6/24/2011	3.56	730.71	727.15	
	2/12/2015	5.59	730.71	725.12	
	8/9/2016	7.34	730.71	723.37	
	5/11/2017	3.33	730.71	727.38	
MW-6	6/24/2011	dry	732.76	dry	716.8 - 726.8
	2/12/2015	6.14	732.76	726.62	
	8/9/2016	2.91	732.76	729.85	
	5/11/2017	3.35	732.76	729.41	
MW-7	6/24/2011	5.76	732.42	726.66	710.7 - 720.7
	2/12/2015	8.21	732.42	724.21	
	8/9/2016	7.88	732.42	724.54	
	5/11/2017	5.27	732.42	727.15	
MW-8	2/11/2015	13.44	728.48	715.04	713.0 - 723.0
	8/9/2016	9.01	728.48	719.47	
	5/11/2017	4.30	728.48	724.18	
MW-9	2/11/2015	Dry	728.38		713.1 - 723.1
	5/14/2015	5.08	728.38	723.30	
	8/9/2016	6.85	728.38	721.53	
	5/11/2017	3.47	728.38	724.91	
MW-10	2/11/2015	9.92	731.99	722.07	715.3 - 725.3
	8/9/2016	12.11	731.99	719.88	
	5/11/2017	4.71	731.99	727.28	
MW-11	8/9/2016	16.98	734.69	717.71	712.0 - 722.0
	5/11/2017	4.20	734.69	730.49	
PZ-1	5/14/2015	17.02	729.89	712.87	705.8 - 710.8
	5/11/2017	10.07	729.89	719.82	

Notes:

1. Depths to groundwater and bottom of well are measured from the top of well casing.
2. Monitoring wells MW-1 through MW-7 surveyed by Terracon Consultants on June 24, 2011, using fire hydrant on Northeast corner of 11th and Finn Streets as benchmark, elevation of 152.6 feet City of Milwaukee datum.
3. Monitoring wells MW-8 through MW-10 surveyed by Sigma on February 11, 2015. Elevations adjusted to MSL by adding 580.6 feet (district datum per MMSD, 2010)
4. Monitoring well MW-11 surveyed by Terracon on August 29, 2016.

Table 3
Groundwater Analytical Test Results Summary for Detected VOCs

Clare Central
1003 and 1033 West Atkinson Avenue
Milwaukee, Wisconsin
Terracon Project No. 58107058A

Sample ID	Sample Date	Detected VOCs (ug/L)														
		Benzene	Chloroform	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	Ethylbenzene	Toluene	1,1,2-Trichloroethane	Methylene Chloride	Trichloroethene	Vinyl Chloride	Xylene
	NR 140, WAC, PAL ¹	0.5	0.6	85	0.5	0.7	7	20	40	140	200	0.5	0.5	0.5	0.02	1,000
	NR 140, WAC, ES ²	5	6	850	5	7	70	100	200	700	1,000	5	5	5	0.2	10,000
TCN-GP-2	7/26/2006	37	0.82	5.9	2.12	7.8	1,900	79	<0.42	37	79	2.82	<0.61	8,100	19.2	24.1
TCN-GP-6	7/26/2006	<0.17	<0.61	<0.22	<0.72	<0.3	<0.5	<0.65	<0.42	<0.2	<0.59	<0.36	<0.61	<0.39	<0.11	<1.28
P-3	11/10/2010	<2.0	<6.5	5.1	2.3	<2.8	239	30	<4.5	<2.7	<3.4	<2.1	<2.2	102	89.0	<13.2
P-5	11/10/2010	<0.41	<1.3	<0.75	<0.36	<0.57	1.0	<0.89	<0.90	<0.54	<0.67	<0.42	<0.43	5.2	1.6	<2.63
P-7	11/10/2010	<0.41	<1.3	<0.75	<0.36	<0.57	<0.83	<0.89	<0.90	<0.54	<0.67	<0.42	0.58	<0.48	1.1	<2.63
P-9	11/10/2010	<0.41	<1.3	3.1	3.0	1.3	12.3	<0.89	2.8	<0.54	<0.67	<0.42	0.65	113	<0.18	<2.63
P-12	11/10/2010	<0.41	<1.3	<0.75	<0.36	<0.57	<0.83	<0.89	<0.90	<0.54	<0.67	<0.42	<0.43	<0.48	<0.18	<2.63
P-17	11/10/2010	<0.41	<1.3	<0.75	<0.36	<0.57	<0.83	<0.89	<0.90	<0.54	<0.67	<0.42	0.43	<0.48	<0.18	<2.63
P-18	11/10/2010	<8.2	<26.0	<15.0	<7.2	<11.4	1,830	325	<18.0	<10.8	<13.4	<8.4	<8.6	1,500	262	<52.6
P-24	11/10/2010	<82.0	<260	<150	<72.0	253	17,900	1,380	<180	<108	<134	<84.0	<86.0	6,790	2,310	<526
P-27	11/10/2010	<1.0	<3.2	<1.9	<0.90	<1.4	138	11.3	7.3	<1.4	<1.7	<1.0	<1.1	74.4	<0.45	<6.6
P-28	6/23/2016	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.50	<0.23	0.35	<0.18	<1.50
STW-1	5/14/2015	0.54	<0.43	2.82	<0.54	1.27	320	36	19	<0.71	<0.44	<0.48	<1.3	740	1.8	<0.9
STW-2	5/14/2015	<0.44	<0.43	<1.1	<0.54	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	<0.47	<0.17	<0.9
STW-3	1/9/2015	<0.44	<0.43	<1.1	<0.54	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	<0.47	<0.17	<0.9
STW-4	1/9/2015	<0.44	<0.43	<1.1	<0.54	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	<0.47	<0.17	<0.9
East Sump	3/30/2011	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<1.0	0.98	<0.20	<0.50
	2/12/2015	<0.44	<0.43	<1.1	0.81	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	2.12	<0.17	<3.1
MW-1	3/30/2011	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<1.0	<0.20	<0.20	<0.50
	2/12/2015	<0.44	<0.43	<0.65	<0.54	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	<0.47	<0.17	<3.1
	5/11/2017	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	<0.33	<0.18	<1.50
MW-2	3/30/2011	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<1.0	<0.20	38	<0.50
	2/12/2015	<0.44	<0.43	<1.1	<0.54	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	<0.47	23.7	<3.1
	5/11/2017	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	<0.33	60.7	<1.5
Duplicate	5/11/2017	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	<0.33	60.9	<1.50
MW-3	3/30/2011	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<1.0	<0.20	<0.20	<0.50
	3/30/2011	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<1.0	<0.20	<0.20	<0.50
	2/12/2015	<0.44	<0.43	<1.1	<0.54	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	<0.47	<0.17	<3.1
	5/11/2017	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	<0.33	<0.18	<1.5
DUP 1	3/30/2011	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<1.0	<0.20	<0.20	<0.50
	3/30/2011	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<1.0	<0.20	<0.20	<0.50
	2/12/2015	<0.44	<0.43	<1.1	<0.54	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	<0.47	<0.17	<3.1
	5/11/2017	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	<0.33	<0.18	<1.5

