Phase 2 Environmental Site Assessment

2801 Marshall Court
Shorewood Hills, Wisconsin

Prepared for:

Stone House Development, Inc.
1010 East Washington Avenue
Madison, Wisconsin 53705

SCS ENGINEERS

25218152.00 | October 3, 2018

2830 Dairy Drive
Madison, WI 53718-6751
608-224-2830

October 3, 2018
File No. 25218152.00

Mr. Richard Arnesen, Vice President
Stone House Development, Inc.
1010 East Washington Avenue
Madison, WI 53705

Subject: Phase 2 Environmental Site Assessment Report
2801 Marshall Court, Shorewood Hills, Wisconsin

Dear Rich:

SCS Engineers (SCS) is providing the following report for the Phase 2 Environmental Site Assessment (ESA) for the 2801 Marshall Court Property (hereafter the Property). The Property is owned by Marshall Court Investors, LLC, and consists of approximately 0.75 acre in total, with a vacant building and parking area at 2801 Marshall Court, and an additional parking area at 2725 Marshall Court. The location of the Property is shown on **Figure 1**. The existing conditions at the Property are shown on **Figure 2**.

The Phase 2 ESA was conducted to address the recognized environmental conditions (RECs) identified in the Phase 1 ESA conducted for the Property (SCS, 2018). The Phase 2 investigation focused on potential impacts to soil and groundwater on the Property associated with the following RECs:

1. An historical building with an unknown use was located on the southern part of the 2801 Marshall Court Property. The building is shown on the 1955 aerial photograph, but there is no additional information regarding the use of the building. Due to the proximity of the railroad tracks and the potential that the railroad owned that portion of the Property at the time, the use of the building may have included storage or use of hazardous materials or petroleum products. The unknown use of the building present on the Property in 1955 *is considered a REC* for the Property.

2. The railroad's former ownership and use of the southern part of the Property, and the historical industrial use of the south side of the Wisconsin & Southern Railroad tracks at the adjoining properties at 2702-2802 University Avenue *are identified as a REC* for the Property.

3. The historical and current use of the Vista U-Pump property, the adjoining property to the south at 2801 University Avenue as an automobile filling and service station *is identified as a REC* for the Property. The gasoline station is a closed leaking underground storage tank (LUST) site with documented petroleum-contaminated groundwater extending under University Avenue and the 2725 Marshall Court portion of the Property.

4. The historical use of the McGettigan property, the adjoining property to the south at 2807 University Avenue as a dry cleaner where dry cleaner solvents were released to the subsurface *is identified as a REC* for the Property. The site is an open ERP case with documented groundwater contamination extending under University Avenue and the 2801 Marshall Court portion of the Property. Sub-slab vapor testing in the building at Property indicated low

concentrations of chlorinated compounds that are less than the Wisconsin Department of Natural Resources (WDNR) vapor risk screening levels.

5. The historical use of properties at 2842 University Avenue, 2863 University Avenue, and 2840 University Avenue for gasoline filling, service stations, or industrial manufacturing with underground petroleum storage tanks *is identified as a REC* for the Property. The 2840 University Avenue property to the west, a brick manufacturer, may have brought fill materials onto the Property.

In addition, the field investigation included evaluating potential contamination associated with fill soils identified in the geotechnical investigation of the Property conducted in April 2018 by CGC, Inc. A copy of the geotechnical report is included in **Attachment A**. The geotechnical investigation was conducted in conjunction with plans to redevelop the Property. A copy of the plans set for the redevelopment project is included as **Attachment B**. The redevelopment plans include demolition of the existing office building and construction of a two-story commercial building with two levels of underground parking.

This report includes the following:

- Description of sampling activities and laboratory analysis
- WDNR soil boring logs, well construction form, and abandonment forms (**Attachment C**)
- Laboratory analytical report for soil (**Attachment D**)
- Laboratory analytical report for groundwater (**Attachment E**)
- Site information from the McGettigan dry cleaners site (**Attachment F**)
- Tabulated results of laboratory chemical analysis performed on soil samples (**Tables 1** through **3**)
- Site location map (**Figure 1**)
- Site figure with sampling locations (**Figure 2**)
- Map showing nearby contaminated sites in the WDNR BRRTS database (**Figure 3**)
- Recommendations

1 FIELD INVESTIGATION

The Phase 2 ESA field investigation included the following:

On September 10, 2018, SCS

- Observed and documented the drilling of 10 Geoprobe™ (geoprobe) soil borings (G1 through G10), collected continuous soil samples from the borings, described and classified the samples using the Unified Soil Classification System, noting stratigraphy and moisture, and performed headspace analysis on each soil sample using a photoionization detector (PID).

- Observed and documented the installation of a temporary well, TW1, in the central part of the Property near geoprobe G4 to evaluate the depth to groundwater and collect a groundwater sample for laboratory analysis.

- Documented the abandonment of the borings in accordance with Wisconsin Administrative Code NR 141.

- Submitted for laboratory analysis one soil sample from each geoprobe boring G1 and G5 for volatile organic compounds (VOCs); one sample from each geoprobe boring G1, G2, G3, G5, and G10 for polynuclear aromatic hydrocarbons (PAHs); and one sample from each geoprobe boring G1, G6, and G10 for Resource Conservation and Recovery Act metals (totals). One soil sample from each geoprobe boring G2 and G3 was analyzed for arsenic, lead, cadmium, and chromium.

On September 13, 2018, SCS

- Collected a groundwater sample from the temporary well, TW-1, and measured a groundwater level.

- Abandoned the temporary well in accordance with Wis. Adm. Code NR 141.

2 FINDINGS

Soils

Fill Soils – Fill soils were encountered at all borings installed. The fill soil ranges in thickness from about 4 feet at G9 to about 10 feet at G4 and G6. The fill soil are generally silty sand and poorly-graded sand with silt, but include silty and clayey soils and at some locations including cinders, ash, brick, and glass. The fill soil layers with cinders, ash, brick, and glass range from 1 foot thick at G4 to 5 feet thick at G6.

PAHs and Metals in Soil – PAHs and metals were detected in the fill soils collected at G2, G3, G5, and G10 at concentrations that exceed the Wis. Adm. Code NR 720 residual contaminant levels (RCLs) for the groundwater pathway and the non-industrial direct contact standard (**Tables 2** and **3**). The industrial direct contact standard for benzo(a)pyrene was exceeded in one sample (G3 at 4-6 feet below ground surface [bgs]). Arsenic was detected in all samples tested at concentrations that exceed the industrial direct contact standard, but with the exception of the sample from G2, the concentrations are less than the background threshold value.

VOCs in Soil – VOCs were not detected in the two samples (G1 and G5) collected from the borings drilled near the geotechnical borings (B1 and B5) where odors were noted. No elevated PID readings were obtained in the field screening of soil samples from the geoprobe borings and no odors were noted. The VOC test results are summarized in **Table 1**.

Groundwater

Groundwater Elevation – Soils encountered in the geoprobe borings appeared to be saturated at depth of about 7 to 10 feet bgs. The groundwater levels measured at the temporary well TW-1 was 9.5 feet bgs, which is an elevation of about 871 feet mean sea level (MSL). The shallow groundwater/saturated soils observed in the geoprobe borings is likely due to the heavy rains creating mounded conditions. Groundwater levels observed in the monitoring wells MW-3 and MW-5 installed on the Property for the groundwater investigation of a tetrachloroethylene (PCE) release at the McGettigan dry cleaners site located across the street at 2803-2807 University Avenue indicated a groundwater elevation on September 19, 2018, of approximately 858.5 feet MSL (**Table 3** in **Attachment F**). The groundwater level measured at monitoring well UP MW1, located on the 2725 Marshall Court Property, on the same date was about 859 feet MSL.

VOCs in Groundwater – Analytical results for groundwater samples collected on June 6, 2018, from MW-3 and MW-5 for the McGettigan dry cleaners groundwater investigation indicate concentrations of PCE that exceed the NR 140 preventive action limit (PAL). No VOCs were detected in MW-8, the McGettigan monitoring well installed upgradient of the 2801 Marshall Court Property. Petroleum compounds that exceed the NR 140 enforcement standards (ESs) were detected in the sample from UP MW-1, which was also sampled for the McGettigan investigation on June 6, 2018.

No VOCs were detected in the groundwater sample collected from temporary well TW-1 on September 13, 2018. The report of the analysis is included in **Attachment E**.

Vapor

Sub-surface Vapors – Sub-slab vapor testing was conducted at the 2801 and 2727 Marshall Court building for the McGettigan dry cleaners site investigation in March and July 2016. No chlorinated VOC were detected in the sub-slab vapor samples collected at the two sites at concentrations greater than the vapor risk screening levels (**Table 1** in **Attachment F**).

3 CONCLUSIONS

The results of the investigation indicate the following:

- PAH- and metals-contaminated fill soil (fill soil containing ash, cinders, brick, and other minor debris) in layers up to 5 feet thick is present at various depths up to about 10 feet bgs. The estimated volume of PAH- and metals-contaminated fill soil is approximately 3,000 tons.

- Groundwater results from monitoring wells located at the southern part of the 2801 Marshall Court Property indicate low concentrations of PCE that exceed the NR 140 PAL. The depth to groundwater is about 18-20 feet bgs; the groundwater elevation is about 858.5 feet MSL.

- Groundwater results from the monitoring well located at the 2725 Marshall Court Property indicate concentrations of petroleum compounds that exceed the NR 140 ESs. The depth to groundwater is about 17 feet bgs; the groundwater elevation is about 859 feet MSL.

- VOCs were not detected in groundwater sampled at a monitoring well located upgradient of the Property, and in groundwater sampled in the central part of the site from a temporary well. Groundwater at the temporary well appeared to be shallower than at the nearby monitoring wells and was observed at about 9 feet bgs; the groundwater elevation of about 871 feet MSL.

- The soil contamination is associated with the soil brought onto the site as fill and is likely not related to a release at the site.

- The groundwater contamination is from off-site sources.

- Contaminated groundwater is at a depth of about 20 feet bgs and may have some impact on construction activities if dewatering is required.

- Construction methods need to address the shallow mounded groundwater present at the Property.

4 RECOMMENDATIONS

We recommend the following activities associated with development of the site and management of the contaminated soil:

- Notify the Wisconsin Department of Natural Resources (WDNR) of the documented soil contamination and submit the Phase 2 ESA report.
- Prepare a materials management plan for submittal to the WDNR for review.
- Obtain approval for landfill disposal of the contaminated soil to be excavated from the site.
- Segregate the contaminate fill soil and dispose of it off site at a sanitary landfill. The soil likely can be used as landfill daily cover.
- Document the proper handling of contaminated soil and potentially contaminated dewater and submit to the WDNR with a request for no further action.
- Vapors associated with impacts to groundwater should be considered, however are likely of minimal concern because the redevelopment plan includes parking facilities on the two lowest levels with no occupied spaces. The parking facility will be well-ventilated to prevent carbon monoxide and other harmful constituents in the air from accumulating.

SCS appreciates the opportunity to perform this environmental assessment. Please call us at 608-224-2830 with any questions regarding the Phase 2 ESA report.

Sincerely,

Betty J. Socha, PhD, PG
Senior Project Manager
SCS Engineers

Tony Kollasch
Project Hydrogeologist
SCS Engineers

BJS/lmh/TK/RT

Encl. Tables 1 through 3
Figures 1 through 3
Attachments A through F

Tables

Table 1. Soil Analytical Results Summary - VOCs
Marshall Court Investors, LLC Property (The Lodgic), 2801 Marshall Court - Shorewood Hills, WI / SCS Engineers Project #25218152.00
(Results are in µg/kg, except where noted otherwise)

Sample	Date	Depth (feet)	PID (ppm)	Lab Notes	Benzene	Ethylbenzene	Toluene	Xylenes	1,2,4-TMB	1,3,5-TMB	1,2,4- & 1,3,5-TMB Combined	MTBE	Naphthalene	Other VOCs	
G1	9/10/2018	1-2	29.6	(1)	<25.0	<25.0	<25.0	<75.0	<25.0	<25.0	<50.0	<25.0	<40.0	Methylene Chloride	**58.7** J,B
G5	9/10/2018	2-4	17	(1)	<25.0	<25.0	<25.0	<75.0	<25.0	<25.0	<50.0	<25.0	<40.0	Methylene Chloride	**58.2** J,B
Trip Blank	9/10/2018	--	--	(1)	<25.0	<25.0	<25.0	<75.0	<25.0	<25.0	<50.0	<25.0	<40.0	ND	
NR 720 Groundwater Pathway RCLs with a Wisconsin-Default Dilution Factor of 2					5.1	1,570	1,107.2	3,960	(a)		1,378.7	27	658.2	Methylene Chloride	2.6
NR 720 Non-Industrial Direct Contact RCLs					1,600	8,020	818,000	260,000	219,000	182,000	NE	63,800	5,520	Methylene Chloride	61,800
NR 720 Industrial Direct Contact RCLs					7,070	35,400	818,000	260,000	219,000	182,000	NE	282,000	24,100	Methylene Chloride	1,150,000
CAS No.					71-43-2	100-41-4	108-88-3	1330-20-7	95-63-6	108-67-8	--	1634-04-4	91-20-3	Methylene Chloride	75-09-2

Abbreviations:
µg/kg = micrograms per kilogram or parts per billion (ppb)
mg/kg - milligrams per kilogram or parts per million (ppm)
CAS No. = Chemical Abstracts Service Number
RCLs = Residual Contaminant Levels
VOCs = Volatile Organic Compounds
TMB = Trimethylbenzene
VOCs = Volatile Organic Compounds
PID = Photoionization Detector
ppm = parts per million
MTBE = Methyl-tert-butyl ether
ND = Not Detected
NE = No Standard Established
-- = Not Applicable

Notes:
Bold+underlined values exceed an NR 720 RCL, as of June 2018.
(a) NR 720 Groundwater Pathway RCLs for 1,2,4 and 1,3,5 Trimethylbenzene Combined = 1,378.7

Laboratory Notes/Qualifiers:
B = Analyte was detected in the associated method blank.
J = Estimated concentration at or above the Limit of Detection and below the Limit of Quantitation
(1) Non-detect results are reported on a wet weight basis.

Created by: LMH Date: 9/24/2018
Last revision by: LMH Date: 9/24/2018
Checked by: BJS Date: 9/24/2018

I:\25218152.00\Data and Calculations\Tables\[Table 1_Soil VOCs.xlsx]Soil PVOCs

Table 2. Soil Analytical Results Summary - PAHs
Marshall Court Investors, LLC Property (The Lodgic), 2801 Marshall Court - Shorewood Hills, WI / SCS Engineers Project #25218152.00
(Results are in µg/kg, except where noted otherwise)

Sample	Date	Depth (feet)	Lab Notes	Acenaph-thene	Acenaph-thylene	Anthracene	Benzo(a) anthracene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Benzo(a) pyrene	Benzo(ghi) perylene	Chrysene	Dibenzo(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	1-Methyl-naphthalene	2-Methyl-naphthalene	Naphthalene	Phenanthrene	Pyrene
G1	9/10/2018	4-6	--	<4.3	6.2 J	24.1	42.3	30.2	17.7	25.4	12.9	46.8	5.2 J	81.5	4.8 J	7.8 J	174	224	67.3	220	80.8
G2	9/10/2018	4-8	--	49.9	8.1 J	103	263	333	128	**258**	175	**278**	39.9	608	38.9	141	150	194	103	445	491
G3	9/10/2018	4-6	--	<175	920	1,680	**6,040**	**7,650**	2,760	**5,860**	3,340	**5,730**	**890**	14,200	<187	**2,960**	<181	<225	<380	1,930	11,800
G5	9/10/2018	2-4	--	<85.3	411	701	**1,360**	**1,620**	984	**1,020**	234	**1,330**	<49.2	3,460	322	166	<88.4	<110	<185	2,140	2,420
G9	9/10/2018	0-2	--	<4.1	3.9 J	17.0 J	31.4	22.0 lp	16.7 lp	19.0	7.0 J	34.3	3.3 J	53.1	<4.4	5.7 J	122	148	60.7	146	58.9
G10	9/10/2018	0-2	--	8.9 J	6.1 J	31.8	49.0	35.8	14.3	30.2	20.3	51.7	7.1 J	82.8	6.7 J	10.7	151	148	49.0	301	69.5
NR 720 Groundwater Pathway RCLs with a Wisconsin-Default Dilution Factor of 2				NE	NE	196,949.2	NE	478.1	NE	470	NE	144.2	NE	88,877.8	14,829.9	NE	NE	NE	658.2	NE	54,545.5
NR 720 Non-Industrial Direct Contact RCLs				3,590,000	NE	17,900,000	1,140	1,150	11,500	115	NE	115,000	115	2,390,000	2,390,000	1,150	17,600	239,000	5,520	NE	1,790,000
NR 720 Industrial Direct Contact RCLs				45,200,000	NE	100,000,000	20,800	21,100	211,000	2,110	NE	2,110,000	2,110	30,100,000	30,100,000	21,100	72,700	3,010,000	24,100	NE	22,600,000
CAS No.				83-32-9	208-96-8	120-12-7	56-55-3	205-99-2	207-08-9	50-32-8	191-24-2	218-01-9	53-70-3	206-44-0	86-73-7	193-39-5	90-12-0	91-57-6	91-20-3	85-01-8	129-00-0

Abbreviations:
µg/kg = micrograms per kilogram or parts per billion (ppb)
PAHs = Polynuclear Aromatic Hydrocarbons
-- = Not Applicable
RCLs = Residual Contaminant Levels
NE = No Standard Established
CAS No. = Chemical Abstracts Service Number

Notes:
Bold+underlined values meet or exceed an NR 720 RCL, as of June 2018.

Laboratory Notes/Qualifiers:
J = Estimated concentration at or above the Limit of Detection and below the Limit of Quantitation
lp = Benzo(b)fluoranthene and benzo(k)fluoranthene were separated in the check standard but did not meet the resolution criteria in SW846 8270C. Sample results included are reported as individual isomers, but the lab and the client must recognize them as an isomeric pair.

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Checked by: BJS Date: 9/24/2018

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Table 3. Soil Analytical Results Summary - Metals

Marshall Court Investors, LLC Property (The Lodgic), 2801 Marshall Court - Shorewood Hills, WI / SCS Engineers Project #25218152.00

(Results are in mg/kg, except where noted otherwise)

Sample	Date	Depth (feet)	Lab Notes	Arsenic	Barium	Cadmium	Chromium (Total)	Lead	Mercury	Selenium	Silver
G1	9/10/2018	4-6	--	**3.6** J	68.2	0.21 J	12.7	10.0	0.037 J	<1.3	<0.35
G2	9/10/2018	4-8	--	**9.2**	NA	**0.76**	24.3	**78.0**	NA	NA	NA
G3	9/10/2018	4-6	--	**4.4** J	NA	0.32 J	48.2	21.1	NA	NA	NA
G6	9/10/2018	4-6	--	**5.2** J	127	0.32 J	17.1	23.5	<0.038	<1.4	<0.38
G10	9/10/2018	0-2	--	**7.0**	38.4	**0.83**	9.4	**66.3**	<0.036	<1.4	<0.36
NR 720 Groundwater Pathway RCLs with a Wisconsin-Default Dilution Factor of 2				0.584	164.8	0.752	360,000 [2]	27	0.208	0.52	0.8491
NR 720 Non-Industrial Direct Contact RCLs				0.677	15,300	71.1	NE [1]	400	3.13	391	391
NR 720 Industrial Direct Contact RCLs				3	100,000	985	NE [1]	800	3.13	5,840	5,840
Background Threshold Value				8	364	1	44	52	NE	NE	NE
CAS No.				7440-38-2	7440-39-3	7440-43-9	7440-47-3	7439-92-1	7439-97-6	7782-49-2	7440-22-4

Abbreviations:
mg/kg - milligrams per kilogram or parts per million (ppm)
CAS No. = Chemical Abstracts Service Number
RCLs = Residual Contaminant Levels
-- = Not Applicable
NA = Not Analyzed
NE = No Standard Established

Notes:
Bold+underlined values exceed NR 720 RCLs, as of June 2018.

[1] Chromium Direct Contact Standards:
III Non-Industrial Direct Contact RCL = 100,000 mg/kg; Industrial Direct Contact RCL = 100,000 mg/kg
VI Non-Industrial Direct Contact RCL = 0.301 mg/kg; Industrial Direct Contact RCL = 6.36 mg/kg

[2] If no Chromium-VI

Background threshold values are non-outlier trace element maximum levels in Wisconsin surface soils from the USGS Report at: http://pubs.usgs.gov/sir/2011/5202, as listed in the WDNR RR Program's RCL spreadsheet at: http://dnr.wi.gov/topic/Brownfields/professionals.html.