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Milwaukee, Wisconsin
Terracon Project No. 58107058A

Sample ID	Sample Date	Detected VOCs (ug/L)														
		Benzene	Chloroform	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	Ethylbenzene	Toluene	1,1,2-Trichloroethane	Methylene Chloride	Trichloroethene	Vinyl Chloride	Xylene
	NR 140, WAC, PAL ¹	0.5	0.6	85	0.5	0.7	7	20	40	140	200	0.5	0.5	0.5	0.02	1,000
	NR 140, WAC, ES ²	5	6	850	5	7	70	100	200	700	1,000	5	5	5	0.2	10,000
MW-4	3/30/2011	35	<32	<80	<80	<80	1,700	<32	<80	<80	130	<40	<160	16,000	<32	80
	2/12/2015	<220	<215	<550	<270	<325	5,600	<270	<420	<355	<220	<240	<650	31,000	140	<1,550
	2/12/2015	<220	<215	<550	<270	<325	5,700	275	<420	<355	<220	<240	<650	31,200	130	<1,550
	5/11/2017	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-5	3/30/2011	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<1.0	<0.20	<0.20	<0.50
	2/12/2015	<0.44	<0.43	<1.1	<0.54	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	<0.47	<0.17	<3.1
	5/11/2017	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	<0.33	<0.18	<1.5
*MW-6	6/24/2011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/12/2015	<0.44	<0.43	<1.1	<0.54	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	<0.47	<0.17	<3.1
	5/11/2017	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	<0.33	<0.18	<1.5
MW-7	6/24/2011	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<1.0	<0.20	<0.20	<0.50
	2/12/2015	<0.44	<0.43	<1.1	<0.54	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	<0.47	<0.17	<3.1
	5/11/2017	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	<0.33	<0.18	<1.5
MW-8	2/11/2015	<0.44	<0.43	<1.1	<0.54	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	<0.47	<0.17	<3.1
	5/11/2017	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	<0.33	<0.18	<1.5
MW-9	2/11/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/14/2015	<0.44	<0.43	<1.1	<0.54	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	0.49	<0.17	<3.1
	5/11/2017	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	<0.33	<0.18	<1.5
MW-10	2/11/2015	<0.44	<0.43	<1.1	<0.54	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	<0.47	<0.17	<3.1
	8/11/2016	<0.50	<2.5	<0.24	<0.17	<0.41	0.37	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	2.6	<0.18	<1.50
	5/11/2017	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	<0.33	<0.18	<1.5
MW-11	8/11/2016	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	<0.33	<0.18	<1.50
	5/11/2017	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	<0.33	<0.18	<1.5
PZ-1	5/14/2015	<0.44	<0.43	<1.1	<0.54	<0.65	<0.45	<0.54	<0.84	<0.71	<0.44	<0.48	<1.3	0.49	<0.17	<3.1
	5/11/2017	<0.50	<2.5	<0.24	<0.17	<0.41	<0.26	<0.26	<0.50	<0.50	<0.50	<0.20	<0.23	<0.33	<0.18	<1.5

Notes:

" < " Indicates not detected above listed analytical method detection limit (MDL)

Blue, Italic values indicate listed concentration above its respective NR 140, WAC, PAL

Bold, underlined, red values indicates listed concentration above its respective NR 140, WAC, ES

¹NR 140, Wisconsin Administrative Code, Preventive Action Limit (PAL)

²NR 140, Wisconsin Administrative Code, Enforcement Standard (ES)

ug/L = Micrograms per Liter

-- = Not analyzed

* = Monitoring well dry

Table 4
Air Analytical Test Results Summary
CVOCs
Clare Central
1003 and 1033 West Atkinson Avenue
Milwaukee, Wisconsin
Terracon Project No. 58107058A

Sample ID	Sample Type	Sample Depth (inches)	Sample Date	Sampling Method	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethylene	Trichloroethylene	Vinyl Chloride
Ambient & Sub-Slab Samples: February - March 2011									
SS-1 (1003 West Atkinson)	Sub-slab	6	2/11/2011	1-Liter Summa Canister with 24-hour grab sample	47.7	2.8	3.1	<u>5.130</u>	<0.86
Ambient 1003	Ambient air	surface	3/17/2011	1-Liter Summa Canister with 24-hour grab sample	3.6	<3.2	2.3	80	<2.0
Subslab 1003	Sub-slab	6	3/17/2011	1-Liter Summa Canister with 24-hour grab sample	56	<3.6	<4.9	<u>2.500</u>	<9.3
SS-2 (1033 West Atkinson)	Sub-slab	6	2/11/2011	1-Liter Summa Canister with 24-hour grab sample	<29.2	<29.2	<50.4	<u>89.8</u>	<18.7
Ambient 1033	Ambient air	surface	3/17/2011	1-Liter Summa Canister with 24-hour grab sample	<0.95	<0.79	<1.1	3.1	2.0
Subslab 1033	Sub-slab	6	3/17/2011	1-Liter Summa Canister with 24-hour grab sample	<18	<15	<21	44	<14
Ambient Air Samples: July 2012									
Ambient 1003 Atkinson	Ambient air	surface	1/30/2012	1-Liter Summa Canister with 24-hour grab sample	0.40	<0.20	0.17	5.5	<0.20
Ambient 1033 Atkinson	Ambient air	surface	1/30/2012	1-Liter Summa Canister with 24-hour grab sample	<0.20	<0.20	<0.20	<0.20	<0.20
Ambient Air Samples: March-July 2013									
1003 Ambient	Ambient air	surface	3/28/2013	1-Liter Summa Canister with 24-hour grab sample	37.9	<8.4	<7.2	841	<2.7
1033 Ambient	Ambient air	surface	3/28/2013	1-Liter Summa Canister with 24-hour grab sample	<1.6	<1.6	4.7	<1.1	<0.52
IA1 (1003) Unit #1 Kitchen Counter -1st Floor	Ambient air	surface	7/17/2013	1-Liter Summa Canister with 24-hour grab sample	<2.35	<2.35	<2.35	<2.35	<2.35
IA2 (1003) Sump Closet 1st Floor	Ambient air	surface	7/17/2013	1-Liter Summa Canister with 24-hour grab sample	<2.35	<2.35	<2.35	4.86	<2.35
IA3 (1003) Mechanical Closet - 2nd floor	Ambient air	surface	7/17/2013	1-Liter Summa Canister with 24-hour grab sample	<2.35	<2.35	<2.35	<2.35	<2.35
IA4 (1003) Storage Room - Second Floor	Ambient air	surface	7/17/2013	1-Liter Summa Canister with 24-hour grab sample	<2.35	<2.35	<2.35	<2.35	<2.35
1A5 (1033) Unit #2 Kitchen Counter - 1st Floor	Ambient air	surface	7/17/2013	1-Liter Summa Canister with 24-hour grab sample	<2.35	<2.35	<2.35	<2.35	<2.35
IA6 (1033) Unit #5 Kitchen Counter - 2nd Floor	Ambient air	surface	7/17/2013	1-Liter Summa Canister with 24-hour grab sample	<2.35	<2.35	<2.35	<2.35	<2.35
OA (1033) Unit #5 Porch - 2nd Floor	Ambient air	surface	7/17/2013	1-Liter Summa Canister with 24-hour grab sample	--	--	--	<2.35	--
Sub-Slab Vapor Risk Screening Levels - Residential ¹					µg/m ³	--	--	<u>1400</u>	<u>70.0</u>
Vapor Action Level ²					µg/m ³	--	--	42	2.1
									1.7

Sample ID	Sample Type	Sample Depth (inches)	Sample Date	Sampling Method	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	
Ambient Air Samples: September 2016										
Sump Closet - 1st floor (1003)	Ambient air	surface	9/15/2016	1-Liter Summa Canister with 24-hour grab sample	<0.37	<0.57	<0.41	<0.41	<0.29	
Unit #1 Kitchen - 1st floor (1003)	Ambient air	surface	9/15/2016	1-Liter Summa Canister with 24-hour grab sample	<0.38	<0.60	<0.43	<0.43	<0.30	
Mechanical Closet - 2nd Floor (1003)	Ambient air	surface	9/15/2016	1-Liter Summa Canister with 24-hour grab sample	<0.40	<0.62	<0.45	2.0	<0.31	
Storage Room - 2nd Floor (1003)	Ambient air	surface	9/15/2016	1-Liter Summa Canister with 24-hour grab sample	<0.40	<0.62	<0.45	<0.44	<0.31	
Unit #2 Kitchen - 1st Floor (1033)	Ambient air	surface	9/15/2016	1-Liter Summa Canister with 24-hour grab sample	<0.40	<0.62	<0.45	<0.44	<0.31	
Unit #5 - 2nd Floor (1033)	Ambient air	surface	9/15/2016	1-Liter Summa Canister with 24-hour grab sample	<0.40	<0.62	<0.45	<0.44	<0.31	
Unit #5 - Outdoor Air (1033)	Ambient air	surface	9/15/2016	1-Liter Summa Canister with 24-hour grab sample	<0.40	<0.62	<0.45	<0.44	<0.31	
Ambient Air Samples: January 2018										
Sump Closet - 1st floor (1003)	Ambient air	surface	1/18/2018	1-Liter Summa Canister with 24-hour grab sample	<0.51	<0.44	0.74	<0.40	<0.19	
Unit #1 Kitchen - 1st floor (1003)	Ambient air	surface	1/18/2018	1-Liter Summa Canister with 24-hour grab sample	<0.53	<0.46	<0.44	<0.42	<0.20	
Mechanical Closet - 2nd Floor (1003)	Ambient air	surface	1/18/2018	1-Liter Summa Canister with 24-hour grab sample	<0.51	<0.44	<0.43	<0.40	<0.19	
Storage Room - 2nd Floor (1003)	Ambient air	surface	1/18/2018	1-Liter Summa Canister with 24-hour grab sample	<0.49	<0.42	<0.41	0.68	<0.18	
Unit #2 Kitchen - 1st Floor (1033)	Ambient air	surface	1/18/2018	1-Liter Summa Canister with 24-hour grab sample	<0.52	<0.45	<0.44	<0.41	<0.19	
Unit #3 Kitchen - 1st Floor (1033)	Ambient air	surface	1/18/2018	1-Liter Summa Canister with 24-hour grab sample	<0.53	<0.46	<0.44	<0.42	<0.20	
Unit #6 Kitchen - 1st Floor (1033)	Ambient air	surface	1/18/2018	1-Liter Summa Canister with 24-hour grab sample	<0.54	<0.47	<0.45	<0.42	<0.20	
Unit #7 Kitchen - 1st Floor (1033)	Ambient air	surface	1/18/2018	1-Liter Summa Canister with 24-hour grab sample	<0.51	<0.44	<0.43	2	<0.19	
Unit #7 Porch - Outdoor Air (1033)	Ambient air	surface	1/18/2018	1-Liter Summa Canister with 24-hour grab sample	<0.47	<0.41	<0.40	<0.37	<0.18	
Sub-Slab Vapor Risk Screening Levels - Residential ¹					µg/m³	--	--	1400	70.0	57
Vapor Action Level ²					µg/m³	--	--	42	2.1	1.7

Notes:

All concentrations are in micrograms per cubic meter (µg/m³)

CVOCs = Chlorinated Volatile Organic Compounds

" < " Indicates not detected above listed limit of detection (LOD); " -- " Indicates standard not established, not calculated or not analyzed

¹ Screening value is the Vapor Action Level adjusted for sub-slab residential indoor air

by applying an attenuation factor of 0.03 (dilution factor of 33) for comparison with the analytical results.