Laboratory Notes/Qualifiers:
J = Estimated concentration at or above the Limit of Detection and below the Limit of Quantitation

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Checked by: BJS Date: 9/24/2018

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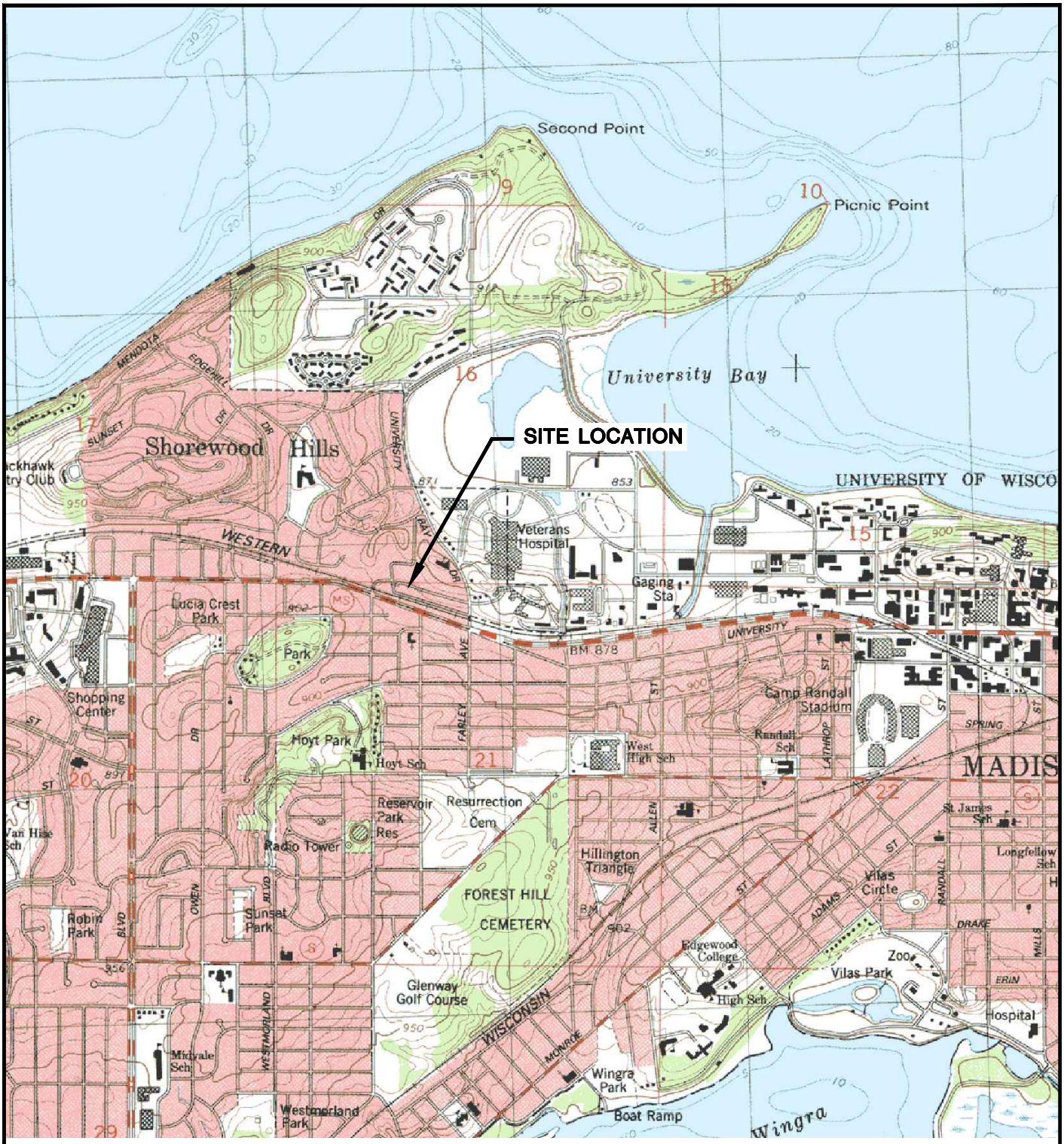
Figures



N

MADISON WEST QUADRANGLE
WISCONSIN–DANE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
SW/4 MADISON 15' QUADRANGLE
1983
SCALE: 1" = 2,000'

CLIENT	STONE HOUSE DEVELOPMENT INC. 1010 E. WASHINGTON AVE. MADISON, WI 53703	SITE	2801 MARSHALL COURT LLC SHOREWOOD HILLS, WISCONSIN
			SITE LOCATION MAP

PROJECT NO.	25218152.00	DRAWN BY:	RJG
DRAWN:	09/26/18	CHECKED BY:	BS
REVISED:	09/26/18	APPROVED BY:	

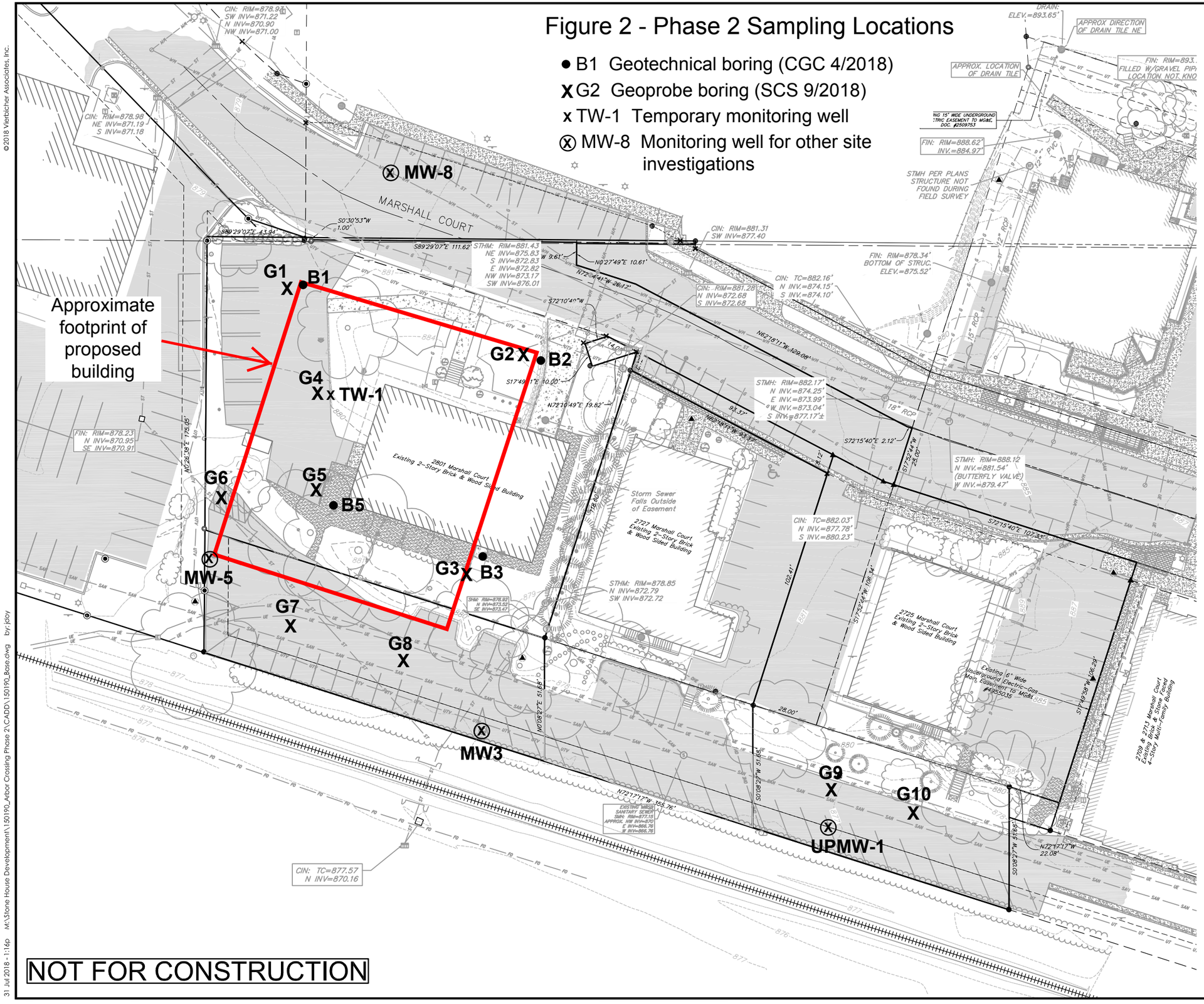
ENGINEER

SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

FIGURE
1

Figure 2 - Phase 2 Sampling Locations

- ● B1 Geotechnical boring (CGC 4/2018)
- X G2 Geoprobe boring (SCS 9/2018)
- x TW-1 Temporary monitoring well
- ⊗ MW-8 Monitoring well for other site investigations



TOPOGRAPHIC SYMBOL LEGEND

- EXISTING BOLLARD
- EXISTING POST
- EXISTING SIGN
- EXISTING CURB INLET
- EXISTING FIELD INLET
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- ROOF DOWNSPOUT
- EXISTING FIRE HYDRANT
- EXISTING STANDPIPE
- EXISTING WATER MAIN VALVE
- EXISTING CURB STOP
- EXISTING GAS VALVE
- EXISTING AIR CONDITIONING PEDESTAL
- EXISTING DOWN GUY
- EXISTING ELECTRIC MANHOLE
- EXISTING ELECTRIC PEDESTAL
- EXISTING TRANSFORMER
- EXISTING LIGHT POLE
- EXISTING GENERIC LIGHT
- EXISTING UTILITY POLE
- EXISTING TV PEDESTAL
- EXISTING TELEPHONE MANHOLE
- EXISTING TELEPHONE PEDESTAL
- EXISTING HANDICAP PARKING
- EXISTING DECIDUOUS TREE
- ASPHALT PAVEMENT/DRIVEWAY PARKING LOT
- CONCRETE PAVEMENT/WALK
- BRICK PAVERS
- GRAVEL PATH

NOTES:

1. THIS SURVEY WAS PREPARED BASED UPON INFORMATION PROVIDED IN THE SUBDIVISION APPROVAL REPORT 30/60 TITLE SEARCH NO. NCS-745776-MAD, DATED AUGUST 04 09, 2015 AT 7:00A.M., FROM FIRST AMERICAN TITLE INSURANCE COMPANY NATIONAL COMMERCIAL SERVICES, 10 W. MIFFLIN STREET, SUITE 302, MADISON, WI 53703.
2. AREA OF PARCEL SURVEYED IS 33,362 SQUARE FEET MORE OR LESS.
3. THIS SURVEY IS BASED UPON FIELD SURVEY WORK PERFORMED ON JULY 23 & 24, AND AUGUST 6 & 11, 2015. ANY CHANGES IN SITE CONDITIONS AFTER AUGUST 11, 2015 ARE NOT REFLECTED BY THIS SURVEY.
4. UTILITY LOCATIONS WERE FIELD LOCATED BASED UPON SUBSTANTIAL, VISIBLE, ABOVE GROUND STRUCTURES, UPON MAPS PROVIDED TO THE SURVEYOR, OR UPON MARKINGS ON THE GROUND PLACED BY UTILITY COMPANIES AND/OR THEIR AGENTS. NO WARRANTY IS GIVEN TO THE UTILITY MARKINGS BY OTHERS OR THAT ALL UNDERGROUND UTILITIES AFFECTING THIS PROPERTY WERE MARKED AND SUBSEQUENTLY LOCATED FOR THIS SURVEY. THE SIZE OF WATER MAIN AND SANITARY SEWER HAS BEEN NOTED PER MAPS PROVIDED TO THE SURVEYOR.
5. NO ATTEMPT HAS BEEN MADE AS A PART OF THIS SURVEY TO OBTAIN OR SHOW DATA CONCERNING CONDITION, OR CAPACITY OF ANY UTILITY OR MUNICIPAL/PUBLIC SERVICE FACILITY. FOR INFORMATION REGARDING THESE UTILITIES CONTACT THE APPROPRIATE AGENCIES.
6. SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OR OWNERSHIP TITLE EVIDENCE.
7. CONTOURS AND ELEVATIONS DEPICTED HEREON ARE BASED UPON THE NAVD88 DATUM.

NOT FOR CONSTRUCTION

vierbicher
planners | engineers | advisors
Phone: (800) 261-3898

Existing Conditions Plan
The Lodgic
Village of Shorewood Hills
Dane County, Wisconsin

REVISIONS

NO.	DATE	REMARKS

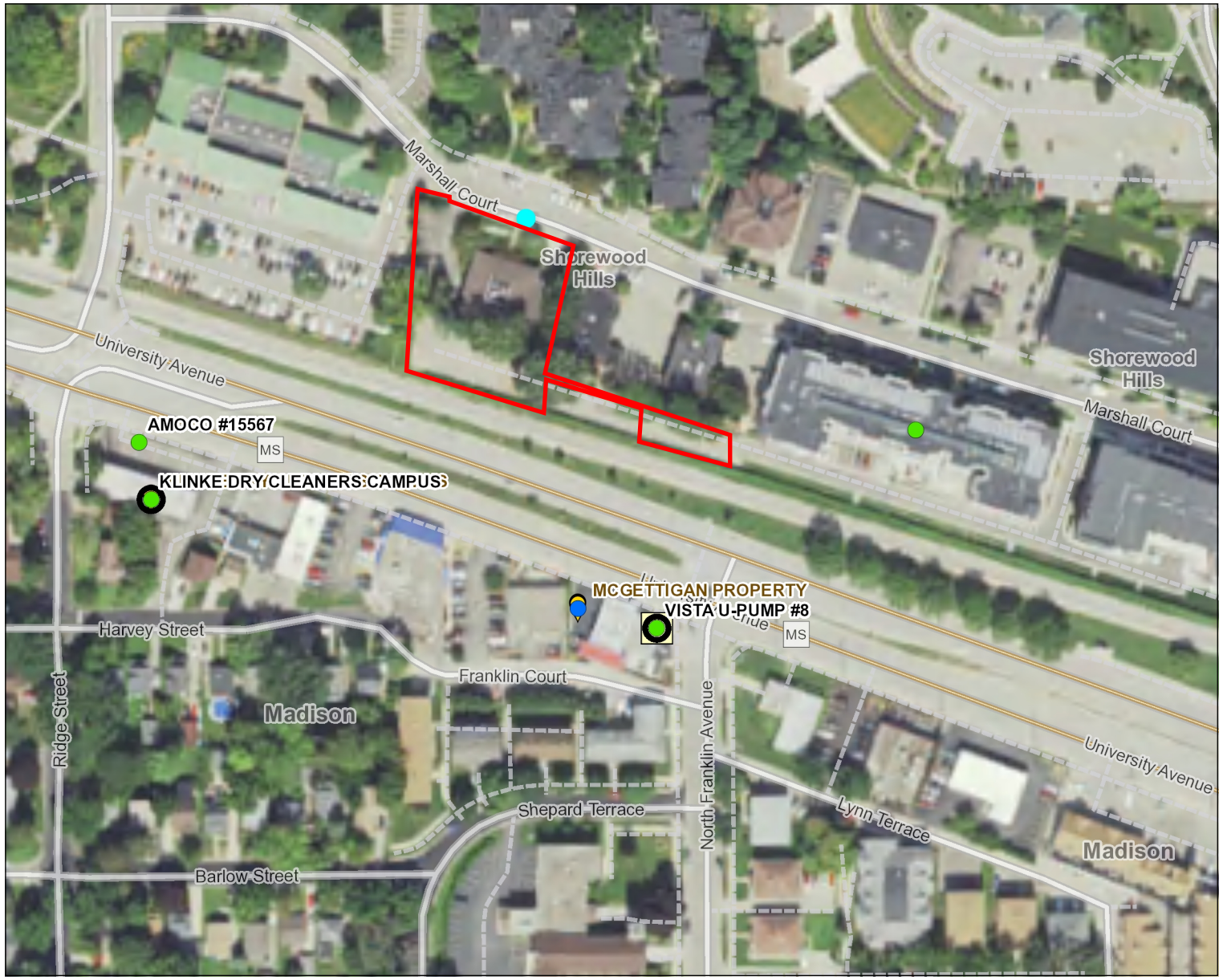
REVISIONS

NO.	DATE	REMARKS
1	7/2/18	Village Resubmittal
2	7/31/18	Village Resubmittal

SCALE: AS SHOWN
DATE: 05/23/2018
DRAFTER: JARC
CHECKED: JDOY
PROJECT NO.: #150190
SHEET: 1 OF 7
DWG. NO.: C-0.1

31 Jul 2018 - 1:16p M:\Stone House Development\150190_Arbor Crossing Phase 2\CADD\150190_Base.dwg by: jdoy

Figure 3 - RR Sites Map
2801 Marshall Court



Legend

- Open Site
- Closed Site
- Continuing Obligations Apply
- Impacted Another Property(ies)
- Dryclean Environmental Response Fund (DERF)
- Green Space Grant (2004-2009)
- Ready for Reuse
- Site Assessment Grant (2001-2009)
- State Funded Response
- Sustainable Urban Development Zone (S
- General Liability Clarification Letters
- Superfund NPL
- Voluntary Party Liability Exemption

Notes

0.1 0 0.03 0.1 Miles

NAD_1983_HARN_Wisconsin_TM

1: 1,980

Note: Not all sites are mapped.

Attachment A

CGC, Inc. Geotechnical Report
April 11, 2018

CGC, Inc.
Construction • Geotechnical
Consulting Engineering/Testing

April 11, 2018
C18110

Mr. Jason Bollig
Ideal Builders, Inc.
1406 Emil Street
Madison, WI 53713

Re: Geotechnical Exploration Report
Proposed Commercial Redevelopment
2801 Marshall Court
Village of Shorewood Hills, Dane County, Wisconsin

Dear Mr. Bollig:

Construction • Geotechnical Consultants, Inc. (CGC) has completed the subsurface exploration program for the above-referenced project. The purpose of this program was to evaluate the subsurface conditions within the proposed construction area and to provide geotechnical recommendations regarding site preparation, foundation, floor slab, below-grade wall, retaining wall and pavement design/construction. A determination of the site class for seismic design is also included. We are sending you an electronic copy of this report, and we can provide a paper copy upon request.

SITE AND PROJECT DESCRIPTION

We understand the property at 2801 Marshall Court in the Village of Shorewood Hills, Wisconsin is to be redeveloped, involving the demolition of the existing building and subsequent construction of a commercial building. The site is bounded by Marshall Court to the north, 2727 Marshall Court to the east, railroad tracks to the south and a retail parking lot to the west. The existing building at 2801 Marshall Court is surrounded by greenspaces with scattered brush and trees, as well as paved parking lots to the west/northwest and south. Based on publicly-available topographic data (Dane County DCiMap; 2-ft contour lines), site grades are between about EL 880 and 884 ft in northern portions of the site (about EL 880 to 882 ft along Marshall Court) and gently sloping down to approximately EL 878 ft in the south.

Although in an early, conceptual phase of design and planning, we understand the new building will likely include two stories above grade and two levels of underground parking. Finish first floor elevation is tentatively set at approximately EL 883 ft, slightly above the existing street level near the northeast corner of the site, and finish second below-grade level elevation is estimated between about EL 860.5 and 862.5 ft. *We understand these elevations are preliminary, and CGC should be allowed to review the recommendations contained herein if building grades change significantly.*

2921 Perry Street, Madison WI 53713
Telephone: 608/288-4100
FAX: 608/288-7887

SUBSURFACE CONDITIONS

Subsurface conditions were explored for this study by drilling four Standard Penetration Test (SPT) soil borings to planned depths of 40 ft below current site grades. The borings are labeled B-1, B-2, B-3 and B-5, and a fifth boring (B-4) was initially planned at the southwest corner of the proposed building. However, due to a multitude of underground utilities, overhead lines and trees in southern portions of the site, B-4 was omitted and B-5 was shifted from the center of the planned building footprint further to the southwest. In addition, the position of B-3 (initially planned near the southeast corner of the proposed building) had to be shifted to the north due to avoid utility conflicts and trees. The boring locations were selected, adjusted to accommodate on-site features and marked in the field by CGC. The borings were performed between April 2 and 6, 2018 by Badger State Drilling (under subcontract to CGC), using truck-mounted CME-55 and ATV-mounted D-50 rotary drill rigs equipped with hollow-stem augers and automatic SPT hammers. The specific procedures used for drilling and sampling are described in Appendix A, and the boring locations are shown in plan on the Soil Boring Location Exhibit attached in Appendix B. Ground surface elevations at the boring locations were estimated by CGC using publicly-available topographic data (Dane County DCiMap; 2-ft contour lines), and elevations should therefore be considered approximate.

The subsurface profiles at the boring locations varied to some degree, but the following strata were typically encountered (in descending order):

- About 3.5 to 6 in. of ***asphalt pavement*** on top of approximately 8 to 12 in. of ***base course***; or
- About 7 in. of ***topsoil fill***; underlain by
- About 2 to 6.5 ft of apparent, ***variable fill*** soils that were intermixed with debris (including cinders) in some locations; over
- About 2.5 to 10 ft of ***possible/probable fill*** and/or ***possible/probable buried topsoil***, comprised of medium dense sand to silty sand, loose to medium dense silt, clayey silt and organic silt and medium stiff to very stiff lean clay; followed by
- About 4 to 16 ft of ***natural cohesive and fine-grained soils***, including some *slightly organic to organic layers*, consisting of medium stiff to very stiff (organic) lean to silty clays and very loose to medium dense silts and clayey sands; over
- Loose to dense ***sand strata*** with variable silt and gravel contents to the maximum depths explored.

It must be noted that the variable fill soils containing cinders and other debris may require landfill disposal if excavated and removed from the site. An environmental consultant should be contacted to advise on these issues. In addition, the sample obtained from the shallow fill soils in Boring 1 also featured a notable petroleum or chemical odor.

Representative clay samples obtained from Borings 1 and 5 near anticipated foundation depths were analyzed for their natural moisture and organic contents, which ranged from 25.1% to 56.3% and

2.8% to 7.6%, respectively. Based on natural moisture contents, pocket penetrometer readings (q_p; an estimate of the unconfined compressive strength of cohesive soils) and SPT blow counts (N-Values), some of the on-site cohesive and fine-grained soils should be considered moderately to highly compressible. In addition, soils having an organic content of 4% or more are typically being considered organic and may be susceptible to long-term decomposition/compression.

The top of the medium dense to dense natural sand strata was shallowest in Boring 3 near the southeast corner of the proposed building (about 12 ft below the ground surface), and *possible highly weathered sandstone bedrock* (based on characteristic color) was encountered in this boring below a depth of approximately 37 ft. In the other three borings performed, the natural sands were encountered at greater depths, ranging from about 23 ft below the ground surface in Borings 2 and 5 (northeast corner and southwest, respectively) to about 28 ft in Boring 1 (northwest corner).

Groundwater was encountered during drilling at depths between about 23.5 and 28.5 ft below the ground surface (corresponding to approximately EL 851.5 to 856.5 ft). About 30 minutes after the completion of drilling Boring 3, the groundwater had remained at a depth of about 24 ft (approximately EL 856 ft), as encountered during drilling. Groundwater levels are expected to fluctuate with seasonal variations in precipitation, infiltration, evapotranspiration, the water level in nearby waterbodies and other factors. A more detailed description of the site soil and groundwater conditions is presented on the Soil Boring Logs attached in Appendix B, which also contain the laboratory test results

DISCUSSION AND RECOMMENDATIONS

Subject to the limitations discussed below and based on the subsurface exploration, it is our opinion that the site is generally suitable for construction and that the proposed building can be supported by a conventional spread footing foundation system. *However, existing organic soils and lower- to moderate strength (slightly organic) silt and clay soils should be undercut below footings, with some of the undercut excavations potentially encroaching upon or extending slightly below the groundwater table.* Our recommendations for site preparation, foundation, floor slab, below-grade wall, retaining wall and pavement design/construction, along with our assessment of the site class for seismic design, are presented in the following subsections. Additional information regarding the conclusions and recommendations presented in this report is discussed in Appendix C.

1. Site Preparation

We anticipate that site preparation for this project will primarily involve the demolition of the existing building, followed by mass excavation to second below-grade level, with the footprint of the proposed building expected to occupy most of the site. Outside of the footprint of the new building, existing structures can potentially remain in-place provided they are broken off at least 2 ft below proposed site grades or pavement subgrade elevations and do not interfere with new utility

construction. Slabs that remain in-place below pavement areas should be broken up to allow drainage.