² Vapor Action Level for residential indoor air given as the lesser of 1:100,000 lifetime cancer risk or noncancer at

hazard index value of 1 in generic U.S EPA Tables at the web address:

<https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-may-2016> (updated November 2017)

and modified for Wisconsin Vapor Intrusion Guidance PUB-RR-800 lifetime cancer risk (1:100,000)

BOLD TYPE = Values indicate EPA residential indoor air Vapor Action Level (VAL) exceedances

Underlined/Italic Type = Values indicate EPA residential sub-slab Vapor Risk Screening Level (VRSL) exceedances

VAPOR MITIGATION SYSTEM MAINTENANCE PLAN

March 28, 2018

Property Located at: Clare Central Apartments
1003 and 1033 West Atkinson Avenue
Milwaukee, Milwaukee County, Wisconsin
WDNR BRRTS/Activity # 02-41-549867

Tax Parcel Number: # 2722701210

Introduction

This document is the Maintenance Plan for the four (4) sub-slab depressurization systems (SSDSs) which are installed in the Clare Central Apartments located at 1003 and 1033 West Atkinson Avenue, Milwaukee, Wisconsin, in accordance with the requirements of s. NR 724.13(2), Wisconsin Administrative Code. The four SSDS are designated as: 1) 1003 Shed, 2) 1003 Storage Closet, 3) 1033 Shed, and 4) 1033 Storage Closet. The maintenance activities relate to the SSDS mitigating potential sub-slab chlorinated volatile organic compound vapors (CVOCs) from beneath the apartment complexes.

More site-specific information about this property may be found with:

- The case file in the DNR Southeastern Region Office
- BRRTS on the Web (DNR's internet based data base of contaminated sites):
<http://dnr.wi.gov/botw/setUpBasicSearchForm.do>
- GIS Registry PDF file for further information on the nature and extent of contamination:
<http://dnrmmaps.wisconsin.gov/imf/imf.jsp?site=brrts2>; and
- The DNR project manager for the property: Mr. Dave Volkert

Description of Contamination

Trichloroethene (TCE), the main contaminant of concern, along with other CVOCs, were reported in soil, groundwater, vapor, and air at concentrations exceeding applicable standards. In response to TCE detections at concentrations above the vapor risk screening levels (VRSLs) and the vapor action level (VALs) for the sub-slab and ambient air samples, respectfully, at both the 1003 and 1033 West Atkinson Avenue apartments, SSDS were installed in each apartment complex (1003 Storage Closet and 1033 Storage Closet) in May 2011 as an interim action to mitigate CVOC vapor intrusion. In June 2016, two supplemental SSDSs were installed in storage sheds adjacent to the apartments (1003 Shed and 1033 Shed). A soil TCE Isoconcentration Map (8-12 feet below ground surface), showing the estimated extent of CVOC impacted soil is presented on the attached Figure D.1.a. Maps showing the locations of the SSDSs are presented on the attached Figure D.1.b and D.1.C, for the 1033 and 1003 complexes, respectively.

Description of the SSDS

The May 2011 SSDS installation within the apartments (1003 Storage Closet and 1033 Storage Closet) consisted of the following: One suction drop pit was clean drilled through the buildings' concrete floors to the subsoil in both buildings. The drops were installed adjacent to sump crocks and / elevators and adjacent entrances internal to the footing. PVC effluent pipe (4-inch diameter) was interconnected from the floor, through the walls, and to approximately 32 inches above the rooflines. Manometers were installed on the riser pipes below the fans. A vapor ventilation suction fan was secured on the outside of each of the buildings to supply the needed vacuum. In addition,

the sumps in each building were sealed with caps to prevent loss of vacuum. The June 2016 SSDS installation within the apartment storage sheds (1003 Shed and 1033 Shed) consisted of the following: One suction drop pit was clean drilled through the sheds concrete floors, and gravel removed to facilitate soil vapor collection. A flat sump lid was then sealed to the concrete, and transition hub installed in the lid. Three inch PVC pipe was installed to above shelf heights, and the fan was installed on top of the riser pipe. The discharge pipe was run through the roof of the storage sheds for final discharge. Manometers were installed on the riser pipes below the fans. Photographs of the SSDSs are attached.

SSDS Purpose

The SSDS is designed to mitigate potential vapors beneath the building slab, and interrupt the vapor exposure pathway that might otherwise pose a threat to human health. Based on the current and future use of the property, the SSDS should function as intended unless disturbed.

Annual Inspection

The four, existing SSDSs (locations depicted on Figure D.1.b and Figure D.1.c) will be inspected semi-annually, to evaluate operational integrity, and manometer readings recorded. The inspection will be performed by the property owner or their designated representative. The inspection will be performed to confirm equipment operation, exposure to the weather, and other factors.

A log of the inspections and any repairs will be maintained by the property owner and is included as *Continuing Obligations Inspection and Maintenance Log* (Form 4400-305). The log will include recommendations for equipment repair/maintenance, if needed. Once repairs are completed, they will be documented in the inspection log. A copy of the inspection log will be kept at the address of the property owner and available for submittal or inspection by Wisconsin Department of Natural Resources ("WDNR") representatives upon their request. The *Continuing Obligations Inspection and Maintenance Log* is attached.

Maintenance Activities

The following items will be inspected on a semi-annual basis:

1) Soil gas pickup point, 2) All connecting piping & discharge piping, 3) Manometer (record current reading & compare to startup), and 4) Fan operation. The owner/representative will be questioned concerning operation of the system. Specifically, the owner/representative will be asked if the system has operated continuously, if there is any unusual noise, etc. The owner/representative will be reminded to check the manometer regularly as that is the primary run indicator, and the normal operation parameters will be discussed/reviewed with the owner/representative.

In the event the SSDS or building in the area of the SSDS are removed or replaced, the replacement SSDS will be subject to the same maintenance and inspection guidelines as outlined in this Maintenance Plan unless indicated otherwise by the WDNR or its successor.

The property owner, in order to maintain the integrity of the SSDS, will maintain a copy of this Maintenance Plan on-site and make it available to all interested parties (i.e. on-site employees, contractors, future property owners, etc.) for viewing.

Amendment or Withdrawal of Maintenance Plan

This Maintenance Plan can be amended or withdrawn by the property owner and its successors with the written approval of WDNR.