In order to facilitate mass-excavations to establish below-grade level elevations, we generally anticipate that an earth retention system will be required which should be designed by a qualified professional engineer. *The earth retention system should be designed to accommodate fairly deep undercut excavations below footings and possibly below the floor slab.* Some shallower excavation sidewalls could potentially also be sloped back according to OSHA requirements. We anticipate that excavation slopes will be controlled by variable fill, softer clays and looser/cleaner sands, typically classified as OSHA "Type C" soils, with slopes of 1.5H:1.0V or flatter expected to be at least temporarily stable. *Note that flatter side slopes will likely be required where perched or seeping water is present that destabilizes the side slopes.* The appropriate excavation side slopes should be determined by a competent person completing the earthwork in accordance with OSHA slope guidelines. Slopes of excavations that are 20 ft or deeper should be analyzed by an appropriately qualified professional engineer to check stability. For two below-grade levels, the subgrades at the bottom of the excavation are expected to largely consist of low- to moderate-strength cohesive soils that will likely degrade when exposed to construction traffic. Therefore, subgrade stabilization or the inclusion of a "construction road" with coarse aggregate over woven geotextile fabric may be required to develop a subgrade capable of supporting construction traffic.

As mentioned above, organic and marginal cohesive/fine-grained soils should be undercut below footings to expose suitable natural soils, and some undercut excavations may potentially encroach upon or extend slightly below the groundwater table, depending on the time of year construction occurs. To allow for construction in the dry, *water levels should be lowered a minimum of 2 ft below the bottom of excavations in advance of excavating*. It has been our experience that groundwater drawdowns on the order of 1 to 2 ft can typically be achieved using submersible pumps that operate from filtered sump pits. Drawdowns exceeding about 2 ft will likely require alternative dewatering measures, such as deep well or vacuum well point systems. Based on the groundwater levels observed in the soil borings, groundwater drawdowns of about 1 to 2 ft are expected in some of the deeper undercut excavations. Note, however, that some of the sand soils at the bottom of the undercut excavations have a fairly low fines-content, typically associated with a fairly high hydraulic conductivity, and *significant pumping rates should be expected in these soils*. Supplemental dewatering in shallow sumps outside the footing lines may also be required. Dewatering means and methods are the contractor's responsibility. *If groundwater is not adequately controlled, significant deeper undercuts, flatter side slopes and wider excavations could be required*. Depending on the effectiveness of the dewatering system at lowering the water table below the bottom of the undercut excavations, it may be necessary to install a stone stabilization layer at the bottom of these excavations to develop a working platform for construction activities. On past projects this has involved about 12 in. of coarse stone underlain/enveloped by a geotextile fabric for separation and reinforcement purposes.

Note that due to the presence of potentially impacted soils at the site, we recommend that excavated soils either be kept on site and appropriately capped or screened for environmental contaminants before being hauled off site. A materials management plan should be developed by an environmental consultant, and impacted soils removed from the site should be properly disposed of in a licensed landfill. We recommend that an environmental consultant provide guidance on the need for special handling and disposal of impacted soils, as well as other environmental-related questions.

Areas outside the building footprint are generally anticipated to include landscaping/playground features, as well as a ramp to the first below-grade parking level on the west side of the building. In areas requiring fill (if any), we recommend that existing topsoil be stripped at least 10 ft beyond the proposed construction areas. The topsoil can be stockpiled on-site and later re-used as fill in landscaped areas. As mentioned earlier, topsoil fill was about 7 in. thick in Boring 3, but variable thicknesses should be expected in other portions of the site due to previous grading activities. Trees and root zones should be removed from construction areas prior to or in conjunction with topsoil stripping. Where fill is planned, existing pavement should be broken up (pulverized) to promote drainage or be removed as well, and exposed subgrades should be recompacted/proof-rolled prior to new fill placement to check for loose/soft areas.

2. Foundation Design

Although in an early, conceptual phase of design and planning, we understand the new building will likely include two stories above grade and two levels of underground parking, with finish second below-grade level elevation estimated between about EL 860.5 and 862.5 ft. *We understand these elevations are preliminary, and since the following paragraphs are based upon this information, CGC should be allowed to review the recommendations contained herein if building grades change significantly.*

Footings and elevator pits are expected to extend a few feet below finish second below-grade level elevation. As mentioned earlier, it is our opinion that the organic to slightly organic and lower- to moderate-strength clay and silt soils encountered near anticipated foundation grades in large portions of the site are not suitable to marginal for foundation support, and *we recommend these soils be undercut below footings to expose suitable natural sands*. Undercut depths are generally expected to be greatest near the northwest corner of the proposed building (see Boring 1), with undercutting on the order of 4 to 8 ft expected below the bottom of footings. Near Borings 2 and 5 in northeastern and central to southwestern parts of the building area, respectively, we expect undercut depths of approximately 1 to 4 ft, and very limited to no undercutting is expected near Boring 3 (southeastern building area). As discussed previously, the earth retention system should be designed to accommodate undercutting, and dewatering of some of the deeper undercut excavations could potentially be required. We generally recommend footing grades be restored with well-compacted engineered granular backfill. Below the water table "lean mix" concrete or clear stone, which should be wrapped in non-woven geotextile fabric where total clear stone layer thicknesses exceed 12 in.,

should be used as backfill. Where undercutting is not necessary, footing subgrades will likely consist of medium dense to dense natural sand strata.

Provided unsuitable soils are undercut below footings, with undercut excavations adequately dewatered, as needed, we recommend the following parameters be used for foundation design:

- Maximum net allowable bearing pressure: 5,000 psf

- Minimum foundation widths:
  - Continuous wall footings: 18 in.
  - Column pad footings: 30 in.

- Minimum footing depths below finish site grades:
  - Exterior/perimeter footings: 4 ft
  - Interior footings: no minimum requirement

Footing subgrades should be checked by a CGC field representative to document that the subgrade soils are suitable for footing support and advise on corrective measures, if necessary. We recommend using a smooth-edged backhoe bucket for footing excavations. The base of undercut excavations should be widened beyond the footing edges at least 0.5 ft in each direction for each foot of undercut depth for stress distribution purposes. OSHA slope guidelines should be followed if workers need to enter footing excavations. Granular soils exposed at footing grade or the bottom of undercut excavations *above the water table* should be thoroughly recompacted with a large vibratory plate compactor or an excavator-mounted hoe-pack prior to backfilling or formwork/concrete placement to densify soils loosened during the excavation process. Soils potentially susceptible to disturbance from vibratory compaction (e.g. sands near or below the water table) should be hand-trimmed. Subgrades that are fairly wet should be stabilized with a thin (approximately 6 in. thick) layer of crushed clear stone that is compacted into the subgrade until deflection ceases or protected with lean mix mud mats.

In order to re-establish footing grade in undercut areas above the water table, we generally recommend using granular backfill compacted to at least 95% compaction based on modified Proctor methods (ASTM D1557), in accordance with the Recommended Compacted Fill Specifications presented in Appendix D. Alternatively, 3-in. DGB that is placed in loose 10-in. lifts and compacted until deflection ceases can also be used to restore grades above the water table in undercut areas. Below the water table, undercut excavations should be backfilled with crushed clear stone that is placed in loose lifts of 12 in. or less, which are subsequently compacted with a large vibratory plate compactor or excavator-mounted hoe-pack until deflection ceases. Where total clear stone layer thickness exceeds 12 in., the clear stone should be wrapped in non-woven geotextile fabric (e.g. Mirafi 160N or equivalent) to prevent migration of fines into the void spaces of the clear stone. Alternatively, foundation grade below the water table can be restored with lean mix concrete that is capable of developing a minimum 28-day strength of 1,000 psi. Note that with the use of lean mix

concrete as backfill, undercut excavations should be laterally oversized 0.5 ft from the edges of the foundation (provided workers do not need to enter the excavations) and geotextile fabric is not required at the bottom of the excavation.

Provided the foundation design/construction recommendations discussed above are followed, we estimate that total and differential settlements should be on the order of 1.0 and 0.5 in., respectively.

3. Seismic Site Class

In our opinion, the average soil properties in the upper 100 ft of the site (based on N-values between 15 and 50 blows/ft, on average, in the sand strata underlying the site) can be characterized as a stiff soil profile. This characterization would place the site in Class D for seismic design according to International Building Code (see Table 1613.5.2).

4. Floor Slab

Floor slab subgrade soils are anticipated to consist of medium stiff to stiff, organic to slightly organic clays, very loose to loose clayey sands, loose sandy silts/silty sands or medium dense sand strata. *Organic soils are considered unacceptable for floor slab support and should be undercut in floor slab areas*, with grade subsequently restored with well-compacted engineered granular fill or dense graded base. In addition, *some of the silt and silty to clayey sands will likely require undercutting or stabilization to develop suitable floor slab subgrades*. Prior to slab construction, granular subgrades above the water table should be thoroughly recompacted with a vibratory smooth-drum roller, heavy plate compactor or similar to densify soils that may become disturbed or loosened during construction activities. Cohesive/fine-grained soils should be statically recompacted (i.e., without vibration) and subsequently proof-rolled. Areas that remain loose after recompaction or where soft/yielding areas are detected during proof-rolling should be undercut and replaced with compacted granular fill or 3-in. dense graded base.

Due to the finish second below-grade level elevation being within about 4 to 11 ft of the groundwater table encountered in the soil borings, we recommend to include a minimum 6-in. thick clear stone drainage layer with regularly-spaced drain tile at the base of the stone layer to effectively drain water below the slab. The clear stone layer should be separated from the underlying subgrade by a non-woven geotextile fabric (e.g., Mirafi 160N or equivalent) that is wrapped up the sides of foundations/walls below the slab elevation. The subgrade should be sloped to drain water to one of more sumps for removal by a sump pump. Structural fill and base layer material below the floor slab should be placed as described in the Site Preparation section of this report. A subgrade modulus of 150 pci can be used for slabs bearing on the clear stone drainage layer over a firm or adequately stabilized soil subgrade. To further reduce the potential for moisture migration through the slab, a plastic vapor barrier can also be utilized. The slab should be structurally separated from the footings with a compressible filler and have construction joints and reinforcement for crack control.

5. Below-Grade Walls

We anticipate that below-grade walls will be laterally supported by the lower-level slab and upper-level framing. Therefore, *at-rest* lateral earth pressures should be used during design of these walls. To reduce the buildup of such pressures, high-quality backfill should be placed within 4 to 6 ft of the walls. We recommend that a perimeter drainage system be installed to intercept potential surface water infiltration and that the granular backfill be continuously connected to the drainage system. The perimeter drainage system, in turn, should be connected to the subfloor drainage layer, which discharges water by means of one or more sump pumps. The granular backfill should be well-graded sand or gravel having no more than 12% passing the No. 200 U.S. standard sieve (i.e., USCS designations SP, SP-SM, GP or GP-GM). The cleaner sands excavated on-site can potentially be used as wall backfill if selectively excavated and stockpiled, and on-site sands containing higher amounts of fines (denoted SM on the boring logs) can potentially also be used as wall backfill if a three-dimensional drainage board is included in the wall design. Soils containing cobbles/boulders should not be used in direct contact with below-grade walls. To impede the inflow of surface moisture, the final 2 ft of backfill in unpaved areas should consist of a clayey fill cap. The clayey cap (or pavement) should be graded to promote positive drainage away from the walls. Recommended perimeter drain details are presented in Appendix E.

Before placing the wall backfill, the exterior walls should be damp-proofed with spray-applied or mopped-on rubber or bituminous sealer. Compaction of the backfill within 3 to 5 ft of the walls should be performed with lightweight equipment to avoid the development of excessive lateral earth pressures. The backfill should be compacted to a minimum of 93% modified Proctor following Appendix D guidelines. Lower-level walls constructed in accordance with the above recommendations may be designed for an equivalent fluid pressure of 55 psf per ft of depth (*at-rest* conditions). Additionally, the wall design should also account for surcharge effects that could be applied during or after construction as well as hydrostatic pressures.

6. Retaining Walls

Cast-in-place concrete site retaining walls may not be laterally restrained from rotating. Therefore, these walls can be designed for *active* earth pressures behind the walls and *passive* pressures in front of the walls. Lateral pressures behind the retaining walls can be reduced by backfilling with sand with less than 12% passing the No. 200 U.S. standard sieve, as described in the preceding section. In addition, weepholes should be placed near the base of these walls on 10-ft centers to provide drainage of the wall backfill. The weepholes should be hydraulically connected with the backfill and should be protected with a non-woven geotextile fabric to minimize soil loss through the weepholes. The wall designer may have other and/or additional drainage requirements.

Retaining walls constructed in accordance with the above recommendations may be designed for an *active* equivalent fluid pressure of 35 psf/ft. *Passive* pressures are expected to be on the order of 200 psf/ft. The passive pressure value includes a safety factor of 2 to reduce the risk of excessive wall

deflection. The retaining wall design should also take into account surcharge effects which could be applied during or after construction.

7. Pavement Design

Based on the provided site plan, we anticipate that new pavement on this site will be limited to the ramp on the west side of the building, which leads from Marshall Court down to the first below-grade parking level. Based on Borings 1 and 5, pavement subgrades are anticipated to consist of variable fill, possible/probable granular, fine-grained and cohesive fill or organic silt (possible buried topsoil). *We anticipate that undercutting/replacement will be required to develop a suitable subgrade for pavement support, and we recommend that the project budget include a generous contingency for subgrade improvement.* Accordingly, we have included a stabilization layer in the recommended pavement sections.

We anticipate that asphalt pavement on this site will be exposed to primarily automobile traffic with less than one 18-kip equivalent single axle load (ESAL) per day. In view of this, we have assumed Traffic Class I following Wisconsin Asphalt Pavement Association (WAPA) recommendations for parking areas and driveways that are mainly used by light passenger vehicles. However, heavier traffic loads could potentially occur due to delivery and garbage trucks. For the event that trucks will routinely travel on the pavement section, we have assumed a traffic load of less than 10 ESALs per day and Traffic Class II according to WAPA. The pavement sections summarized in Table 1 below were selected assuming a Soil Support Value "SSV" of less than 1 that improves to approximately 4.0 with the inclusion of the stabilization layer, as well as a design life of 20 years.

TABLE 1 – Recommended Pavement Sections

Material	Thicknesses (in.)		WDOT Specification [1]
	Traffic Class I (Light Duty)	Traffic Class II (Medium Duty)	
Bituminous Upper Layer [2,3]	1.5	1.75	Section 460, Table 460-1, 9.5 mm
Bituminous Lower Layer [2,3]	2.0	2.25	Section 460. Table 460-1, 12.5 mm
Dense Graded Base Course [2,4]	8.0	10.0	Sections 301 and 305, 3 in. and 1¼ in.
Stabilization Layer [5]	12.0	12.0	Sections 301 and 305, 3 in.
Total Thickness	**23.5**	**26.0**	

Notes:

1) Wisconsin DOT *Standard Specifications for Highway and Structure Construction*, latest edition, including supplemental specifications, and Wisconsin Asphalt Pavement Association *2018 Asphalt Pavement Design Guide*.

2) Compaction requirements:
   - Bituminous concrete: Refer to Section 460-3.
   - Base course: Refer to Section 301.3.4.2, Standard Compaction

3) Mixture Type LT (or E-0.3) bituminous; refer to Section 460, Table 460-2 of the *Standard Specifications*.

4) The upper 4 in. should consist of 1¼-in. DGB; the bottom part of the layer can consist of 3-in. DGB.

5) Stabilization layer can potentially be reduced if firm subgrade conditions exist when proof-rolled during subgrade preparation. Conversely, if very soft and unstable conditions exist, the stabilization layer may need to be increased and include woven geotextile fabric (e.g., Mirafi 600X or equivalent) or biaxial geogrid (e.g., Tensar BX1100/Type 1 or equivalent).

Note that if traffic volumes are greater than those assumed, CGC should be allowed to review the recommended pavement sections and adjust them accordingly. Alternative pavement designs may prove acceptable and should be reviewed by CGC. If there is a delay between subgrade preparation and placing the base course, the subgrade should be recompacted.

If concrete pavement will be used instead of asphalt, we recommend that the concrete should be at least 6 in. thick and contain mesh reinforcement for crack control. Concrete slabs underlain by a minimum 6 in. thick dense graded base layer over a firm or stabilized subgrade can be designed utilizing a subgrade modulus of 75 pci. Undercutting/stabilization may be required below rigid pavement, as discussed above for flexible pavement.

CONSTRUCTION CONSIDERATIONS

Due to variations in weather, construction methods and other factors, specific construction problems are difficult to predict. Soil related difficulties which could be encountered on the site are discussed below:

- Due to the potentially sensitive nature of some of the on-site soils, we recommend that final site grading activities be completed during dry weather, if possible. Construction traffic should be avoided on prepared subgrades to minimize potential disturbance.

- Contingencies in the project budget for subgrade stabilization with coarse aggregate in pavement and floor slab areas should be increased if the project schedule requires that work proceed during adverse weather conditions.

- Earthwork construction during the late fall through early spring could be complicated as a result of wet weather and freezing temperatures. During cold weather, exposed subgrades should be protected from freezing before and after footing construction. Fill should never be placed while frozen or on frozen ground.

- Excavations extending greater than 4 ft in depth below the existing ground surface should be sloped or braced in accordance with current OSHA standards.

- Based on the observations made during our field exploration, dewatering of some of the deeper undercut excavations could potentially be required, as previously discussed. In addition, water accumulating at the bottom of excavations as a result of precipitation or seepage should be quickly removed in a similar manner, with dewatering means and methods being the contractor's responsibility.

RECOMMENDED CONSTRUCTION MONITORING

The quality of the foundation, floor slab and pavement subgrades will be largely determined by the level of care exercised during site development. To check that earthwork and foundation construction proceed in accordance with our recommendations, the following operations should be monitored by CGC:

- Topsoil stripping/removal and subgrade recompaction/proof-rolling;
- Fill/backfill placement and compaction;
- Foundation excavation/subgrade preparation; and
- Concrete placement.

CLOSING REMARKS

Boring 4, which was planned near the southwest corner of the proposed building, could not be completed due to a multitude of underground utilities, overhead lines and trees in southern portions of the site. In order to gather more subsurface information, especially with regard to potential undercutting of organic soils and lower- to moderate strength (slightly organic) silt and clay soils, this boring could be completed at a later date, potentially utilizing a vacuum excavator to extend below the depth of nearby underground utilities. We have also noticed an existing groundwater monitoring well (installed by others) in southeast portions of the site, and groundwater data from this well (along with final building elevations) could be used to further evaluate the potential for temporary (construction) dewatering of undercut excavations and the need for a subfloor drainage layer. CGC should be allowed to review and adjust the recommendation contained herein, as needed, once final building grades have been determined.

* * * * *

It has been a pleasure to serve you on this project. If you have any questions or need additional consultation, please contact us.

Sincerely,

CGC, Inc.

Tim F. Gassenheimer, E.I.T.
Staff Engineer

David A. Staab, P.E., LEED AP
Senior Consulting Professional

Encl: Appendix A - Field Exploration
Appendix B - Soil Boring Location Exhibit
Logs of Test Borings (4)
Particle Size Distribution Test Report (1)
Log of Test Boring-General Notes
Unified Soil Classification System
Appendix C - Document Qualifications
Appendix D - Recommended Compacted Fill Specifications
Appendix E - Perimeter Drain Details

APPENDIX A

FIELD EXPLORATION

APPENDIX A

FIELD EXPLORATION

Subsurface conditions were explored for this study by drilling four Standard Penetration Test (SPT) soil borings to planned depths of 40 ft below current site grades. The borings are labeled B-1, B-2, B-3 and B-5, and a fifth boring (B-4) was initially planned at the southwest corner of the proposed building. However, due to a multitude of underground utilities, overhead lines and trees in southern portions of the site, B-4 was omitted and B-5 was shifted from the center of the planned building footprint further to the southwest. In addition, the position of B-3 (initially planned near the southeast corner of the proposed building) had to be shifted to the north due to avoid utility conflicts and trees. The boring locations were selected, adjusted to accommodate on-site features and marked in the field by CGC. The borings were performed between April 2 and 6, 2018 by Badger State Drilling (under subcontract to CGC), using truck-mounted CME-55 and ATV-mounted D-50 rotary drill rigs equipped with hollow-stem augers and automatic SPT hammers.

The soil borings were sampled at 2.5-ft intervals to a depth of 10 ft, and at 5-ft intervals thereafter. The soil samples were obtained in general accordance with specifications for standard penetration testing, ASTM D 1586. The specific procedures used for drilling and sampling are described below.

1. Boring Procedures between Samples

   The boring is extended downward, between samples, by a hollow-stem auger or roller bit (in combination with drilling slurry).

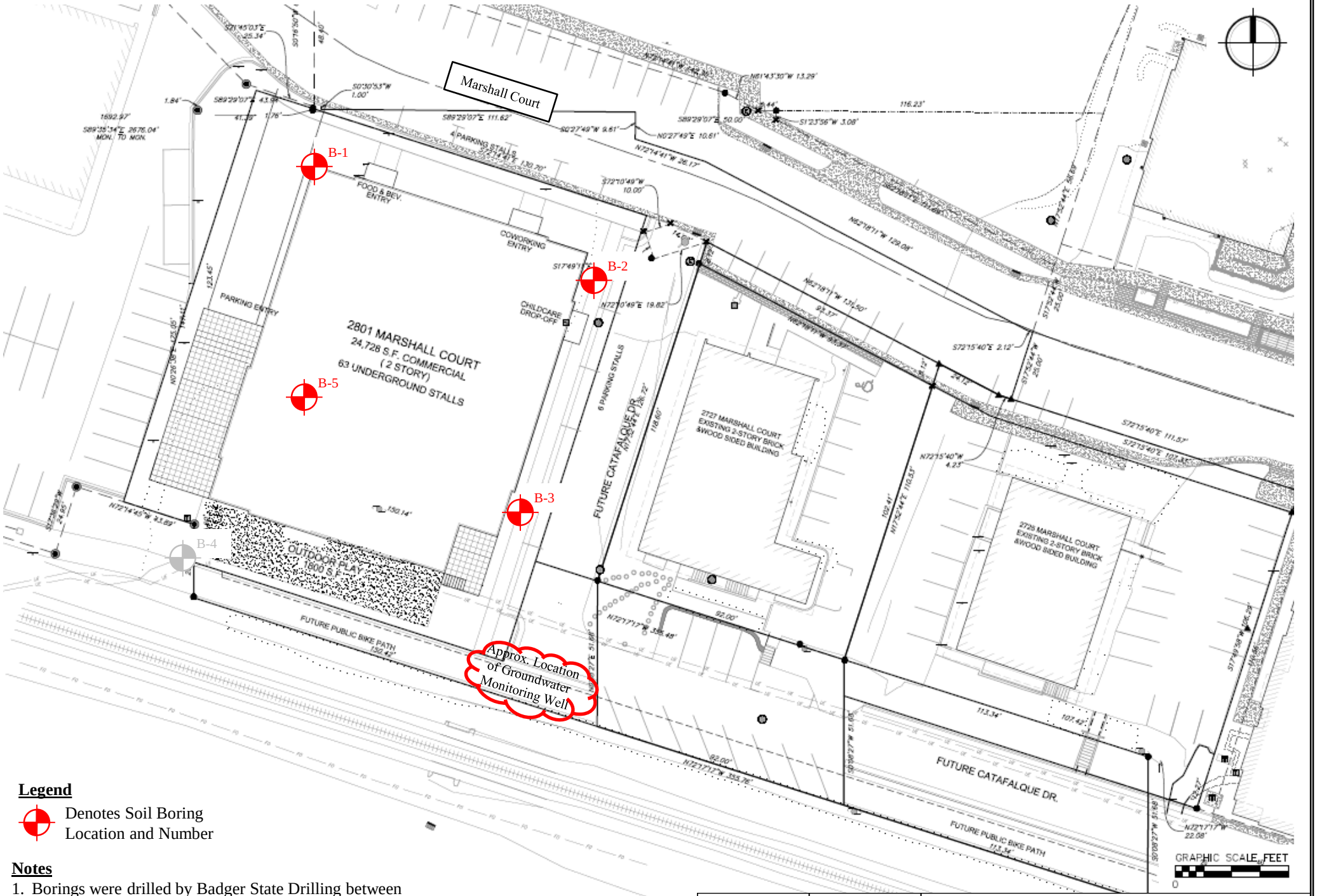
2. Standard Penetration Test and Split-Barrel Sampling of Soils
   (ASTM Designation: D 1586)

   This method consists of driving a 2-inch outside diameter split-barrel sampler using a 140-pound weight falling freely through a distance of 30 inches. The sampler is first seated 6 inches into the material to be sampled and then driven 12 inches. The number of blows required to drive the sampler the final 12 inches is recorded on the log of borings and is known as the Standard Penetration Resistance.