Contact Information (March 2018)

Site Owner and Operator: Sister Janet Neureuther
Telos, Inc.
1545 South Layton Boulevard
Milwaukee, Wisconsin 53215
(414) 385-5328

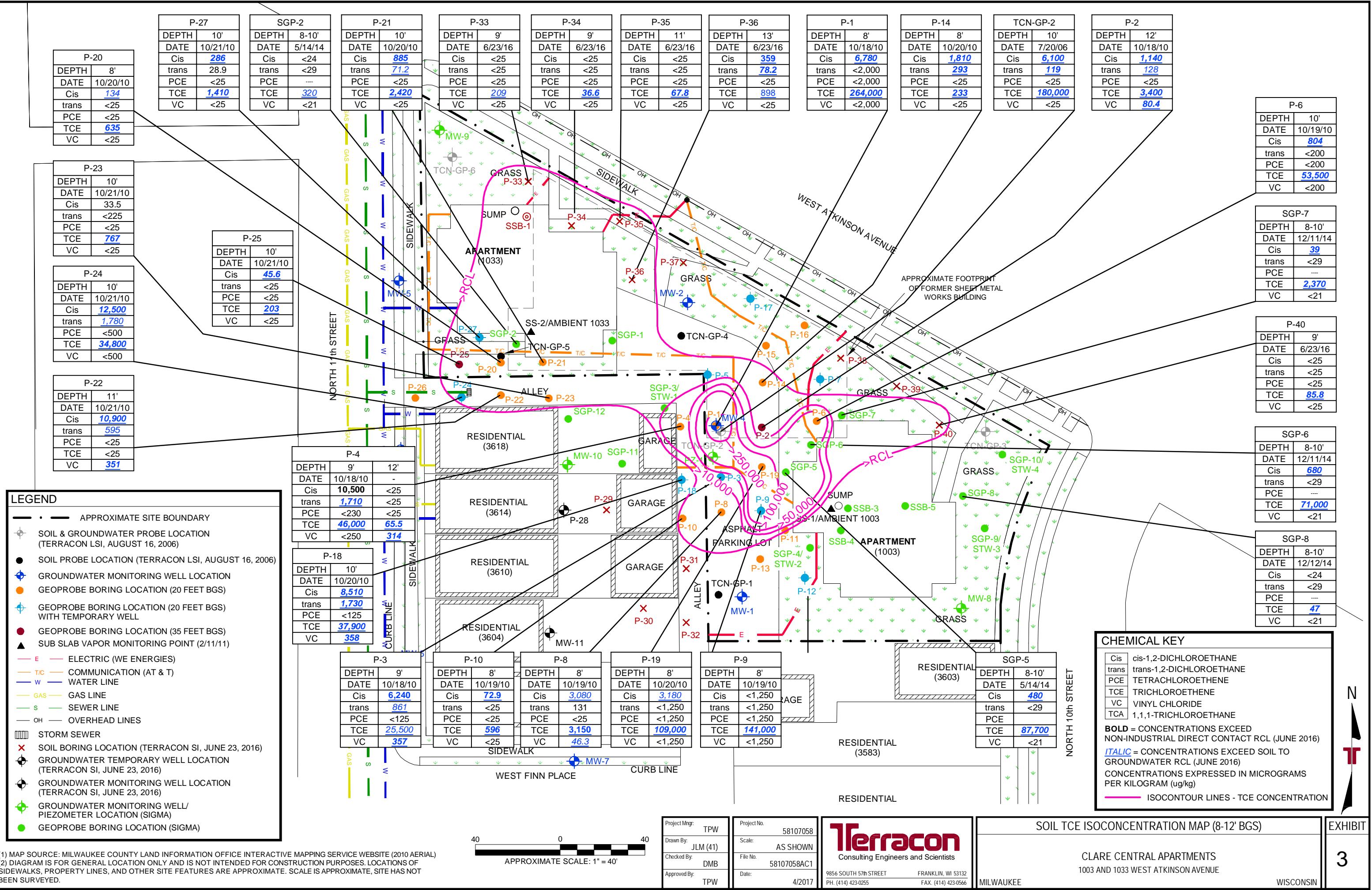
Printed Name: Sister Janet Neureuther, OSF