During the field exploration, the driller visually classified the soil and prepared a field log. *Field screening of the soil samples for possible environmental contaminants was not conducted by the drillers as these services were not part of CGC's work scope.* Water level observations were made in each boring during and after drilling and are shown at the bottom of each boring log. Upon completion of drilling, the borings were backfilled with bentonite to satisfy WDNR regulations and the soil samples were delivered to our laboratory for visual classification and laboratory testing. The soils were visually classified by a geotechnical engineer using the Unified Soil Classification System. The Soil Boring Location Exhibit, the final logs prepared by the engineer, including laboratory test results, and a description of the Unified Soil Classification System are presented in Appendix B.

APPENDIX B

SOIL BORING LOCATION EXHIBIT
LOGS OF RECENT TEST BORINGS (4)
PARTICLE SIZE DISTRIBUTION TEST REPORT (1)
LOG OF TEST BORING-GENERAL NOTES
UNIFIED SOIL CLASSIFICATION SYSTEM



Legend

Denotes Soil Boring Location and Number

Notes

1. Borings were drilled by Badger State Drilling between April 2 and 6, 2018.
2. B-4 has not been drilled at this point.
3. Boring locations are approximate.
4. Base map was prepared by Knothe & Bruce Architects.

Date: 04/2018	**CGC, Inc.**	**SOIL BORING LOCATION EXHIBIT**
Job No.: C18110		**Proposed Commercial Redevelopment**
		2801 Marshall Court
		Village of Shorewood Hills, Dane Co,, WI

CGC Inc.

LOG OF TEST BORING

Project **Proposed Commercial Redevelopment**
2801 Marshall Court
Location **Village of Shorewood Hills, Dane Co,, WI**

Boring No. **1**
Surface Elevation (ft) **881±**
Job No. **C18110**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						4± in. Asphalt Pavement					
1		12	M	62		8± in. Base Course					
						FILL: Very Dense, Gray Fine to Coarse Sand, Some					
2		12	M	10	5	Gravel, Trace to Little Silt, Scattered Brick Fragments and Cinders	(0.5-2.25)				
3		16	M	17		Notable Petroleum Odor in Sample 1 (1 to 2.5 ft)	(2.5-3.25)				
						Loose to Medium Dense/Medium Stiff to Very					
4		16	M	14	10	Stiff, Dark Brown/Dark Gray Clayey SILT and Lean CLAY, Little to Some Sand, Trace Gravel and Organics, Scattered Fine Roots (ML/CL-ML/CL - Probable Fill or Buried Topsoil)					
5		14	M	9	15	Very Stiff, Dark Brown Lean CLAY, Little Sand, Trace Gravel (CL - Possible Fill)	(1.5-2.5)				
						Medium Dense, Dark Gray SILT, Trace Clay, Sand and Organics (ML - Possible Buried Topsoil)					
6		18	M	4	20	Medium Stiff to Very Stiff, Dark Gray to Black Organic CLAY, Trace to Little Sand, Scattered to Numerous Organic Fibers (OL)	(0.75-1.25)	56.3			7.6
7		18	M	6	25	Medium Stiff to Stiff, Gray to Dark Gray Lean CLAY, Trace Sand and Organics (CL)	(0.75-1.25)	36.3			4.0
8		14	W	13	30	Medium Dense, Gray Fine to Medium SAND, Little Gravel, Trace to Little Silt, Scattered Silt Seams and Cobbles/Boulders (SP/SP-SM) Faint Organic Odor in Sample 8 (28.5 to 30 ft)					
9		14	W	18	35	Medium Dense, Tan/Brown Fine to Medium SAND, Trace Silt and Gravel (SP) Faint Organic Odor in Sample 9 (33.5 to 35 ft)					
10		14	W	21	40						
						End of Boring at 40 ft Borehole Backfilled with Bentonite Chips; Surface Patched with Asphalt Cold-Patch					
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **28.5'** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/2/18** End **4/2/18**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Commercial Redevelopment**
2801 Marshall Court
Location **Village of Shorewood Hills, Dane Co,, WI**

Boring No. **2**
Surface Elevation (ft) **880±**
Job No. **C18110**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						6± in. Concrete Pavement					
1		12	M	22		12± in. Base Course					
						FILL: Medium Dense, Gray/Reddish Brown Silt, Little Gravel, Trace Clay and Sand					
2		8	M	9	5						
						FILL: Loose, Tan/Gray/Black Sandy Fine to Coarse Gravel, Trace Silt, Scattered Possible Cinders					
3		6	M	4							
						FILL: Very Loose to Loose, Tan/Dark Gray Fine to Coarse Sand, Some Gravel, Little Silt, Scattered Brick and Glass Fragments and Possible Cinders					
4		12	M	8	10						
						Loose, Dark Gray to Black Organic SILT, Little Clay, Trace Sand, Scattered Organic Fibers (OL - Possible Buried Topsoil)					
5		18	M	9			(0.75-2.0)				
					15	Medium Stiff to Stiff, Gray/Dark Gray/Reddish Brown (Variegated) Lean CLAY, Trace to Little Sand, Trace Organics (CL)					
6		14	M/W	9		Loose, Gray Sandy SILT to Silty Fine SAND, Trace to Little Clay (ML/SM)					
					20						
7		18	M/W	16		Medium Dense, Grayish Brown Fine to Medium SAND, Little Silt, Trace Gravel, Scattered Thin Brown Sand Seams with Trace Silt (SP-SM)					
					25	Faint Organic Odor in Sample 7 (23.5 to 25 ft)					
8		18	W	32	▽	Dense, Tan/Brown Fine to Medium SAND, Trace Silt and Gravel (SP)					
					30						
9		18	W	41							
					35						
10		18	W	36							
					40	End of Boring at 40 ft					
						Borehole Backfilled with Bentonite Chips; Surface Patched with Asphalt Cold-Patch					
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **28.5'** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/2/18** End **4/3/18**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Commercial Redevelopment**
2801 Marshall Court
Location **Village of Shorewood Hills, Dane Co,, WI**

Boring No. **3**
Surface Elevation (ft) **880±**
Job No. **C18110**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						7± in. Topsoil Fill (OL)					
1		2	M	24		FILL: Medium Dense, Brown Fine to Coarse Sand, Some Gravel, Little to Some Silt, Scattered Dark Brown Silt Seams					
2		8	M	5	5	FILL: Loose, Brown Fine to Medium Sand, Little Gravel, Trace Silt, Scattered Silty Sand Pockets and Cinders					
3		10	M	7							
4		16	M	26	10	Loose, Dark Gray/Black Organic SILT, Little Clay, Trace Sand, Scattered Roots (OL - Possible Fill or Buried Topsoil)					
						Medium Dense, Gray (Lightly Mottled) SILT, Little to Some Sand, Trace Clay (ML)					
5		8	M	14	15	Medium Dense, Dark Grayish Brown Fine to Medium SAND, Some Silt, Trace Clay, Gravel and Organics, Scattered Thin Gray Clayey Silt Seams (SM)					
6		14	M	14	20	Medium Dense, Tan Fine SAND, Trace to Little Silt (SP/SP-SM)					
7		14	M/W	19	25	Medium Dense, Brown Fine to Medium SAND, Trace to Little Silt, Trace Gravel, Scattered Silt Seams (SP/SP-SM) P200 (Sample 7): 7.6%		17.6			
8		18	W	20	30						
9		18	W	19	35						
10		10	W	21	40	Medium Dense, Yellowish Brown Fine SAND, Trace to Little Silt, Trace Gravel (SP/SP-SM - Possible Highly Weathered Sandstone Bedrock)					
						End of Boring at 40 ft Borehole Backfilled with Bentonite Chips					
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **24.0'** Upon Completion of Drilling _____

Time After Drilling				**30 min.**
Depth to Water				**24.0'** ▼
Depth to Cave in				**25.0'**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/6/18** End **4/6/18**
Driller **BSD** Chief **DB** Rig **D-50**
Logger **CV/MC** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Commercial Redevelopment**
2801 Marshall Court
Location **Village of Shorewood Hills, Dane Co,, WI**

Boring No. **5**
Surface Elevation (ft) **880±**
Job No. **C18110**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						3.5± in. Asphalt Pavement					
1		8	M	35		8± in. Base Course	(2.25-2.5)				
2		18	M	16		FILL: Very Stiff, Black Organic Clay, Trace Sand and Gravel, Scattered Wood Fibers					
3		14	M/W	14	5	Medium Dense, Dark Gray Silty Fine SAND, Trace Organics (SM - Probable Fill or Buried Topsoil) Faint Organic Odor in Sample 2 (3.5 to 5 ft)					
4		16	M	13		Medium Dense, Gray/Light Gray (Laminated) Fine SAND, Little to Some Silt, Trace Gravel (SP-SM/SM - Possible Fill)					
5		18	M/W	4	10	Medium Dense, Dark Gray to Black Organic SILT, Little Sand, Trace Gravel, Scattered Organic Fibers (OL - Possible Buried Topsoil)					
6		18	M	10	15	Very Loose to Loose, Gray/Brown (Lightly Mottled) Clayey Fine to Medium SAND, Scattered Organic Fibers (SC)	(1.0-1.75)	25.1			2.8
7		16	W	34	20	Stiff, Gray Silty CLAY, Trace Sand and Organics (CL-ML) Faint Organic Odor in Sample 6 (18.5 to 20 ft)					
8		14	W	36	25	Dense, Gray/Brown Fine to Coarse SAND, Some Silt and Gravel, Trace to Little Clay, Scattered Cobbles/Boulders (SM)					
9		18	W	32	30	Dense, Gray Fine to Coarse GRAVEL, Some Sand, Trace to Little Silt, Scattered Sand Seams with Some Silt and Cobbles/Boulders (GP/GP-GM)					
10		18	W	38	35	Dense, Tan/Brown Fine to Medium SAND, Trace Silt and Gravel (SP)					
					40	Scatterd Sandy Silt Seams near 39 ft					
					45	End of Boring at 40 ft Borehole Backfilled with Bentonite Chips; Surface Patched with Asphalt Cold-Patch					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **23.5'** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **4/3/18** End **4/3/18**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

Particle Size Distribution Report

% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	8.9	83.4	7.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#8	100.0		
#10	99.9		
#16	99.7		
#30	98.5		
#40	91.0		
#50	72.8		
#80	29.4		
#100	17.9		
#200	7.6		

* (no specification provided)

Material Description

Brown Fine to Medium Sand, Little Silt

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4131 D_{85}= 0.3674 D_{60}= 0.2563
D_{50}= 0.2292 D_{30}= 0.1815 D_{15}= 0.1236
D_{10}= 0.0883 C_u= 2.90 C_c= 1.46

Classification

USCS= SP-SM AASHTO=

Remarks

Sample Number: B-3: S-7

Date: 4/9/18

CGC,Inc.

Client: Ideal Builders, Inc.

Project: Redevelopment - 2801 Marshall Court, Madison

Project No: C18110 **Figure**

Tested By: DRW **Checked By:** TFG

CGC, Inc.

LOG OF TEST BORING

General Notes

DESCRIPTIVE SOIL CLASSIFICATION

Grain Size Terminology

Soil Fraction	Particle Size	U.S. Standard Sieve Size
Boulders	Larger than 12"	Larger than 12"
Cobbles	3" to 12"	3" to 12"
Gravel: Coarse	¾" to 3"	¾" to 3"
Fine	4.76 mm to ¾"	#4 to ¾"
Sand: Coarse	2.00 mm to 4.76 mm	#10 to #4
Medium	0.42 to mm to 2.00 mm	#40 to #10
Fine	0.074 mm to 0.42 mm	#200 to #40
Silt	0.005 mm to 0.074 mm	Smaller than #200
Clay	Smaller than 0.005 mm	Smaller than #200

Plasticity characteristics differentiate between silt and clay.

General Terminology

Physical Characteristics
Color, moisture, grain shape, fineness, etc.
Major Constituents
Clay, silt, sand, gravel
Structure
Laminated, varved, fibrous, stratified, cemented, fissured, etc.
Geologic Origin
Glacial, alluvial, eolian, residual, etc.

Relative Density

Term	"N" Value
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Over 50

Relative Proportions Of Cohesionless Soils

Proportional Term	Defining Range by Percentage of Weight
Trace	0% - 5%
Little	5% - 12%
Some	12% - 35%
And	35% - 50%

Consistency

Term	q_u-tons/sq. ft
Very Soft	0.0 to 0.25
Soft	0.25 to 0.50
Medium	0.50 to 1.0
Stiff	1.0 to 2.0
Very Stiff	2.0 to 4.0
Hard	Over 4.0

Organic Content by Combustion Method

Soil Description	Loss on Ignition
Non Organic	Less than 4%
Organic Silt/Clay	4 – 12%
Sedimentary Peat	12% - 50%
Fibrous and Woody Peat	More than 50%

Plasticity

Term	Plastic Index
None to Slight	0 - 4
Slight	5 - 7
Medium	8 - 22
High to Very High	Over 22

The penetration resistance, N, is the summation of the number of blows required to effect two successive 6" penetrations of the 2" split-barrel sampler. The sampler is driven with a 140 lb. weight falling 30" and is seated to a depth of 6" before commencing the standard penetration test.

SYMBOLS

Drilling and Sampling

CS – Continuous Sampling
RC – Rock Coring: Size AW, BW, NW, 2"W
RQD – Rock Quality Designation
RB – Rock Bit/Roller Bit
FT – Fish Tail
DC – Drove Casing
C – Casing: Size 2 ½", NW, 4", HW
CW – Clear Water
DM – Drilling Mud
HSA – Hollow Stem Auger
FA – Flight Auger
HA – Hand Auger
COA – Clean-Out Auger
SS - 2" Dia. Split-Barrel Sample
2ST – 2" Dia. Thin-Walled Tube Sample
3ST – 3" Dia. Thin-Walled Tube Sample
PT – 3" Dia. Piston Tube Sample
AS – Auger Sample
WS – Wash Sample
PTS – Peat Sample
PS – Pitcher Sample
NR – No Recovery
S – Sounding
PMT – Borehole Pressuremeter Test
VS – Vane Shear Test
WPT – Water Pressure Test

Laboratory Tests

q_a – Penetrometer Reading, tons/sq ft
q_a – Unconfined Strength, tons/sq ft
W – Moisture Content, %
LL – Liquid Limit, %
PL – Plastic Limit, %
SL – Shrinkage Limit, %
LI – Loss on Ignition
D – Dry Unit Weight, lbs/cu ft
pH – Measure of Soil Alkalinity or Acidity
FS – Free Swell, %

Water Level Measurement

▽ - Water Level at Time Shown
NW – No Water Encountered
WD – While Drilling
BCR – Before Casing Removal
ACR – After Casing Removal
CW – Cave and Wet
CM – Caved and Moist

Note: Water level measurements shown on the boring logs represent conditions at the time indicated and may not reflect static levels, especially in cohesive soils.

CGC, Inc.

Madison - Milwaukee

Unified Soil Classification System

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)		
		GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)		
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)		
		SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)		
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

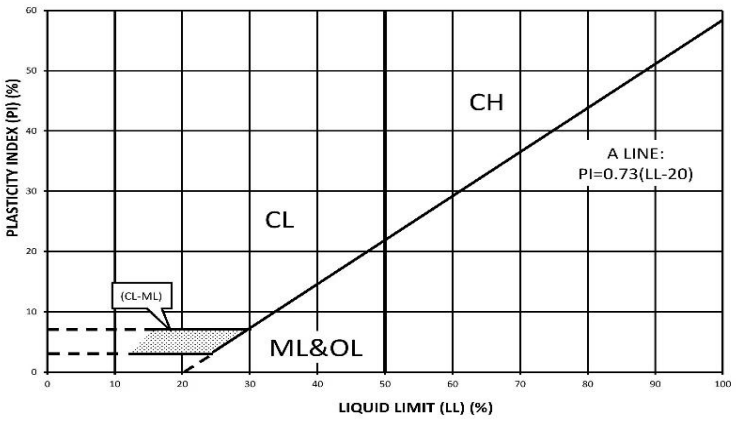
LABORATORY CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_C = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limts below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limts above "A" line or P.I. greater than 7	
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_C = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for GW	
SM	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
SC	Atterberg limits above "A" line with P.I. greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 percent ..... GW, GP, SW, SP
More than 12 percent ..... GM, GC, SM, SC
5 to 12 percent ..... Borderline cases requiring dual symbols

PLASTICITY CHART



APPENDIX C

DOCUMENT QUALIFICATIONS

APPENDIX C
DOCUMENT QUALIFICATIONS

I. GENERAL RECOMMENDATIONS/LIMITATIONS

CGC, Inc. should be provided the opportunity for a general review of the final design and specifications to confirm that earthwork and foundation requirements have been properly interpreted in the design and specifications. CGC should be retained to provide soil engineering services during excavation and subgrade preparation. This will allow us to observe that construction proceeds in compliance with the design concepts, specifications and recommendations, and also will allow design changes to be made in the event that subsurface conditions differ from those anticipated prior to the start of construction. CGC does not assume responsibility for compliance with the recommendations in this report unless we are retained to provide construction testing and observation services.

This report has been prepared in accordance with generally accepted soil and foundation engineering practices and no other warranties are expressed or implied. The opinions and recommendations submitted in this report are based on interpretation of the subsurface information revealed by the test borings indicated on the location plan. The report does not reflect potential variations in subsurface conditions between or beyond these borings. Therefore, variations in soil conditions can be expected between the boring locations and fluctuations of groundwater levels may occur with time. The nature and extent of the variations may not become evident until construction.

II. IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL ENGINEERING REPORT

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes. While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. *No one except you* should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one - not even you* - should apply the report for any purpose or project except the one originally contemplated.

READ THE FULL REPORT

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A GEOTECHNICAL ENGINEERING REPORT IS BASED ON A UNIQUE SET OF PROJECT-SPECIFIC FACTORS

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, *do not rely on a geotechnical engineering report* that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes - even minor ones - and request an assessment of their impact. *CGC cannot accept responsibility or liability for problems that occur because our reports do not consider developments of which we were not informed.*

SUBSURFACE CONDITIONS CAN CHANGE

A geotechnical engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

MOST GEOTECHNICAL FINDINGS ARE PROFESSIONAL OPINION

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgement to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ - sometimes significantly - from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most

effective method of managing the risks associated with unanticipated conditions.

A REPORT'S RECOMMENDATIONS ARE NOT FINAL

Do not over-rely on the confirmation-dependent recommendations included in your report. *Those confirmation-dependent recommendations are not final*, because geotechnical engineers develop them principally from judgement and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *CGC cannot assume responsibility or liability for the report's confirmation-dependent recommendations if we do not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A GEOTECHNICAL ENGINEERING REPORT IS SUBJECT TO MISINTERPRETATION

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical engineering report. Confront that risk by having CGC participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

DO NOT REDRAW THE ENGINEER'S LOGS

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

GIVE CONSTRUCTORS A COMPLETE REPORT AND GUIDANCE

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

READ RESPONSIBILITY PROVISIONS CLOSELY

Some clients, design professionals, and constructors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineer's responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely*. Ask questions. Your geotechnical engineer should respond fully and frankly.

ENVIRONMENTAL CONCERNS ARE NOT COVERED

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

OBTAIN PROFESSIONAL ASSISTANCE TO DEAL WITH MOLD

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

RELY ON YOUR GEOTECHNICAL ENGINEER FOR ADDITIONAL ASSISTANCE

Membership in the Geotechnical Business Council (GBC) of Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with CGC, a member of GBC, for more information.

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8811 Colesville Road, Suite G 106
Silver Spring, MD 20910

APPENDIX D

RECOMMENDED COMPACTED FILL SPECIFICATIONS

APPENDIX D

CGC, INC.

RECOMMENDED COMPACTED FILL SPECIFICATIONS

General Fill Materials

Proposed fill shall contain no vegetation, roots, topsoil, peat, ash, wood or any other non-soil material which by decomposition might cause settlement. Also, fill shall never be placed while frozen or on frozen surfaces. Rock, stone or broken concrete greater than 6 in. in the largest dimension shall not be placed within 10 ft of the building area. Fill used greater than 10 ft beyond the building limits shall not contain rock, boulders or concrete pieces greater than a 2 sq ft area and shall not be placed within the final 2 ft of finish subgrade or in designated utility construction areas. Fill containing rock, boulders or concrete pieces should include sufficient finer material to fill voids among the larger fragments.

Special Fill Materials

In certain cases, special fill materials may be required for specific purposes, such as stabilizing subgrades, backfilling undercut excavations or filling behind retaining walls. For reference, WisDOT gradation specifications for various types of granular fill are attached in Table 1.

Placement Method

The approved fill shall be placed, spread and leveled in layers generally not exceeding 10 in. in thickness before compaction. The fill shall be placed at moisture content capable of achieving the desired compaction level. For clay soils or granular soils containing an appreciable amount of cohesive fines, moisture conditioning will likely be required.

It is the Contractor's responsibility to provide all necessary compaction equipment and other grading equipment that may be required to attain the specified compaction. Hand-guided vibratory or tamping compactors will be required whenever fill is placed adjacent to walls, footings, columns or in confined areas.

Compaction Specifications

Maximum dry density and optimum moisture content of the fill soil shall be determined in accordance with modified Proctor methods (ASTM D1557). The recommended field compaction as a percentage of the maximum dry density is shown in Table 2. Note that these compaction guidelines would generally not apply to coarse gravel/stone fill. Instead, a method specification would apply (e.g., compact in thin lifts with a vibratory compactor until no further consolidation is evident).

Testing Procedures

Representative samples of proposed fill shall be submitted to CGC, Inc. for optimum moisture-maximum density determination (ASTM D1557) prior to the start of fill placement. The sample size should be approximately 50 lb.

CGC, Inc. shall be retained to perform field density tests to determine the level of compaction being achieved in the fill. The tests shall generally be conducted on each lift at the beginning of fill placement and at a frequency mutually agreed upon by the project team for the remainder of the project.

Table 1
Gradation of Special Fill Materials

Material	WisDOT Section 311	WisDOT Section 312	WisDOT Section 305			WisDOT Section 209		WisDOT Section 210
	Breaker Run	Select Crushed Material	3-in. Dense Graded Base	1 1/4-in. Dense Graded Base	3/4-in. Dense Graded Base	Grade 1 Granular Backfill	Grade 2 Granular Backfill	Structure Backfill
Sieve Size	Percent Passing by Weight							
6 in.	100							
5 in.		90-100						
3 in.			90-100					100
1 1/2 in.		20-50	60-85					
1 1/4 in.				95-100				
1 in.					100			
3/4 in.			40-65	70-93	95-100			
3/8 in.				42-80	50-90			
No. 4			15-40	25-63	35-70	100 (2)	100 (2)	25-100
No. 10		0-10	10-30	16-48	15-55			
No. 40			5-20	8-28	10-35	75 (2)		
No. 100						15 (2)	30 (2)	
No. 200			2-12	2-12	5-15	8 (2)	15 (2)	15 (2)

Notes:

1. Reference: Wisconsin Department of Transportation *Standard Specifications for Highway and Structure Construction.*
2. Percentage applies to the material passing the No. 4 sieve, not the entire sample.
3. Per WisDOT specifications, both breaker run and select crushed material can include concrete that is 'substantially free of steel, building materials and other deleterious material'.

Table 2
Compaction Guidelines

Area	Percent Compaction (1)	
	Clay/Silt	Sand/Gravel
Within 10 ft of building lines		
Footing bearing soils	93 - 95	95
Under floors, steps and walks		
- Lightly loaded floor slab	90	90
- Heavily loaded floor slab and thicker fill zones	92	95
Beyond 10 ft of building lines		
Under walks and pavements		
- Less than 2 ft below subgrade	92	95
- Greater than 2 ft below subgrade	90	90
Landscaping	85	90

Notes:

1. Based on Modified Proctor Dry Density (ASTM D 1557)

APPENDIX E

PERIMETER DRAIN DETAILS

General Notes

1. This system's primary function is to intercept infiltrating surface water. These alternates are not appropriate for use in situations of high groundwater (i.e., cases where the water table approaches floor slab elevation).

2. Grade surface cap to slope away from structure.

3. Exterior surface of walls below grade should be damp-proofed.

4. A plastic vapor barrier should be installed below the slab.

5. Recommended types of drain pipes:

Specification	Description
ASTM D2729	Polyvinyl Chloride (PVC) Drain Pipe
ASTM F405	Corrugated Polyethylene Drain Pipe
ASTM D2852	Styrene-Rubber Plastic Drain Pipe
AASHTO M1366	Corrugated Metal Underdrain Pipe

6. Minimum slope of drain pipes should be 2 in. per 100 lin ft.

7. Place drain pipe below basement floor level and orient the perforations toward the bottom.

8. Clean-outs should be provided to service the pipe.

9. Collected field water should be discharged to a sump, storm sewer or drainage field.

10. The geotextile for Alternative Nos. 2 and 3 may be eliminated if filter requirements are satisfied between the wall and pipe backfill, as well as between backfill materials and natural soils.

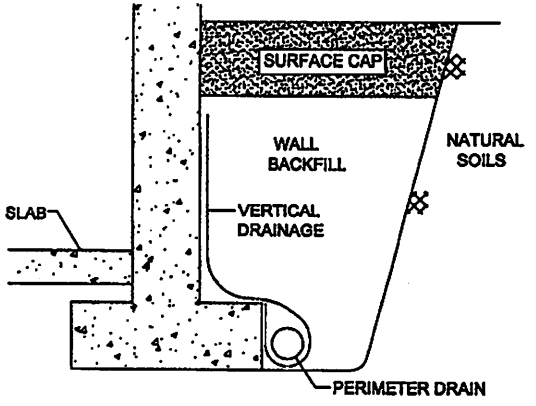
11. Pipe backfill materials should satisfy filter requirements for the slot width or hole diameter of the perforated pipe.

12. Care should be taken during backfilling not to damage the integrity of the system. For compaction requirements, refer to geotechnical report.

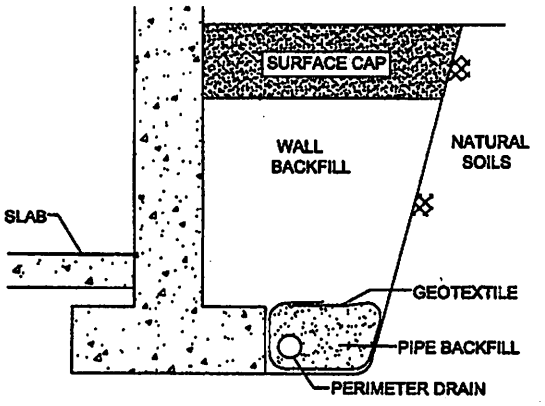
13. Pipe, geotextile, and geocomposite should be installed according to manufacturer specifications.

CGC, Inc.

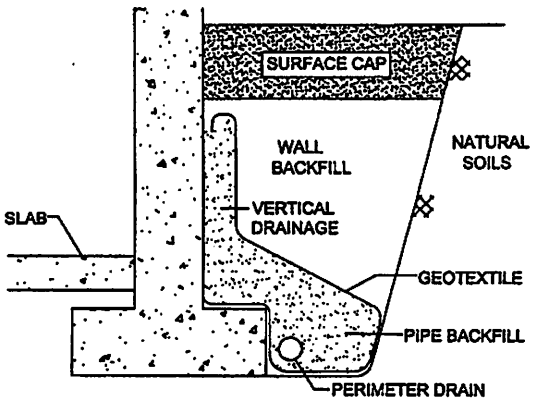
Typical Perimeter Drain Detail
General Notes



ALTERNATE NO. 1



ALTERNATE NO. 2



ALTERNATE NO. 3

DRAINAGE SYSTEM COMPONENTS

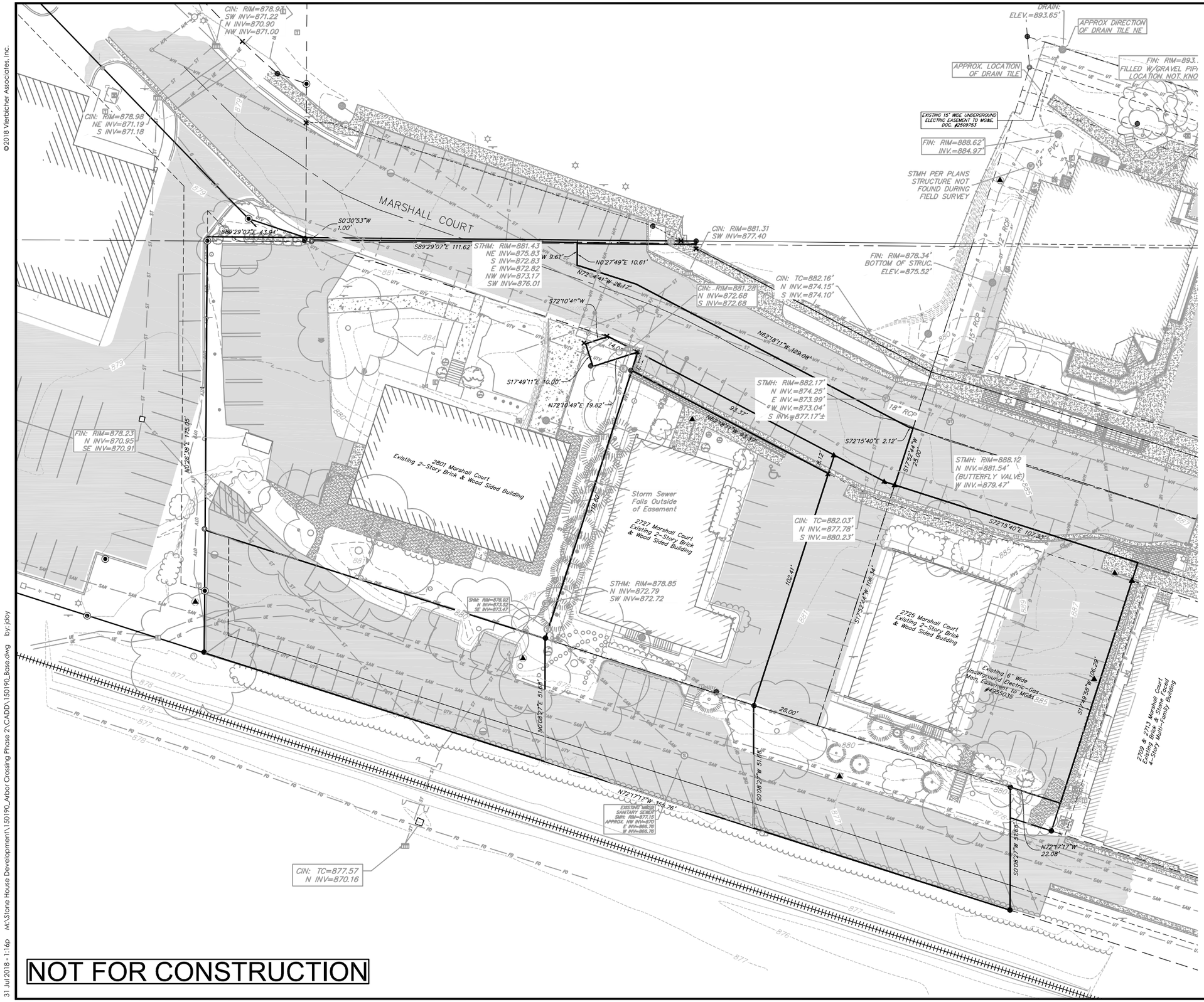
Component	Alternate No. 1	Alternate No. 2	Alternate No. 3
Surface Cap	1 to 2 ft of clayey soils. Minimum 1 ft thick if overlain by pavement	Refer to Alternate No. 1	Refer to Alternate No. 1
Vertical Drainage	3-dimensional drainage geocomposite hydraulically connected to perimeter drain.	Relatively free-draining granular soils with P200 (% fines) ≤12%.	Minimum 6-in. wide zone of free-draining granular soils with P200 ≤ 5% hydraulically connected to perimeter drain. Provide geotextile as required (see note 10.
Perimeter Drain	Perforated pipe encapsulated in geocomposite.	Perforated pipe surrounded by free-draining granular pipe backfill with P200 ≤ 5%. Provide geotextile as required (See Note 10).	Refer to Alternate No. 2
Wall Backfill	Excavation spoils or imported materials (granular soils preferred).	Relatively free-draining granular soils with P200 ≤ 12%.	Refer to Alternate No. 1

CGC, Inc.

Typical Perimeter Drain Detail

Attachment B

Project Plan Set



GRAPHIC SCALE FEET
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TOPOGRAPHIC SYMBOL LEGEND

- EXISTING BOLLARD
- EXISTING POST
- EXISTING SIGN
- EXISTING CURB INLET
- EXISTING FIELD INLET
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- ROOF DOWNSPOUT
- EXISTING FIRE HYDRANT
- EXISTING STANDPIPE
- EXISTING WATER MAIN VALVE
- EXISTING CURB STOP
- EXISTING GAS VALVE
- EXISTING AIR CONDITIONING PEDESTAL
- EXISTING DOWN GUY
- EXISTING ELECTRIC MANHOLE
- EXISTING ELECTRIC PEDESTAL
- EXISTING TRANSFORMER
- EXISTING LIGHT POLE
- EXISTING GENERIC LIGHT
- EXISTING UTILITY POLE
- EXISTING TV PEDESTAL
- EXISTING TELEPHONE MANHOLE
- EXISTING TELEPHONE PEDESTAL
- EXISTING HANDICAP PARKING
- EXISTING DECIDUOUS TREE
- ASPHALT PAVEMENT/DRIVEWAY PARKING LOT
- CONCRETE PAVEMENT/WALK
- BRICK PAVERS
- GRAVEL PATH

NOTES:

1. THIS SURVEY WAS PREPARED BASED UPON INFORMATION PROVIDED IN THE SUBDIVISION APPROVAL REPORT 30/60 TITLE SEARCH NO. NCS-745776-MAD, DATED AUGUST 04 09, 2015 AT 7:00A.M., FROM FIRST AMERICAN TITLE INSURANCE COMPANY NATIONAL COMMERCIAL SERVICES, 10 W. MIFFLIN STREET, SUITE 302, MADISON, WI 53703.
2. AREA OF PARCEL SURVEYED IS 33,362 SQUARE FEET MORE OR LESS.
3. THIS SURVEY IS BASED UPON FIELD SURVEY WORK PERFORMED ON JULY 23 & 24, AND AUGUST 6 & 11, 2015. ANY CHANGES IN SITE CONDITIONS AFTER AUGUST 11, 2015 ARE NOT REFLECTED BY THIS SURVEY.
4. UTILITY LOCATIONS WERE FIELD LOCATED BASED UPON SUBSTANTIAL, VISIBLE, ABOVE GROUND STRUCTURES, UPON MAPS PROVIDED TO THE SURVEYOR, OR UPON MARKINGS ON THE GROUND PLACED BY UTILITY COMPANIES AND/OR THEIR AGENTS. NO WARRANTY IS GIVEN TO THE UTILITY MARKINGS BY OTHERS OR THAT ALL UNDERGROUND UTILITIES AFFECTING THIS PROPERTY WERE MARKED AND SUBSEQUENTLY LOCATED FOR THIS SURVEY. THE SIZE OF WATER MAIN AND SANITARY SEWER HAS BEEN NOTED PER MAPS PROVIDED TO THE SURVEYOR.
5. NO ATTEMPT HAS BEEN MADE AS A PART OF THIS SURVEY TO OBTAIN OR SHOW DATA CONCERNING CONDITION, OR CAPACITY OF ANY UTILITY OR MUNICIPAL/PUBLIC SERVICE FACILITY. FOR INFORMATION REGARDING THESE UTILITIES CONTACT THE APPROPRIATE AGENCIES.
6. SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OR OWNERSHIP TITLE EVIDENCE.
7. CONTOURS AND ELEVATIONS DEPICTED HEREON ARE BASED UPON THE NAVD88 DATUM.

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Existing Conditions Plan

The Lodgic
Village of Shorewood Hills
Dane County, Wisconsin

REVISIONS

NO.	DATE	REMARKS
1	7/2/18	Village Resubmittal
2	7/31/18	Village Resubmittal

SCALE: AS SHOWN
DATE: 05/23/2018
DRAFTER: JARC
CHECKED: JDOY
PROJECT NO.: #150190
SHEET: 1 OF 7
DWG. NO.: C-0.1

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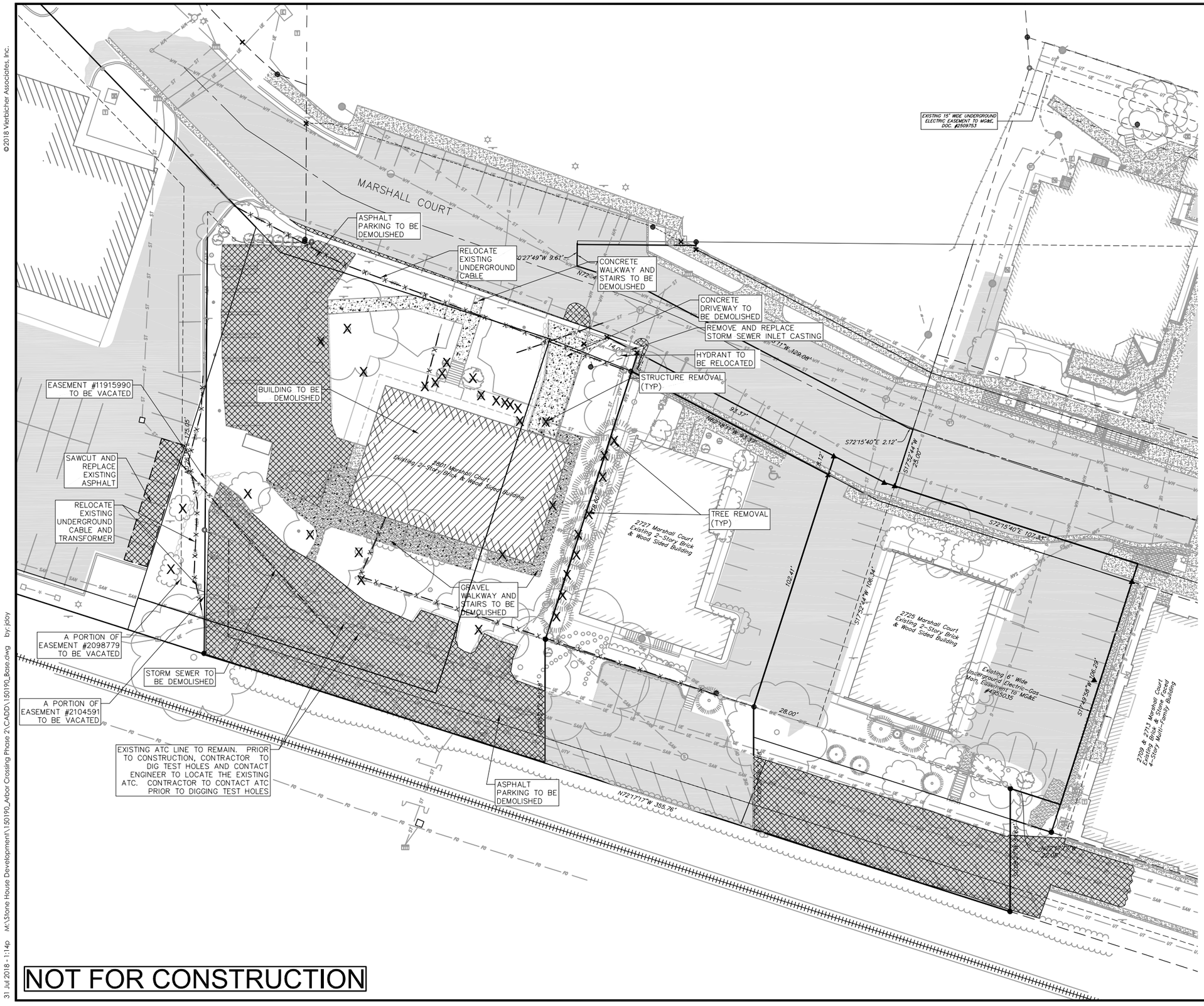

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DEMOLITION PLAN LEGEND

- CURB AND GUTTER REMOVAL
- ASPHALT REMOVAL
- CONCRETE REMOVAL
- BUILDING REMOVAL
- TREE REMOVAL
- TREE PROTECTION
- SAWCUT
- UTILITY STRUCTURE REMOVAL
- UTILITY LINE REMOVAL
- PROPERTY BOUNDARY

GENERAL NOTES:

1. THE LOCATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THE PLANS HAS BEEN DETERMINED FROM THE BEST AVAILABLE INFORMATION AND IS GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE OWNER AND THE ENGINEER DO NOT ASSUME RESPONSIBILITY IN THE EVENT THAT DURING CONSTRUCTION, UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED, AND THAT THE ACTUAL LOCATION OF THOSE WHICH ARE SHOWN MAY BE DIFFERENT FROM THE LOCATION AS SHOWN ON THE PLANS.
2. CONTRACTOR SHALL KEEP ALL STREETS FREE AND CLEAR OF CONSTRUCTION RELATED DIRT/DUST/DEBRIS.
3. ALL CURB AND GUTTER TO BE FULLY REMOVED SHALL HAVE A FULL DEPTH SAWCUT AT THE NEAREST JOINT.
4. CONTRACTOR SHALL REMOVE AND REPLACE ANY PUBLIC IMPROVEMENTS THAT ARE DAMAGED DURING CONSTRUCTION AT THE CONTRACTOR'S EXPENSE

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Demolition Plan

The Lodgic
Village of Shorewood Hills
Dane County, Wisconsin

REVISIONS NO.	DATE	REMARKS
1	7/31/18	Village Resubmittal

REVISIONS NO.	DATE	REMARKS
1	6/4/18	DDP SUBMITTAL
2	7/2/18	Village Resubmittal
3	7/25/18	Initial Pricing Set