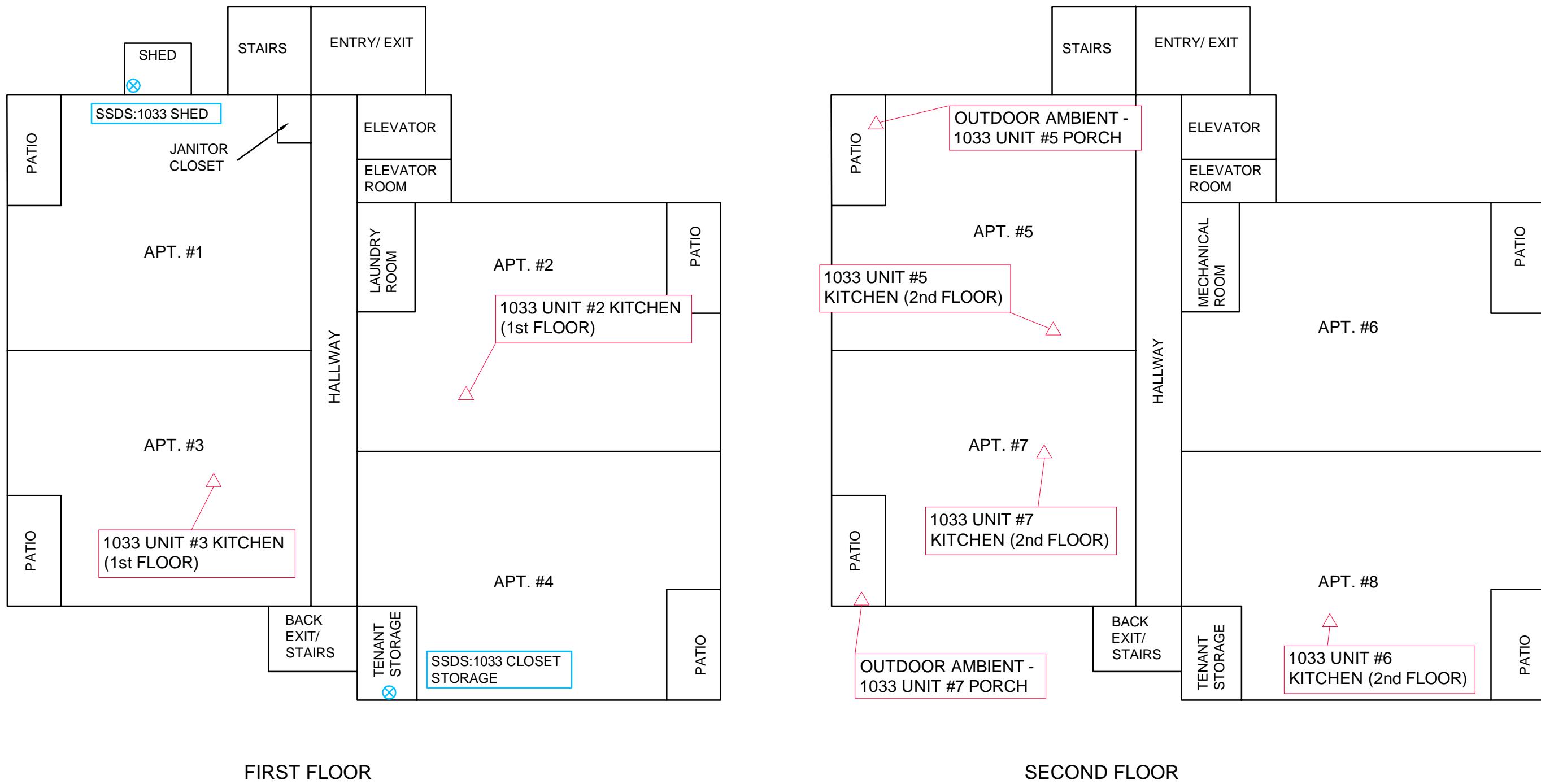
Signature: Sister Janet Neureuther, OSF

Consultant: Terracon Consultants Inc.
9856 South 57th Street
Franklin, Wisconsin 53132
(414) 423-0255
Contact: Tim Welch

WDNR: Wisconsin Department of Natural Resources
Waukesha Service Center
141 NW Barstow Street
Waukesha, Wisconsin 53188
(262) 574-2166
Contact: Dave Volkert

SSDS Contractor: Acura Services, LLC
Oregon, Wisconsin 53575
(608) 772-2349
Contact: Tony Hendricks




LEGEND

- ▲ AMBIENT AIR SAMPLE LOCATION
- ⊗ SSDS PICKUP POINT LOCATION
- SSDS: SUB-SLAB DEPRESSURIZATION SYSTEM

DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

Project Mgr:	TPW	Project No.	58107058
Drawn By:	JLM (41)	Scale:	NOT TO SCALE
Checked By:	DMB	File No.	58107058AC1R1
Approved By:	TPW	Date:	3/2018

Terracon	Consulting Engineers and Scientists
9856 SOUTH 57th STREET PH. (414) 423-0255	FRANKLIN, WI 53132 FAX. (414) 423-0566

SUB-SLAB DEPRESSURIZATION SYSTEM & AMBIENT AIR SAMPLING LOCATIONS - 1033 BUILDING	
CLARE CENTRAL APARTMENTS 1033 WEST ATKINSON AVENUE	WISCONSIN