SCALE
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DATE
05/23/2018

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PROJECT NO.
#150190

SHEET
2 OF 7

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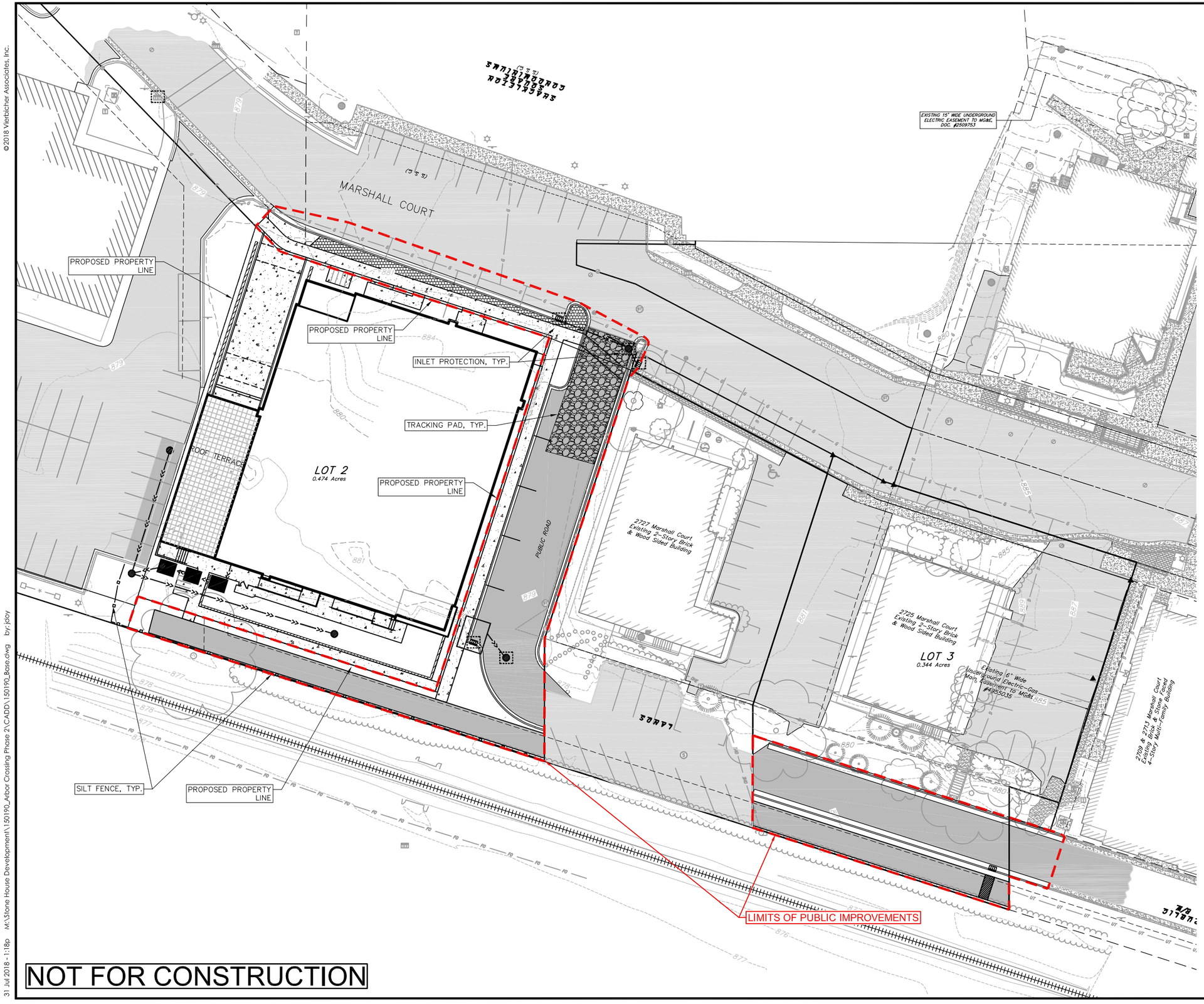

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GRAPHIC SCALE FEET
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GRADING LEGEND

- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- SILT FENCE
- INLET PROTECTION
- TRACKING PAD

GENERAL NOTES:

1. INSTALL A 50'L X 20'W X 1.5'D TRACKING PAD AT THE SITE ENTRANCE. THE TRACKING PAD SHALL BE MAINTAINED/REPAIRED AS NECESSARY TO ACCOMMODATE CONSTRUCTION.
2. THE CONTRACTOR IS REQUIRED TO MAKE EROSION CONTROL INSPECTIONS AT THE END OF EACH WEEK AND WHEN 0.5 INCHES OF RAIN FALLS WITHIN 24 HOURS. INSPECTION REPORTS SHALL BE PREPARED AND FILED AS REQUIRED BY THE DNR. ALL MAINTENANCE/REPAIR WILL FOLLOW AN INSPECTION WITHIN 24 HOURS.
3. INSTALL WI DOT TYPE D INLET PROTECTION IN EXISTING CURB INLETS AND WI DOT TYPE A IN FIELD INLETS.

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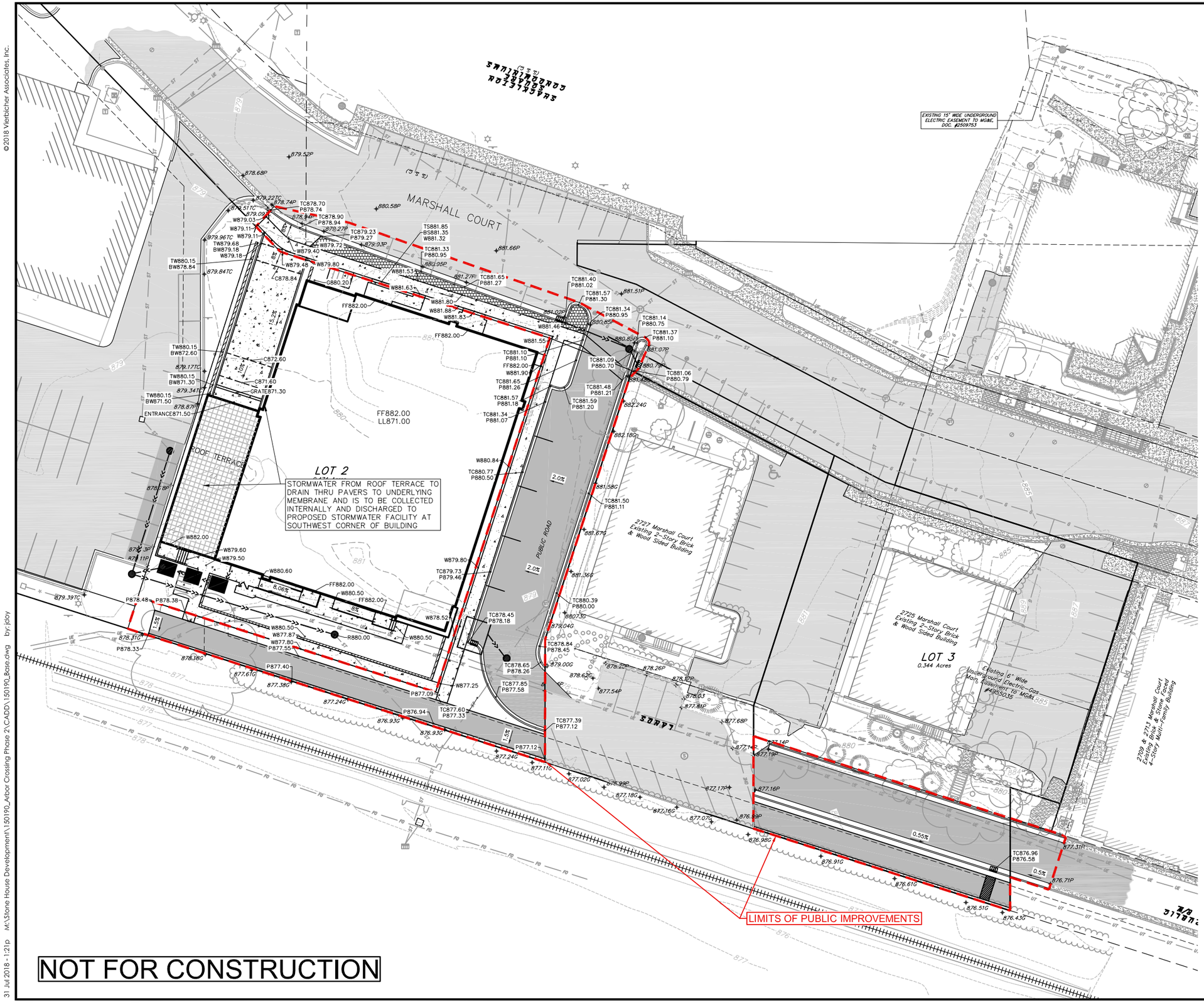
Erosion Control Plan

The Lodgic
Village of Shorewood Hills
Dane County, Wisconsin

REVISIONS

NO.	DATE	REMARKS
1	6/4/18	CDP SUBMITTAL
2	7/25/18	Initial Pricing Set
3	7/31/18	Village Resubmittal

SCALE: AS SHOWN
DATE: 05/23/2018
DRAFTER: JARC
CHECKED: JDOY
PROJECT NO.: #150190
SHEET: 3 OF 7
DWG. NO.: C-2.0



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1. UTILITY STRUCTURE RIM AND TOP OF CURB ELEVATIONS ON PLANS ARE DESIGN ELEVATIONS. UTILITY STRUCTURES SHALL BE SET TO FINAL ELEVATIONS AFTER THE CURB & GUTTER AND BASE COURSE HAVE BEEN INSTALLED.
2. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED DURING CONSTRUCTION TO PUBLIC PROPERTY, PRIVATE PROPERTY OR UTILITIES.
3. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW BY THE ENGINEER, PRIOR TO PLACING AN ORDER OF ANY SUCH ITEM.
4. EXISTING TOPOGRAPHIC INFORMATION IS BASED ON FIELD OBSERVATIONS AND/OR PLAN OF RECORD DRAWINGS. CONTRACTOR SHALL VERIFY TOPOGRAPHIC INFORMATION PRIOR TO STARTING CONSTRUCTION.
5. CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING SANITARY SEWER, STORM SEWER AND WATER MAIN PRIOR TO CONSTRUCTION TO ENSURE PROPER CLEARANCE OF THE NEW UTILITIES. CONTRACTOR MUST TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES DURING CONSTRUCTION. ANY DAMAGE TO THE EXISTING UTILITIES AND ANY REPAIRS NEEDED AS A RESULT OF THE DAMAGE SHALL BE AT THE EXPENSE OF THE CONTRACTOR REGARDLESS OF THE LOCATION MARKED IN THE FIELD OR SHOWN ON THE PLANS.
6. THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLAN ARE APPROXIMATE. THERE
7. MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING DIGGERS HOTLINE AND LOCATING ALL EXISTING UTILITIES AND ENSURE PROPER CLEARANCE OF NEW UTILITIES.
8. SEE DETAIL SHEETS FOR EROSION CONTROL NOTES AND CONSTRUCTION SEQUENCE.
9. THE CONTRACTOR SHALL REMOVE ANY SEDIMENT TRACKED ONTO ADJACENT ROADS BY MEANS OF STREET SWEEPING (NOT FLUSHING) AT A MINIMUM OF THE END OF EACH WORK DAY OR MORE AS NEEDED.
10. RIGHT OF WAY (ROW) AND PROPERTY LINES ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING PROPERTY CORNER MONUMENTATION. ANY MONUMENTS DISTURBED BY CONTRACTOR SHALL BE REPLACED AT THE CONTRACTORS EXPENSE.
11. CONTRACTOR SHALL COORDINATE WITH DRY UTILITY COMPANY'S REGARDING ANY POTENTIAL CONFLICTS AND COORDINATE RELOCATIONS AS MAY BE REQUIRED. CONTRACTOR SHALL ALSO COORDINATE THE PROPOSED INSTALLATION OF NEW FACILITIES AS REQUIRED.
12. DIMENSIONS RELATING TO CURB ARE TO BACK OF CURB.
13. FINAL GRADES SHALL BE ESTABLISHED ON PAVED SURFACES BY USING SPOT GRADES ONLY.
14. CROSS-SLOPE OF SIDEWALKS SHALL BE 2% UNLESS OTHERWISE NOTED.
15. LONGITUDINAL GRADE OF SIDEWALK RAMPS SHALL NOT EXCEED 8.33% (1:12) AND SHALL BE IN ACCORDANCE WITH ADA REQUIREMENTS.
16. LONGITUDINAL GRADE OF SIDEWALK SHALL NOT EXCEED 5.0% OR THE ADJACENT STREET GRADE WHICHEVER IS GREATER.
17. ACCESSIBLE ROUTES SHALL BE 5% MAX LONGITUDINAL SLOPE AND 2% MAX CROSS SLOPE. ACCESSIBLE LOADING AREAS OR LANDINGS SHALL BE 2% MAX SLOPE IN ANY DIRECTION. RAMPS SHALL BE 8.33% MAX SLOPE.

GRADING LEGEND

- 820 — EXISTING MAJOR CONTOURS
- 818 — EXISTING MINOR CONTOURS
- (820) PROPOSED MAJOR CONTOURS
- (818) PROPOSED MINOR CONTOURS
- 2.92% PROPOSED SLOPE ARROWS
- 1048.61 EXISTING SPOT ELEVATIONS
- 1048.61 PROPOSED SPOT ELEVATIONS

ABBREVIATIONS

P – EDGE PAVEMENT
TC – TOP OF CURB
FF – FINISHED FLOOR
FL – FLOW LINE
G – GROUND
W – TOP OF WALK
T – TOP OF TOPPING
TW – TOP OF WALL
BW – BOTTOM OF WALL
TS – TOP OF STAIR
BS – BOTTOM OF STAIR
R – STAIR RISER

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Grading Plan

The Lodgic
Village of Shorewood Hills
Dane County, Wisconsin

REVISIONS

NO.	DATE	REMARKS
1	7/31/18	Village Resubmittal

REVISIONS

NO.	DATE	REMARKS
1	6/4/18	DDP SUBMITTAL
2	7/2/18	Village Resubmittal
3	7/25/18	Initial Pricing Set

SCALE
AS SHOWN

DATE
05/23/2018

DRAFTER
JARC

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PROJECT NO.
#150190

SHEET
4 OF 7

DWG. NO.
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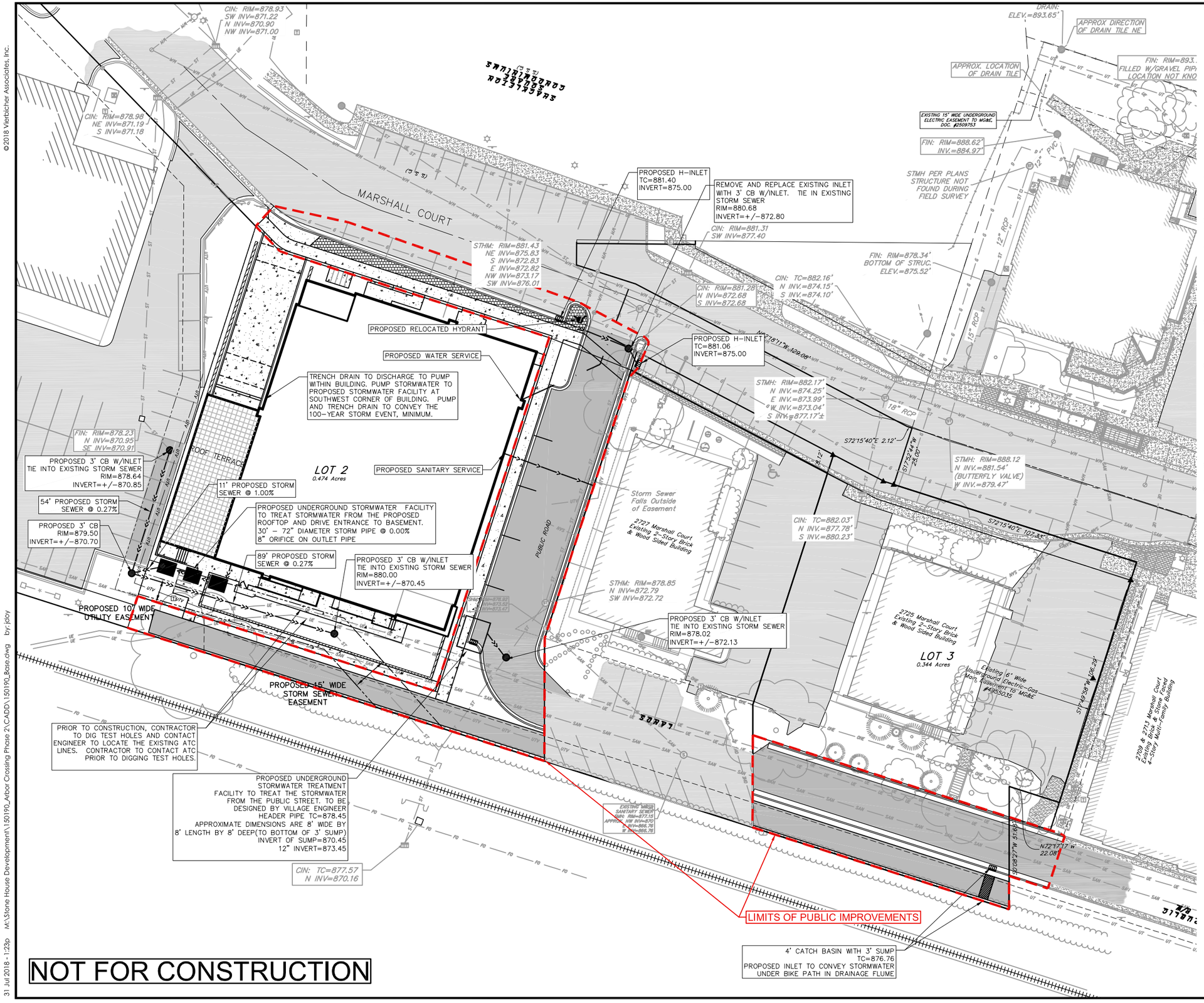

UTILITY NOTES:

1. STORM SEWER LENGTHS SHOWN ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. STORM SEWER END SECTIONS ARE INCLUDED IN THE LENGTH AND SLOPE OF THE PIPE.
2. CONTRACTOR SHALL INVESTIGATE ALL UTILITY CROSSINGS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL UTILITY STRUCTURES (MANHOLE RIMS, WATER VALVES, AND CURB STOPS), IF NECESSARY.
4. CONTRACTOR SHALL OBTAIN ANY NECESSARY WORK IN RIGHT-OF WAY, EXCAVATION, UTILITY CONNECTION, PLUGGING, ABANDONMENT, AND DRIVEWAY CONNECTION PERMITS PRIOR TO CONSTRUCTION.
5. FOR ALL SEWER AND WATER MAIN CROSSINGS: PROVIDE MINIMUM 18" SEPARATION WHEN WATER MAIN CROSSES BELOW SEWER AND MINIMUM 6" SEPARATION WHEN WATER MAIN CROSSES ABOVE SEWER.
6. IF DEWATERING OPERATIONS EXCEED 70 GALLONS PER MINUTE OF PUMPING CAPACITY, A DEWATERING WELL PERMIT SHALL BE OBTAINED FROM THE DEPARTMENT PRIOR TO STARTING ANY DEWATERING ACTIVITIES.
7. A COPY OF THE APPROVED UTILITY PLANS, SPECIFICATIONS AND PLUMBING PERMIT APPROVAL LETTER SHALL BE ON-SITE DURING CONSTRUCTION AND OPEN TO INSPECTION BY AUTHORIZED REPRESENTATIVES OF THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES AND OTHER LOCAL INSPECTORS.
8. STORM BUILDING SEWER PIPE SHALL CONFORM TO ONE OF THE STANDARDS LISTED IN TABLE 384.30-6 OF SPS 384.30(3)(c).
9. NO PERSON MAY ENGAGE IN PLUMBING WORK IN THE STATE UNLESS LICENSED TO DO SO BY THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES PER S.145.06.
10. SITE CONTRACTOR SHALL LEAVE STORM SEWER BUILDING CONNECTIONS FIVE (5) FEET SHORT (HORIZONTALLY) FROM THE BUILDING. BUILDING PLUMBER SHALL VERIFY SIZE, LOCATION, AND INVERT ELEVATION OF PROPOSED SANITARY AND WATER LATERALS.
11. CONTRACTOR SHALL FIELD VERIFY THE SIZE, TYPE, LOCATION, AND ELEVATION OF EXISTING UTILITIES PRIOR TO INSTALLING ANY ON-SITE UTILITIES OR STRUCTURES. CONTACT ENGINEER PRIOR TO INSTALLATION IF DISCREPANCY EXISTS WITHIN THESE PLANS.
12. PROPOSED UTILITY SERVICE LINES SHOWN ARE APPROXIMATE. COORDINATE THE EXACT LOCATIONS WITH THE PLUMBING DRAWINGS. COORDINATE THE LOCATIONS WITH THE PLUMBING CONTRACTOR AND/OR OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO INSTALLATION OF ANY NEW UTILITIES.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE RELOCATION OF ANY UTILITIES ENCOUNTERED AND REPLACEMENT OF ANY UTILITIES DAMAGED WITHIN INFLUENCE ZONE OF NEW CONSTRUCTION. CONTACT ENGINEER IF THE EXISTING UTILITIES VARY APPRECIABLY FROM THE PLANS.
14. CLEAN OUT ALL EXISTING AND PROPOSED STORM INLETS AND CATCH BASINS AT THE COMPLETION OF CONSTRUCTION.

PROPOSED UTILITY LEGEND

- STORM SEWER PIPE
- STORM SEWER FIELD INLET
- ENDWALL
- SANITARY SEWER PIPE (GRAVITY)
- WATER SERVICE LATERAL PIPE

ABBREVIATIONS

STMH – STORM MANHOLE
FI – FIELD INLET
CI – CURB INLET
CB – CATCH BASIN
EW – ENDWALL
SMH – SANITARY MANHOLE

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The Lodgic
Village of Shorewood Hills
Dane County, Wisconsin

Utility Plan

REVISIONS NO.	DATE	REMARKS
1	7/31/18	Village Resubmittal

REVISIONS NO.	DATE	REMARKS
1	6/4/18	CDP SUBMITTAL
2	7/2/18	Village Resubmittal
3	7/25/18	Initial Pricing Set

SCALE: AS SHOWN
DATE: 05/23/2018
DRAFTER: JARC
CHECKED: JDOY
PROJECT NO.: #150190
SHEET: 5 OF 7
DWG. NO.: C-4.0

31 Jul 2018 - 1:23p M:\Stone House Development\150190_Arbor Crossing Phase 2\CADD\150190_Base.dwg by: jdoy

EROSION CONTROL MEASURES

1. EROSION CONTROL SHALL BE IN ACCORDANCE WITH THE VILLAGE OF SHOREWOOD HILLS EROSION CONTROL ORDINANCE AND CHAPTER NR 216 OF THE WISCONSIN ADMINISTRATIVE CODE.

2. CONSTRUCT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH WISCONSIN DNR TECHNICAL STANDARDS (http://dnr.wi.gov/runoff/stormwater/techstds.htm) AND WISCONSIN CONSTRUCTION SITE BEST MANAGEMENT PRACTICE HANDBOOK.

3. INSTALL SEDIMENT CONTROL PRACTICES (TRACKING PAD, PERIMETER SILT FENCE, INLET PROTECTION, ETC.) PRIOR TO INITIATING OTHER LAND DISTURBING CONSTRUCTION ACTIVITIES.

4. THE CONTRACTOR IS REQUIRED TO MAKE EROSION CONTROL INSPECTIONS AT THE END OF EACH WEEK AND WHEN 0.5 INCHES OF RAIN FALLS WITHIN 24 HOURS. INSPECTION REPORTS SHALL BE PREPARED AND FILED AS REQUIRED BY THE DNR AND/OR CITY. ALL MAINTENANCE WILL FOLLOW AN INSPECTION WITHIN 24 HOURS.

5. EROSION CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL SITE IS STABILIZED. EROSION CONTROL MEASURES AS SHOWN SHALL BE THE MINIMUM PRECAUTIONS THAT WILL BE ALLOWED. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE DEVELOPER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.

6. A 3" CLEAR STONE TRACKING PAD SHALL BE INSTALLED AT THE END OF ROAD CONSTRUCTION LIMITS TO PREVENT SEDIMENT FROM BEING TRACKED ONTO THE ADJACENT PAVED PUBLIC ROADWAY. SEDIMENT TRACKING PAD SHALL CONFORM TO WisDNR TECHNICAL STANDARD 1057. SEDIMENT REACHING THE PUBLIC ROAD SHALL BE REMOVED BY STREET CLEANING (NOT HYDRAULIC FLUSHING) BEFORE THE END OF EACH WORK DAY AND AS REQUIRED BY THE CITY.

7. CHANNELIZED RUNOFF: FROM ADJACENT AREAS PASSING THROUGH THE SITE SHALL BE DIVERTED AROUND DISTURBED AREAS.

8. STABILIZED DISTURBED GROUND: ANY SOIL OR DIRT PILES WHICH WILL REMAIN IN EXISTENCE FOR MORE THAN 7-CONSECUTIVE DAYS, WHETHER TO BE WORKED DURING THAT PERIOD OR NOT, SHALL NOT BE LOCATED WITHIN 25-FEET OF ANY ROADWAY, PARKING LOT, PAVED AREA, OR DRAINAGE STRUCTURE OR CHANNEL (UNLESS INTENDED TO BE USED AS PART OF THE EROSION CONTROL MEASURES). TEMPORARY STABILIZATION AND CONTROL MEASURES (SEEDING, MULCHING, TARPING, EROSION MATTING, BARRIER FENCING, ETC.) ARE REQUIRED FOR THE PROTECTION OF DISTURBED AREAS AND SOIL PILES, WHICH WILL REMAIN UN-WORKED FOR A PERIOD OF MORE THAN 14-CONSECUTIVE CALENDAR DAYS. THESE MEASURES SHALL REMAIN IN PLACE UNTIL SITE HAS STABILIZED.

9. SITE DE-WATERING: WATER PUMPED FROM THE SITE SHALL BE TREATED BY TEMPORARY SEDIMENTATION BASINS OR OTHER APPROPRIATE CONTROL MEASURES. SEDIMENTATION BASINS SHALL HAVE A DEPTH OF AT LEAST 3 FEET, BE SURROUNDED BY SNOWFENCE OR EQUIVALENT BARRIER AND HAVE SUFFICIENT SURFACE AREA TO PROVIDE A SURFACE SETTLING RATE OF NO MORE THAN 750 GALLONS PER SQUARE FOOT PER DAY AT THE HIGHEST DEWATERING PUMPING RATE. WATER MAY NOT BE DISCHARGED IN A MANNER THAT CAUSES EROSION OF THE SITE, A NEIGHBORING SITE, OR THE BED OR BANKS OF THE RECEIVING WATER. POLYMERS MAY BE USED AS DIRECTED BY DNR TECHNICAL STANDARD 1061 (DE-WATERING).

10. INLET FILTERS ARE TO BE PLACED IN STORMWATER INLET STRUCTURES AS SOON AS THEY ARE INSTALLED. ALL PROJECT AREA STORM INLETS NEED WISCONSIN D.O.T. TYPE D INLET PROTECTION. THE FILTERS SHALL BE MAINTAINED UNTIL THE SITE IS STABILIZED.

11. RESTORATION (SEED, FERTILIZE AND MULCH) SHALL BE PER SPECIFICATIONS ON THIS SHEET.

12. LOTS AND TERRACES SHALL BE RESTORED WITH 6" TOPSOIL AND HYDROSEED.

13. SEED, FERTILIZER AND MULCH SHALL BE APPLIED WITHIN 7 DAYS AFTER FINAL GRADE HAS BEEN ESTABLISHED. IF DISTURBED AREAS WILL NOT BE RESTORED IMMEDIATELY AFTER ROUGH GRADING, TEMPORARY SEED SHALL BE PLACED.

14. FOR THE FIRST SIX WEEKS AFTER RESTORATION (E.G. SEED & MULCH AND EROSION MAT) OF A DISTURBED AREA, INCLUDE SUMMER WATERING PROVISIONS OF ALL NEWLY SEEDED AND MULCHED AREAS WHENEVER 7 DAYS ELAPSE WITHOUT A RAIN EVENT.

15. SOIL STABILIZERS SHALL BE APPLIED TO DISTURBED AREAS WITH SLOPES BETWEEN 10% AND 3:1 (DO NOT USE IN CHANNELS). SOIL STABILIZERS SHALL BE TYPE B, PER WISCONSIN D.O.T. P.A.L. (PRODUCT ACCEPTABILITY LIST), OR EQUAL. APPLY AT RATES AND METHODS SPECIFIED PER MANUFACTURER. SOIL STABILIZERS SHALL BE RE-APPLIED WHENEVER VEHICLES OR OTHER EQUIPMENT TRACK ON THE AREA.

16. SILT FENCE OR EROSION MAT SHALL BE INSTALLED ALONG THE CONTOURS AT 100 FOOT INTERVALS DOWN THE SLOPE ON THE DISTURBED SLOPES STEEPER THAN 5% AND MORE THAN 100 FEET LONG THAT SHEET FLOW TO THE ROADWAY UNLESS SOIL STABILIZERS ARE USED.

17. SILT FENCE TO BE USED ACROSS AREAS OF THE LOT THAT SLOPE TOWARDS A PUBLIC STREET OR WATERWAY. SEE DETAILS.

18. SEDIMENT SHALL BE CLEANED FROM CURB AND GUTTER AFTER EACH RAINFALL UNTIL SITE IS STABILIZED.

19. ALL CONSTRUCTION ENTRANCES SHALL HAVE TEMPORARY ROAD CLOSED SIGNS THAT WILL BE IN PLACE WHEN THE ENTRANCE IS NOT IN USE AND AT THE END OF EACH DAY.

20. ANY PROPOSED CHANGES TO THE EROSION CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY THE VILLAGE OF SHOREWOOD HILLS.

21. THE VILLAGE, OWNER AND/OR ENGINEER MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES AT ANY TIME DURING CONSTRUCTION.

22. CONTRACTOR IS RESPONSIBLE FOR TREATING VEHICLE AND WHEEL WASH WATER BEFORE DISCHARGING TO WATERS OF THE STATE.

23. CONTRACTOR SHALL INSTALL AND MAINTAIN BMPs TO PREVENT DISCHARGE OF SOLID MATERIAL PER CHAPTER 30 OF WISCONSIN STATUTES.

24. CONTRACTOR SHALL INSTALL AND MAINTAIN BMPs TO PREVENT RUNOFF OF BUILDING AND WASTE MATERIAL INTO WATERS OF THE STATE.

TERRACE & LOT RESTORATION

SEEDING RATES:

TEMPORARY:
1. USE ANNUAL OATS AT 3.0 LB./1,000 S.F. FOR SPRING AND SUMMER PLANTINGS.
2. USE WINTER WHEAT OR RYE AT 3.0 LB./1,000 SF FOR FALL PLANTINGS STARTED AFTER SEPTEMBER 15.

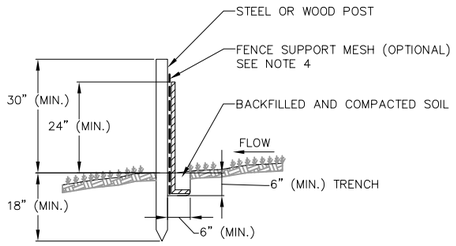
PERMANENT:
1. USE WISCONSIN D.O.T. SEED MIX #40 AT 2 LB./1,000 S.F. IN LOTS AND MADISON PARK SEED MIX FOR TERRACES.

FERTILIZING RATES:

TEMPORARY AND PERMANENT:
USE WISCONSIN D.O.T. TYPE A OR B AT 7 LB./1,000 S.F.

MULCHING RATES:

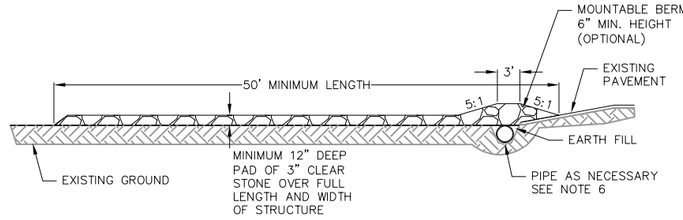
TEMPORARY AND PERMANENT:
HYDROSEEDING MULCH SHALL BE CELLULOSE MULCH. APPLY PER MANUFACTURERS RECOMMENDATIONS.



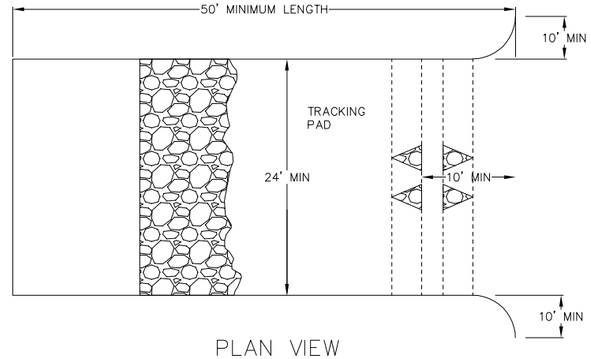
NOTES:

1. INSTALL SILT FENCE TO FOLLOW THE GROUND CONTOURS AS CLOSELY AS POSSIBLE.
2. CURVE THE SILT FENCE UP THE SLOPE TO PREVENT WATER FROM RUNNING AROUND THE ENDS.
3. POST SPACING WITH FENCE SUPPORT MESH = 10 FT. (MAX.)
   POST SPACING WITHOUT FENCE SUPPORT MESH = 6 FT. (MAX.)
4. SILT FENCE SUPPORT MESH CONSISTS OF 14-GAUGE STEEL WIRE WITH A MESH SPACING OF 6 IN. X 6 IN. OR PREFABRICATED POLYMERIC MESH OF EQUIVALENT STRENGTH.

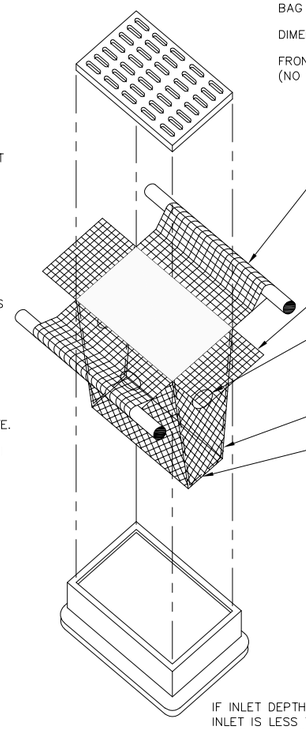
1 / 5.0 — SILT FENCE
NOT TO SCALE



PROFILE VIEW



PLAN VIEW



BAG TO BE CONSTRUCTED USING GEOTEXTILE FABRIC, WisDOT TYPE FF.

DIMENSIONS OF TOP OPENING OF BAG TO MATCH INLET GRATE.

FRONT, BACK AND BOTTOM PANEL TO BE MADE FROM SINGLE PIECE OF FABRIC (NO SEAMS).

INSTALLED BAG SHALL HAVE A MIN. SIDE CLEARANCE OF 3" FROM THE INLET WALLS, MEASURED AT THE HOLES. IF NECESSARY, CONTRACTOR SHALL CINCH THE BAG (MAX. 4" FROM BAG BOTTOM) TO ACHIEVE CLEARANCE.

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, ANY TRAPPED MATERIAL THAT FALLS INTO THE INLET SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR.

IF INLET DEPTH FROM TOP OF GRATE TO BOTTOM OF INLET IS LESS THAN 30", CONTRACTOR SHALL SUBSTITUTE WisDOT TYPE C INLET PROTECTION.

3 / 5.0 — INLET PROTECTION TYPE D
NOT TO SCALE

1. FOLLOW WISCONSIN DNR TECHNICAL STANDARD 1057 FOR FURTHER DETAILS AND INSTALLATION.
2. LENGTH – MINIMUM OF 50'.
3. WIDTH – 24' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
4. ON SITES WITH A HIGH GROUND WATER TABLE OR WHERE SATURATED CONDITIONS EXIST, GEOTEXTILE FABRIC SHALL BE PLACED OVER EXISTING GROUND PRIOR TO PLACING STONE. FABRIC SHALL BE WISDOT TYPE-HR GEOTEXTILE FABRIC.
5. STONE – CRUSHED 3" CLEAR STONE SHALL BE PLACED AT LEAST 12" DEEP OVER THE ENTIRE LENGTH AND WIDTH OF ENTRANCE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARDS CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND MINIMUM OF 6" STONE OVER THE PIPE. PIPE SHALL BE SIZED ACCORDING TO THE DRAINAGE REQUIREMENTS. WHEN THE ENTRANCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY A PIPE SHALL NOT BE NECESSARY. THE MINIMUM PIPE DIAMETER SHALL BE 6". CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF SAID PIPE.
7. LOCATION – A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED WHERE CONSTRUCTION TRAFFIC ENTERS AND/OR LEAVES THE CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE TRACKING PAD.

2 / 5.0 — CONSTRUCTION ENTRANCE
NOT TO SCALE

CONSTRUCTION SEQUENCE:

1. INSTALL SILT FENCE AND TRACKING PAD.
2. DEMOLISH EXISTING BUILDING AND PARKING.
3. STRIP AND STOCKPILE TOPSOIL. ROUGH GRADE LOT.
4. INSTALL UNDERGROUND UTILITIES.
5. CONSTRUCT BUILDING.
6. GRADE PARKING LOT AND DRIVE TO SUBGRADE.
7. CONSTRUCT PARKING LOT AND DRIVE – STONE BASE, CURB AND GUTTER, AND ASPHALTIC PAVEMENT.
8. FINAL STABILIZATION – TOPSOIL, SEED, FERTILIZER, EROSION MATTING.
9. REMOVE SILT FENCE, SILT SOCKS AND INLET PROTECTION AFTER DISTURBED AREAS ARE RESTORED.

NOT FOR CONSTRUCTION

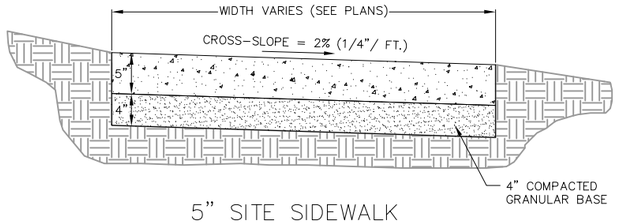
vierbicher
planners | engineers | advisors
Phone: (800) 261-3898

Site Construction Details
The Lodgic
Village of Shorewood Hills
Dane County, Wisconsin

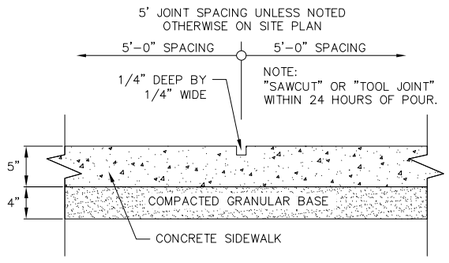
REVISIONS NO.	DATE	REMARKS
1	7/31/18	Village Resubmittal

REVISIONS NO.	DATE	REMARKS
1	6/4/18	CDP SUBMITTAL
2	7/2/18	Village Resubmittal
3	7/25/18	Initial Pricing Set

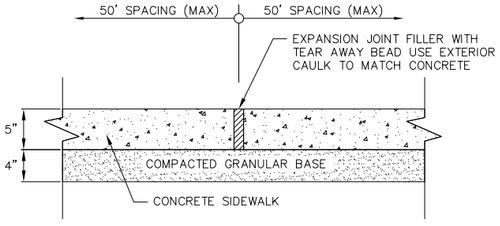
SCALE: AS SHOWN
DATE: 05/23/2018
DRAFTER: JARC
CHECKED: JDOY
PROJECT NO.: #150190
SHEET: 6 OF 7
DWG. NO.: C-5.0



5" SITE SIDEWALK

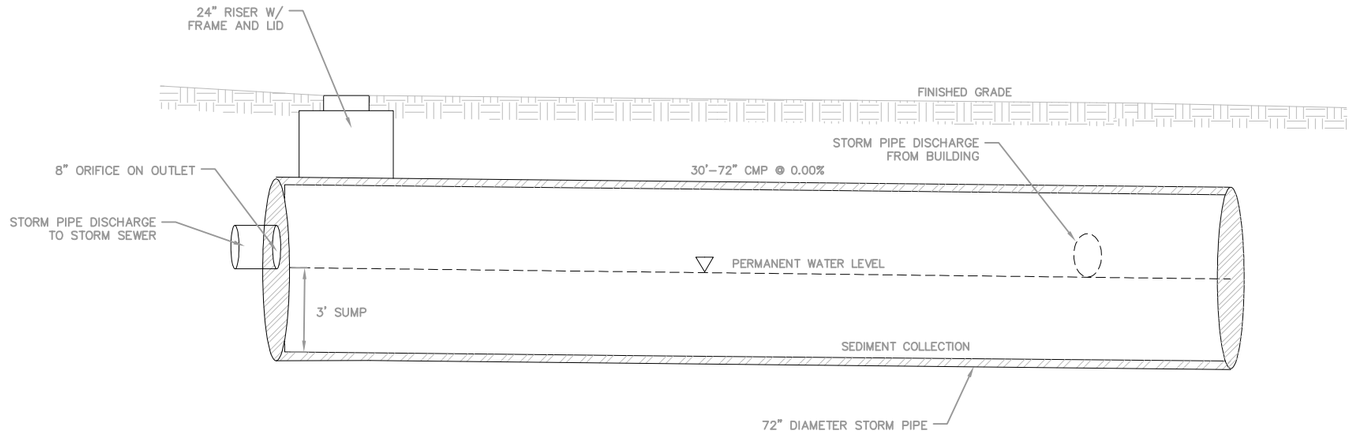


SIDEWALK CONTROL JOINT



SIDEWALK EXPANSION JOINT

1 / 5.1 5" SIDEWALK
NOT TO SCALE



2 / 5.1 UNDERGROUND STORMWATER FACILITY
NOT TO SCALE

NOT FOR CONSTRUCTION

vierbicher
planners | engineers | advisors
Phone: (800) 261-3898

Site Construction Details
The Logic
Village of Shorewood Hills
Dane County, Wisconsin

REVISIONS			
NO.	DATE	REMARKS	
1	7/31/18	Village Resubmittal	

REVISIONS			
NO.	DATE	REMARKS	
1	6/4/18	GDP SUBMITTAL	
2	7/2/18	Village Resubmittal	
3	7/25/18	Initial Pricing Set	

SCALE: AS SHOWN
DATE: 05/23/2018
DRAFTER: JARC
CHECKED: JDOY
PROJECT NO.: #150190
SHEET: 7 OF 7
DWG. NO.: C-5.1

31 Jul 2018 - 1:26p M:\Stone House Development\150190_Arbor Crossing Phase 2\CADD\150190_Base.dwg by: jdoy

Attachment C

Geoprobe Boring Logs, Well Construction, and Abandonment Forms

State of Wisconsin
Department of Natural Resources

Route To:
☐ Watershed/Wastewater
☐ Remediation/Redev.
☐ Waste Management
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

VOCs 1-2'

Page 1

Facility/Project Name: 2801 Marshall Court SCS # 2521852		License/Permit/Monitoring Number	Boring Number: G-1
Boring Drilled By (Firm name and name of crew chief): BSD Mark Gauruch Jr.		Drilling Started: 9-10-18	Drilling Completed: 9/10/18
DNR Facility Well No.	WI Unique Well No. / Common Well Name	Static Water Level	Surface Elevation / Borehole Diam.
Boring Location: State Plane NE 1/4 of NW 1/4 of Section 21, T. 7 N, R. 9 E		Lat. / Long.	Local Grid Location (If applicable): N., E.
County: Dane	DNR County Code: 13	Civil Town/City/or Village: Madison	

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Moisture Content	P200	RQD/ Comments
				Asphalt								
1				Poorly graded sand w/ gravel (fill) light gray, petro odor	SP				29.6	M		No BG PID
2	24"								6.9	M		
				silty sand, trace dg gravel, few cinders, red brick (1'-6')	SM							
3			5						6.5	M		
4	36"			-NO cinders/brick 6-8'								* 7'
				Lean clay, soft, med. plasticity, dark brown/black (8-10')	CL				5.6	W		
5												
6	36		10	-same as above except Med. stiff + more silty					9.5	M		
				EOB AT 12'					7.5	M		
			15									

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: SCS ENGINEERS

This form is authorized by Chapters 281,283,289,291,292,295,and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture between $10 and $25,000, or imprisonment for up to one year, depending on program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information.

State of Wisconsin
Department of Natural Resources

Route To:
☐ Watershed/Wastewater
☐ Remediation/Redev.
☐ Waste Management
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Page 1

Facility/Project Name: 3801 Marshall Court SCS # 25218152	License/Permit/Monitoring Number		Boring Number: B-2
Boring Drilled By (Firm name and name of crew chief): BSI Mark Gorarch Jr.	Drilling Started: 9-10-18	Drilling Completed: 9-10-18	Drilling Method: Geoprobe
DNR Facility Well No. / WI Unique Well No. / Common Well Name	Static Water Level	Surface Elevation	Borehole Diam.: 2"
Boring Location: State Plane NE 1/4 of NW 1/4 of Section 21, T. 7 N, R. 9 E	Lat. / Long.	Local Grid Location (If applicable): N., E.	
County: Dane	DNR County Code: 13	Civil Town/City/or Village: Madison	

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
1				Concrete Silt w/ gravel (fill), tan	ML			0.9		M		Background PID 0.7ppm
2	20"			Sandy, lean clay, w/ trace sm angular gravel, brown/gray	CL			47		M		
3			5	Poorly graded sand, F-M, some cinders, metal wire, black, light brown	SP			6.7		M		
4	10"											
5				Organic, fat clay, black-gray, soft, med plasticity	CL					M+		∇ 8.5'
6	30"		10					4.8		W		
				- Same but transition to med. stiff				6.1		M+		
				EOB AT 12'								
			15									

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Watershed/Wastewater
☐ Remediation/Redev.
☐ Waste Management
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Page 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
2801 Marshall Court SCS # 2521752		G3

Boring Drilled By (Firm name and name of crew chief)	Drilling Started	Drilling Completed	Drilling Method
BSI Mark Barnick Jr.	9-10-18	9-10-18	Geoprobe

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Static Water Level	Surface Elevation	Borehole Diam.
					2"

Boring Location State Plane	Lat. Long.	Local Grid Location (If applicable)
NE 1/4 of NW 1/4 of Section 21, T. 7 N, R. 9 E		N., E.