EXHIBIT
D.1.b

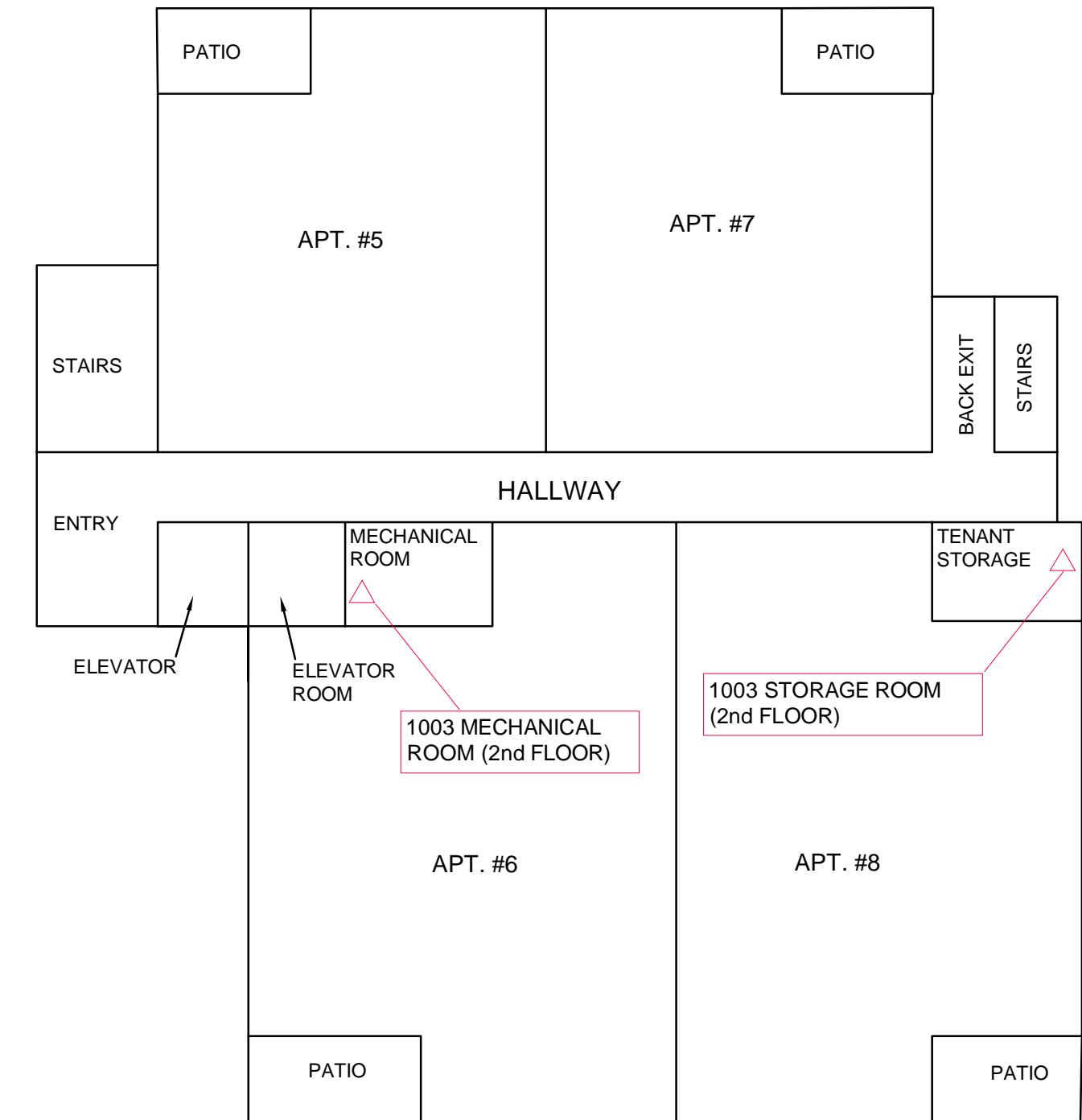
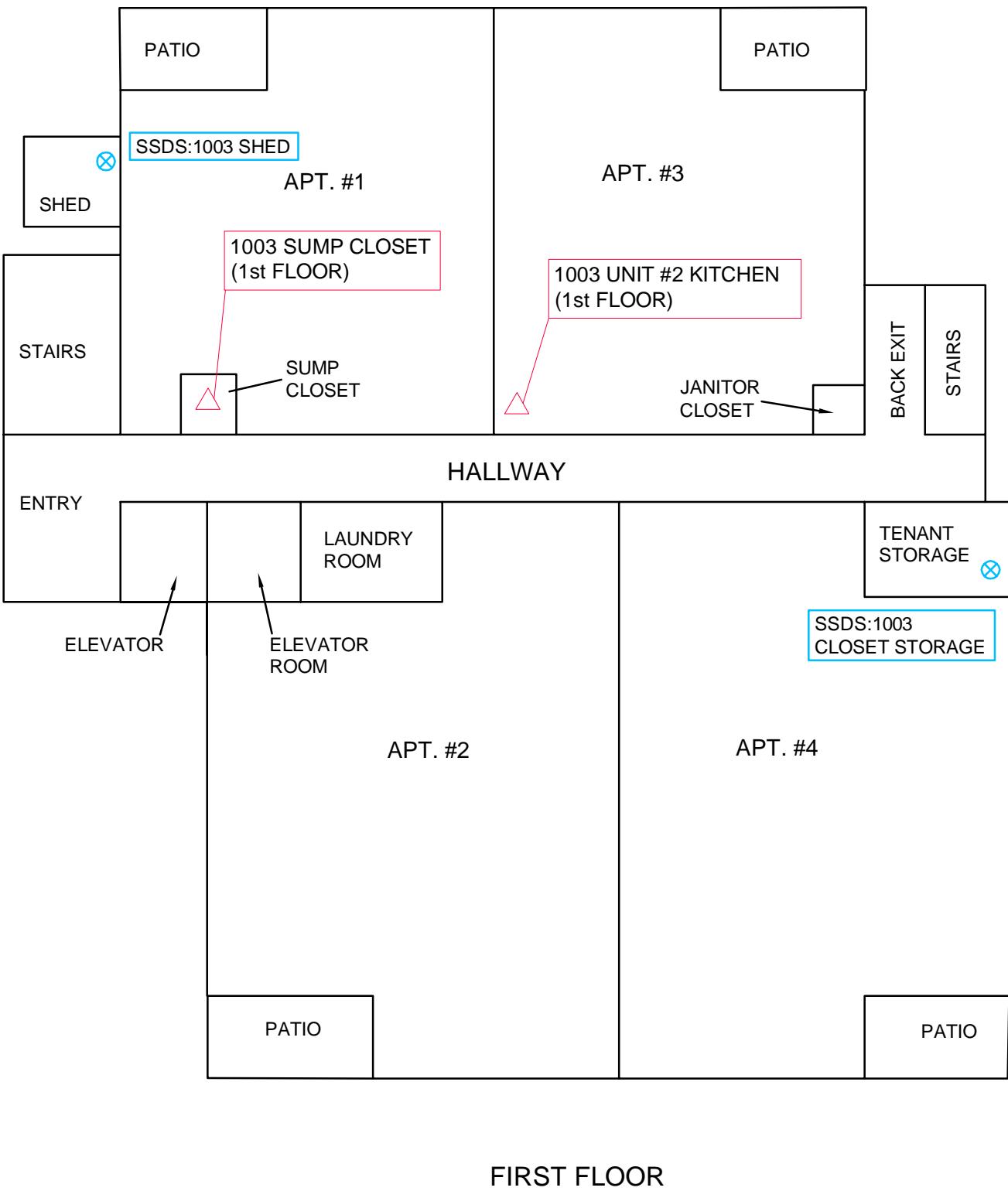


DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

LEGEND	
△	AMBIENT AIR SAMPLE LOCATION
⊗	SSDS PICKUP POINT LOCATION
	SSDS: SUB-SLAB DEPRESSURIZATION SYSTEM

Project Mgr:	TPW
Drawn By:	JLM (41)
Checked By:	DMB
Approved By:	TPW
Project No.	58107058
Scale:	NOT TO SCALE
File No.	58107058AC1R1
Date:	3/2018

Terracon Consulting Engineers and Scientists
9856 SOUTH 57th STREET PH. (414) 423-0255
FRANKLIN, WI 53132 FAX. (414) 423-0566

SUB-SLAB DEPRESSURIZATION SYSTEM & AMBIENT AIR SAMPLING LOCATIONS - 1003 BUILDING CLARE CENTRAL APARTMENTS 1003 WEST ATKINSON AVENUE MILWAUKEE
WISCONSIN



EXHIBIT
D.1.c



Photograph looking south at 1003 West Atkinson Closet SSDS exterior piping on east side of building.



Photograph looking at SSDS system inside 1003 West Atkinson closet located inside the east side of building.



Photograph looking at 1003 West Atkinson closet SSDS manometer located in east side of building.



Photograph looking at 1003 West Atkinson sealed sump located across the hall from the elevator.



Photograph looking east at 1003 West Atkinson Shed SSDS exterior piping on west side of building.



Photograph looking at SSDS system inside 1003 West Atkinson shed located on west side of building.



Photograph looking at 1003 West Atkinson Shed SSDS manometer.



Photograph looking west at 1033 West Atkinson Closet SSDS system and exterior piping on south side of building.



Photograph looking at SSDS system piping inside 1033 West Atkinson closet located in south side of building.



Photograph looking at 1033 West Atkinson Closet SSDS manometer.



Photograph looking at 1033 West Atkinson sealed sump located across the hall from elevator.



Photograph looking south at 1033 West Atkinson Shed SSDS exterior piping on north side of building.



Photograph looking at SSDS system inside 1033 West Atkinson shed located on north side of building.



Photograph looking at 1033 West Atkinson Shed SSDS manometer.

Directions: In accordance with s. NR 727.05 (1) (b) 3., Wis. Adm. Code, use of this form for documenting the inspections and maintenance of certain continuing obligations is required. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31-19.39, Wis. Stats.]. When using this form, identify the condition that is being inspected. See the closure approval letter for this site for requirements regarding the submittal of this form to the Department of Natural Resources. A copy of this inspection log is required to be maintained either on the property, or at a location specified in the closure approval letter. Do NOT delete previous inspection results. This form was developed to provide a continuous history of site inspection results. The Department of Natural Resources project manager is identified in the closure letter. The project manager may also be identified from the database, BRRTS on the Web, at <http://dnr.wi.gov/botw/ SetUpBasicSearchForm.do>, by searching for the site using the BRRTS ID number, and then looking in the "Who" section.

Activity (Site) Name Clare Central Apartment- 1003 Storage Closet				BRRTS No. 02-41-549867		
Inspections are required to be conducted (see closure approval letter): <input type="radio"/> annually <input checked="" type="radio"/> semi-annually <input type="radio"/> other – specify _____			When submittal of this form is required, submit the form electronically to the DNR project manager. An electronic version of this filled out form, or a scanned version may be sent to the following email address (see closure approval letter):			
Inspection Date	Inspector Name	Item	Describe the condition of the item that is being inspected	Recommendations for repair or maintenance	Previous recommendations implemented? <input type="radio"/> Y <input type="radio"/> N	Photographs taken and attached? <input type="radio"/> Y <input checked="" type="radio"/> N
03/22/2017	Paul Lenaker	<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input checked="" type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:	SSDS Functioning Manometer: 0.75"WC		<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input checked="" type="radio"/> N
08/14/2017	Paul Lenaker	<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input checked="" type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:	SSDS Functioning Manometer: 0.75"WC		<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input checked="" type="radio"/> N
01/18/2018	Paul Lenaker	<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input checked="" type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:	SSDS Functioning Manometer: 0.75"WC		<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N

02-41-549867

BRRTS No.

Clare Central Apartment- 1003 Storage Closet

Activity (Site) Name

Continuing Obligations Inspection and Maintenance Log

Form 4400-305 (2/14)

Page 2 of 2

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Directions: In accordance with s. NR 727.05 (1) (b) 3., Wis. Adm. Code, use of this form for documenting the inspections and maintenance of certain continuing obligations is required. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31-19.39, Wis. Stats.]. When using this form, identify the condition that is being inspected. See the closure approval letter for this site for requirements regarding the submittal of this form to the Department of Natural Resources. A copy of this inspection log is required to be maintained either on the property, or at a location specified in the closure approval letter. Do NOT delete previous inspection results. This form was developed to provide a continuous history of site inspection results. The Department of Natural Resources project manager is identified in the closure letter. The project manager may also be identified from the database, BRRTS on the Web, at <http://dnr.wi.gov/botw/ SetUpBasicSearchForm.do>, by searching for the site using the BRRTS ID number, and then looking in the "Who" section.

Activity (Site) Name				BRRTS No.			
Clare Central Apartment- 1003 Shed				02-41-549867			
Inspections are required to be conducted (see closure approval letter): <input type="radio"/> annually <input checked="" type="radio"/> semi-annually <input type="radio"/> other – specify _____				When submittal of this form is required, submit the form electronically to the DNR project manager. An electronic version of this filled out form, or a scanned version may be sent to the following email address (see closure approval letter):			
Inspection Date	Inspector Name	Item	Describe the condition of the item that is being inspected	Recommendations for repair or maintenance		Previous recommendations implemented?	Photographs taken and attached?
08/14/2017	Paul Lenaker	<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input checked="" type="checkbox"/> vapor mitigation system <input type="checkbox"/> other: SSDS Functioning Manometer: 1.1"WC				<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input checked="" type="radio"/> N
01/18/2018	Paul Lenaker	<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input checked="" type="checkbox"/> vapor mitigation system <input type="checkbox"/> other: SSDS Functioning Manometer: 1.0"WC				<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input checked="" type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:				<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N

02-41-549867

BRRTS No.

Clare Central Apartment- 1003 Shed

Activity (Site) Name

Continuing Obligations Inspection and Maintenance Log

Form 4400-305 (2/14)

Page 2 of 2

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Activity (Site) Name Clare Central Apartment- 1033 Storage Closet				BRRTS No. 02-41-549867		
Inspections are required to be conducted (see closure approval letter): <input type="radio"/> annually <input checked="" type="radio"/> semi-annually <input type="radio"/> other – specify _____			When submittal of this form is required, submit the form electronically to the DNR project manager. An electronic version of this filled out form, or a scanned version may be sent to the following email address (see closure approval letter):			
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03/22/2017	Paul Lenaker	<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input checked="" type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:	SSDS Functioning Manometer: 0.5"WC		<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input checked="" type="radio"/> N
08/01/2017	Paul Lenaker	<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input checked="" type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:	SSDS Functioning Manometer: 0.6"WC		<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input checked="" type="radio"/> N
01/18/2018	Paul Lenaker	<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input checked="" type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:	SSDS Functioning Manometer: 0.5"W		<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N

02-41-549867

BRRTS No.

Clare Central Apartment- 1033 Storage Closet

Activity (Site) Name

Continuing Obligations Inspection and Maintenance Log

Form 4400-305 (2/14)

Page 2 of 2

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Activity (Site) Name Clare Central Apartment- 1033 Shed				BRRTS No. 02-41-549867		
Inspections are required to be conducted (see closure approval letter): <input type="radio"/> annually <input checked="" type="radio"/> semi-annually <input type="radio"/> other – specify _____				When submittal of this form is required, submit the form electronically to the DNR project manager. An electronic version of this filled out form, or a scanned version may be sent to the following email address (see closure approval letter):		
Inspection Date	Inspector Name	Item	Describe the condition of the item that is being inspected	Recommendations for repair or maintenance	Previous recommendations implemented?	Photographs taken and attached?
08/14/2017	Paul Lenaker	<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input checked="" type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:	SSDS Functioning Manometer: 1.2"WC		<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input checked="" type="radio"/> N
01/18/2018	Paul Lenaker	<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input checked="" type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:	SSDS Functioning Manometer: 1.3"WC		<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input checked="" type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N

02-41-549867

BRRTS No.

Clare Central Apartment- 1033 Shed

Activity (Site) Name

Continuing Obligations Inspection and Maintenance Log

Form 4400-305 (2/14)

Page 2 of 2

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