County	DNR County Code	Civil Town/City/or Village
Dane	13	Madison

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
1	24"			Organic soil w/ fine sand, brown, soft, trace organic fibers; silt w/ fine sand, brown, trace cinders at 2'	OL ML			2.9		M		Background PID = 0.9ppm
2								1.1		M		
3				Poorly graded sand w/ gravel (fill) few cinders + ash, tan-lt. brown	SP			1.4		M		
4	26"			lean clay, dk. brown, trace organic fibers, soft, low plasticity mottled orange; Organic soil, black, clay silt, lean, soft, plasticity	CL PT OL ML			1.6		M+		
5	24"		10	Silt, light tan, very stiff w/ fine sand 11-12'	ML			1.6		M+		F 9'
6				GOB AT 12'				1.7		M+		
			15									

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm SCS ENGINEERS

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State of Wisconsin
Department of Natural Resources

Route To:
- ☐ Watershed/Wastewater
- ☐ Remediation/Redev.
- ☐ Waste Management
- ☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Facility/Project Name: 2801 Marshall Court — SCS # 25211752	License/Permit/Monitoring Number		Boring Number: G-4
Boring Drilled By (Firm name and name of crew chief): Badger State Drilling - Mark Gaumnitz Jr.	Drilling Started: 9-10-18	Drilling Completed: 9-10-18	Drilling Method: Geoprobe
DNR Facility Well No. / WI Unique Well No. / Common Well Name	Static Water Level	Surface Elevation	Borehole Diam.: 2"
Boring Location — State Plane: NE 1/4 of NW 1/4 of Section 21, T. 7 N, R. 9E	Lat. / Long.	Local Grid Location (If applicable): N., E.	
County: Dane	DNR County Code: 13	Civil Town/City/or Village: Madison	

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
1	24"			Asphalt 2 layers sand w/ gravel, dark brown, stiff Poorly graded sand w/ silt w/ gravel, tan, (fill)	SC ML			5.5		M		
2				Poorly graded sand, F-M, tan Cinders 3-4'	SP			6.8		M		
5			5	Silty Sand, Dark brown, F-M -transition to light brown				7.8		M		
4	40"							7.1		M/W		
5								7.6		W		
6	36		10	Clayey Sand w/ trace organic fibers, med plasticity,	SC			7.7		W		
				Organic Silt, mod stiff - stiff Dark brown/ black,	ML							
7	40"			Silt w/ some Fine Sand, dark brown/ black, stiff	ML			9.9		W		
8			15	Clayey Sand, some Fine, med-soft, Brown	SC			8.6				
9	24"							10.6		W		
10				same except black EOB at 20'				11.3		W		

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: _____ Firm: SCS ENGINEERS

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State of Wisconsin
Department of Natural Resources

Route To:
- ☐ Watershed/Wastewater
- ☐ Remediation/Redev.
- ☐ Waste Management
- ☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

VCS 3-5

Page 1

Facility/Project Name: 3801 Marshall Court SCS # 25218152		License/Permit/Monitoring Number	Boring Number: G-5
Boring Drilled By (Firm name and name of crew chief): Badger State Drilling - Mark Fawick Jr.		Drilling Started: 9/10/18	Drilling Completed: 9/10/18
Drilling Method: Geoprobe			
DNR Facility Well No.	WI Unique Well No.	Common Well Name	Static Water Level
Surface Elevation	Borehole Diam.: 2"		
Boring Location: State Plane NE 1/4 of NW 1/4 of Section 21, T. 7 N, R. 9E		Lat. / Long.	Local Grid Location (If applicable): N., E.
County: Dane	DNR County Code: 13	Civil Town/City/or Village: Marshall	

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
1				Silt w/ sand + gravel (FILL), tan	ML				12.9	M		
2	26"			Silt w/ sand, sand fine, dark brown, trace cinders (2-4')	ML				17.0	M		
3			5	Same as above, no cinders					14.2	M		
4	30"			Clayey sand, sand fine, tan-dark brown	SC				11.5	W		∇ 7'
5				~~Silt~~ Organic silt, trace organic fibers, black	ML				11.5	M+		
6	36"		10	Lean clay, stiff, med plasticity	CL				11.9	M+		
				Silt, dark brown/black, mixed stiff to stiff, trace sm. sub-rounded gravel.	ML							
				EOB at 12'								
			15									

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: SCS ENGINEERS

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State of Wisconsin
Department of Natural Resources

Route To:
- ☐ Watershed/Wastewater
- ☐ Remediation/Redev.
- ☐ Waste Management
- ☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Facility/Project Name: 2801 Marshall Court SCS # 25218152	License/Permit/Monitoring Number		Boring Number: B-6
Boring Drilled By (Firm name and name of crew chief): Boreline State Drilling - Mark Garwick Jr.	Drilling Started: 9/10/18	Drilling Completed: 9/10/18	Drilling Method: Geoprobe
DNR Facility Well No. / WI Unique Well No. / Common Well Name	Static Water Level	Surface Elevation	Borehole Diam.: 2"
Boring Location: State Plane NE 1/4 of NW 1/4 of Section 21, T. 7 N, R. 9E	Lat. / Long.	Local Grid Location (If applicable): N., E.	
County: Dane	DNR County Code: 13	Civil Town/City/or Village: Madison	

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
1 & 2	10"		0	Poorly graded sand w/ silt + gravel (FILL), brown	SP			6.6		M		
										M		
3			5	~~Sandy clay~~ Clayey SAND, dark brown w/ organic fibers, ~~trace~~ few cinders, ash, red brick (4-8')	SC			9.0		M		
4	24"							9.5		M		
5								10.1		W		F @ 10'
6	30"		10	Poorly graded sand, Sand Fine, brown	SP			6.9		W		
				Lean clay, light tan, mottled, soft, mild. plastic	CL							
7				Clayey SAND, sand fine, light tan mottled brown, soft, mild. plasticity				7.2		W		
8	36		15					6.9		W		
				Poorly graded sand, F-M, Dark brown								
9								8.2		W		
10	30							6.2		W		

EOB AT 20'

I hereby certify that the information on this form is true and correct to the best of my knowledge.

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State of Wisconsin
Department of Natural Resources

Route To:
- ☐ Watershed/Wastewater
- ☐ Remediation/Redev.
- ☐ Waste Management
- ☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Facility/Project Name: 2201 Marshall Court SCS # 25218752	License/Permit/Monitoring Number		Boring Number: G-7
Boring Drilled By (Firm name and name of crew chief): BSD — 2201 Marshall — Mark Gramsick Jr.	Drilling Started: 9/10/18	Drilling Completed: 9/18/18	Drilling Method: Geoprobe
DNR Facility Well No. / WI Unique Well No. / Common Well Name	Static Water Level	Surface Elevation	Borehole Diam.: 2"
Boring Location: State Plane NE 1/4 of NW 1/4 of Section 21, T. 7 N, R. 9E	Lat. / Long.	Local Grid Location (If applicable): N., E.	
County: Dane	DNR County Code: 13	Civil Town/City/or Village: Madison	

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
1				Silt w/ gravel, tan (fill)	ML			2.5		M		
2	20			Silty Sand, light brown, soft to med. stiff				6.4		M		
3			5					5.7		M		
4	30			Organic soil, dark brown/black (fill) w/ trace of Synthetic fibers	Pt			4.9		M		
				Clayey Sand, Sand Fill, dark brown	SC							
5				Poorly graded sand F-M, lt. tan	SP			4.4		W		* 8'
				Clayey Sand, med stiff, tan mottled brown	SC							
6	30		10	Poorly graded Sand, tan, F-C	SP			5.5		W		
7								4.3		W		
8	40		15					5.3		W		
9								6.3		W		
10	30			Same as above transition to dark brown				4.9		W		

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: SCS ENGINEERS

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Department of Natural Resources | Form 4400-122A | 10-92

Boring Number | Use only as an attachment to Form 4400-122. | Page 2

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S1				Poorly graded sand, tan, Sand F-C, w/gravel Gravel Sm-lrg, ~~SUB~~ angular				1.9		W		
S2	20"							5.0		W		
				EOB AT 24								
			25									
			30									
			35									

State of Wisconsin
Department of Natural Resources

Route To:
☐ Watershed/Wastewater
☐ Remediation/Redev.
☐ Waste Management
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Page 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
2801 Marshall Court SCS # 25218152		B-8

Boring Drilled By (Firm name and name of crew chief)	Drilling Started	Drilling Completed	Drilling Method
Badger State Drilling - Mark Cannizzo Jr.	9/18/18	9/18/18	Geoprobe

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Static Water Level	Surface Elevation	Borehole Diam.
					2"

Boring Location State Plane	Lat. Long.	Local Grid Location (If applicable)
NE 1/4 of NW 1/4 of Section 21, T. 7 N, R. 9E		N., E.

County	DNR County Code	Civil Town/City/or Village
Dane	13	Madison

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
1				Asphalt Sandy silt, light tan, soft	ML			0.0		M		
2	30			trace organic fibers at 4'				3.4		M		
3			5	trace fine clay at 5-5 1/4"				0.0		M		
4	24"			Organic soil, dark brown, moist (Fill) 5 1/4" - 5.5' Clayey Sand, tan, soft Sand - fine	PT SC							
5				Poorly graded Sand, tan, FC trace sm. gravel 8-10'	SP			0.0		my/W		* 8'
6	30		10					0.0		W		
7								0.0		W		
8	48							5.8		W		
9			15					3.8		W		
10	48							3.8		W		
								4.2		W		

ECB 11-7-201

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: SCS ENGINEERS

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State of Wisconsin
Department of Natural Resources

Route To:
- ☐ Watershed/Wastewater
- ☐ Remediation/Redev.
- ☐ Waste Management
- ☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Facility/Project Name: 2801 Marshall Court SCS # 25218152	License/Permit/Monitoring Number		Boring Number: B9
Boring Drilled By (Firm name and name of crew chief): Badger State Drilling - Mark Gavarick Jr.	Drilling Started: 9/10/18	Drilling Completed: 9/10/18	Drilling Method: Geoprobe
DNR Facility Well No. / WI Unique Well No. / Common Well Name	Static Water Level	Surface Elevation	Borehole Diam.: 2"
Boring Location: State Plane NE 1/4 of NW 1/4 of Section 21, T 7 N, R. 9E	Lat. / Long.	Local Grid Location (If applicable): N., E.	
County: Dane	DNR County Code: 13	Civil Town/City/or Village: Madison	

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
				Concrete								
1				Poorly graded sand, F-C, black, (cinders) (2")	SP							
2	20			Poorly graded sand, F-M, tan (fill)	SP			0.9		M		Soils from 1'→
3			5	Clayey sand, tan, soft, mod plasticity	SC			1.0		M		
4	40			Silt, lt. tan, soft mottled brown,	ML			1.2		M+		
								0.6		M+		
5	40		10	Silt w/ fine sand, tan, trace sm. sub-rounded gravel	ML			0.9		W		F 8
6								0.9		M+		
				EOB At 12'								
			15	Could not get sleeve out of rod. From 12-16'								

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: _____ Firm: SCS ENGINEERS

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State of Wisconsin
Department of Natural Resources

Route To:
☐ Watershed/Wastewater
☐ Remediation/Redev.
☐ Waste Management
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Page 1

Facility/Project Name: 2801 Marshall Court — SCS # 25718122	License/Permit/Monitoring Number		Boring Number: B-10
Boring Drilled By (Firm name and name of crew chief): Badger State Drilling - Mark Garnish E.	Drilling Started: 9/10/18	Drilling Completed: 9/10/18	Drilling Method: Geoprobe
DNR Facility Well No. / WI Unique Well No. / Common Well Name	Static Water Level	Surface Elevation	Borehole Diam.: 2 in.
Boring Location: State Plane NE 1/4 of NW 1/4 of Section 21, T. 7 N, R. 9E	Lat. / Long.	Local Grid Location (If applicable): N., E.	
County: Dane	DNR County Code: 13	Civil Town/City/or Village: Madison	

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
				Asphalt								
				Poorly graded sand, black, F-C, (cinders) 6"	SP							
				Silt w/ fine sand, light tan, soft				8.8		M		
2	20							8.5		M		
3			5					9.4		M+		
4	36							8.8		W M+		* 7'
5								7.9		M+		
6	40		10					7.4		M+		
7								3.1		M+		
8	30			Poorly graded Sand w/ Large gravel (~4 stones) 1 piece of gravel	SP			7.5		M		
			15	Sand F-C, tan								
				ECR @ 7 / 6'								

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SCS # 25218152

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: 2801 Marshall Court	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: TW-1
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 09 / 10 / 2018 (m m d d y y y y)
Type of Well: Well Code ____ / ____	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 21, T. 7 N, R. 9 ☒ E ☐ W	Well Installed By: Name (first, last) and Firm: Mark Garwick Jr. / Badger State Drilling
Distance from Waste/Source ____ ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☒ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

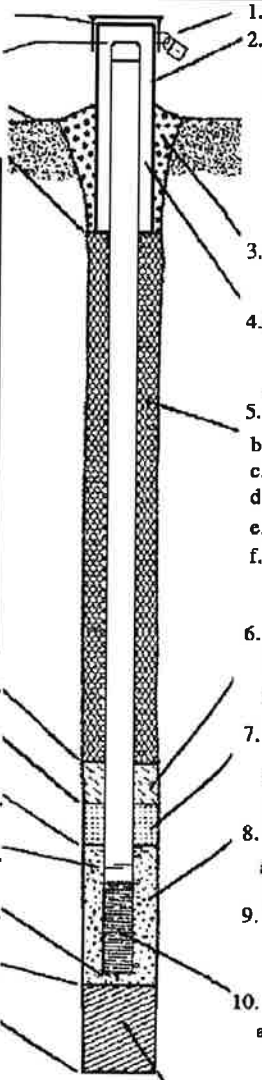
14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☐ 41
Direct push Other ☒

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top _____ ft. MSL or 0 ft.
F. Fine sand, top _____ ft. MSL or ____ ft.
G. Filter pack, top _____ ft. MSL or 3 ft.
H. Screen joint, top _____ ft. MSL or 10 ft.
I. Well bottom _____ ft. MSL or 20 ft.
J. Filter pack, bottom _____ ft. MSL or 20 ft.
K. Borehole, bottom _____ ft. MSL or 20.0 ft.
L. Borehole, diameter 2.0 in.
M. O.D. well casing 2.0 in.
N. I.D. well casing ____ in.



1. Cap and lock? ☐ Yes ☒ No
2. Protective cover pipe:
a. Inside diameter: ____ in.
b. Length: ____ ft.
c. Material: N/A Steel ☐ 04 Other ☒
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01 Other ☒
4. Material between well casing and protective pipe: Bentonite ☐ 30
N/A Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. N/A ☐
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. _____ ☐
b. Volume added 0.2 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☐ 23
Flush threaded PVC schedule 80 ☐ 24
_____ Other ☐
10. Screen material: .010
a. Screen type: Factory cut ☐ 11
Continuous slot ☒ 01
_____ Other ☐
b. Manufacturer R.W. Sidely
c. Slot size: 0.010 in.
d. Slotted length: ____ ft.
11. Backfill material (below filter pack): None ☐ 14
_____ Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wis., Dept. of Natural Resources SCS No. 25218152
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other:

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Dane	TW-1	

Latitude / Longitude (see instructions) — Format Code: ☐ DD ☐ DDM — Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

N
W

¼ / ¼ NE	¼ NW	Section	Township	Range
or Gov't Lot #		21	7 N	9 ☒ E ☐ W

Well Street Address: 2801 Marshall Court

Well City, Village or Town	Well ZIP Code
Madison	53705

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Temporary well	

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 09/10/2018

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct push

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
20.0	1

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2	20.0

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	9.56

2. Facility / Owner Information

Facility Name: 2801 Marshall Court

Facility ID (FID or PWS):

License/Permit/Monitoring #:

Original Well Owner:

Present Well Owner: Stone House Development

Mailing Address of Present Owner: 1010 E. Washington Avenue

City of Present Owner	State	ZIP Code
Madison	WI	53703

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☒ No	☐ N/A
Casing left in place?	☒ Yes	☐ No	☐ N/A
Was casing cut off below surface?	☒ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain):

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Granular bentonite	Surface	20.0	.5	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
SCS Engineers		09/13/2018

Street or Route	Telephone Number
2830 Dairy Drive	(608) 224-2830

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53718		09/17/2018

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources SCS No. 25215152
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Dane	G-1	

Latitude / Longitude (see instructions) _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ NE or Gov't Lot #	¼ NW	Section	Township	Range
		21	7 N	☒ E ☐ W

Well Street Address: 2801 Marshall Court
Well City, Village or Town: Madison
Well ZIP Code: 53705
Subdivision Name:
Lot #:
Reason for Removal from Service: Temporary borehole
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: 2801 Marshall Court
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: Stone House Development
Mailing Address of Present Owner: 1010 E. Washington Avenue
City of Present Owner: Madison
State: WI
ZIP Code: 53703

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 09/10/2018
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct push

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
12	2
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2	--

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	7

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite chips	Surface	12	.25	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
SCS Engineers		09/10/2018

Street or Route	Telephone Number
2830 Dairy Drive	(608) 224-2830

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53718		09/20/2018

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources SCS No. 25215152
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Dane	G-2	

Latitude / Longitude (see instructions) _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ NE	¼ NW	Section	Township	Range
or Gov't Lot #		21	7 N	☒ E ☐ W

Well Street Address: 2801 Marshall Court

Well City, Village or Town	Well ZIP Code
Madison	53705

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Temporary borehole	

2. Facility / Owner Information

Facility Name: 2801 Marshall Court
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: Stone House Development
Mailing Address of Present Owner: 1010 E. Washington Avenue

City of Present Owner	State	ZIP Code
Madison	WI	53703

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 09/10/2018
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct push

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
12	2

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2	--

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	8.5

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite chips	Surface	12	.25	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
SCS Engineers		09/10/2018

Street or Route	Telephone Number
2830 Dairy Drive	(608) 224-2830

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53718		09/20/2018

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources SCS No. 25215152
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Dane	G-3	

Latitude / Longitude (see instructions): _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ NE	¼ NW	Section	Township	Range
or Gov't Lot #		21	7 N	☒ E ☐ W

Well Street Address: 2801 Marshall Court
Well City, Village or Town: Madison
Well ZIP Code: 53705
Subdivision Name:
Lot #:
Reason for Removal from Service: Temporary borehole
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: 2801 Marshall Court
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: Stone House Development
Mailing Address of Present Owner: 1010 E. Washington Avenue
City of Present Owner: Madison
State: WI
ZIP Code: 53703

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 09/10/2018
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct push

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
12	2
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2	--

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	9

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite chips	Surface	12	.25	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
SCS Engineers		09/10/2018

Street or Route	Telephone Number
2830 Dairy Drive	(608) 224-2830

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53718		09/20/2018

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources SCS No. 25215152
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Dane	G-4	

Latitude / Longitude (see instructions) _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ NE	¼ NW	Section	Township	Range
or Gov't Lot #		21	7 N	☒ E ☐ W

Well Street Address: 2801 Marshall Court
Well City, Village or Town: Madison
Well ZIP Code: 53705
Subdivision Name:
Lot #:

Reason for Removal from Service: Temporary borehole
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: 2801 Marshall Court
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: Stone House Development
Mailing Address of Present Owner: 1010 E. Washington Avenue
City of Present Owner: Madison
State: WI
ZIP Code: 53703

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 09/10/2018
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct push

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
20	2
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2	--

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	8

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite chips	Surface	20	.5	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
SCS Engineers		09/10/2018

Street or Route	Telephone Number	City	State	ZIP Code
2830 Dairy Drive	(608) 224-2830	Madison	WI	53718

Signature of Person Doing Work:
Date Signed: 09/20/2018

DNR Use Only
Date Received:
Noted By:
Comments:

State of Wis., Dept. of Natural Resources SCS No. 25215152
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Dane	G-5	

Latitude / Longitude (see instructions) _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ NE	¼ NW	Section	Township	Range
or Gov't Lot #		21	7 N	☒ E ☐ W

Well Street Address: 2801 Marshall Court

Well City, Village or Town	Well ZIP Code
Madison	53705

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Temporary borehole	

2. Facility / Owner Information

Facility Name: 2801 Marshall Court
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: Stone House Development
Mailing Address of Present Owner: 1010 E. Washington Avenue

City of Present Owner	State	ZIP Code
Madison	WI	53703

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 09/10/2018
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct push

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
12	2

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2	--

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	7

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite chips	Surface	12	.25	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
SCS Engineers		09/10/2018

Street or Route	Telephone Number
2830 Dairy Drive	(608) 224-2830

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53718		09/20/2018

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources SCS No. 25215152
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

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☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Dane	G-6	

Latitude / Longitude (see instructions): _____ N / _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ NE	¼ NW	Section	Township	Range
or Gov't Lot #		21	7 N	☒ E ☐ W

Well Street Address: 2801 Marshall Court

Well City, Village or Town	Well ZIP Code
Madison	53705

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Temporary borehole	

2. Facility / Owner Information

Facility Name: 2801 Marshall Court
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: Stone House Development
Mailing Address of Present Owner: 1010 E. Washington Avenue

City of Present Owner	State	ZIP Code
Madison	WI	53703

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 09/10/2018
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct push

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
20	2

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2	--

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	10

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite chips	Surface	20	.5	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
SCS Engineers		09/10/2018

Street or Route	Telephone Number
2830 Dairy Drive	(608) 224-2830

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53718		09/20/2018

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources SCS No. 25215152
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Dane	G-7	

Latitude / Longitude (see instructions): _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ NE	¼ NW	Section	Township	Range
or Gov't Lot #		21	7 N	☒ E ☐ W

Well Street Address: 2801 Marshall Court

Well City, Village or Town	Well ZIP Code
Madison	53705

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Temporary borehole	

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 09/10/2018

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct push

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
24	2

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2	--

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	8

2. Facility / Owner Information

Facility Name: 2801 Marshall Court
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: Stone House Development
Mailing Address of Present Owner: 1010 E. Washington Avenue

City of Present Owner	State	ZIP Code
Madison	WI	53703

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite chips	Surface	24	.5	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
SCS Engineers		09/10/2018

Street or Route	Telephone Number
2830 Dairy Drive	(608) 224-2830

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53718		09/20/2018

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources SCS No. 25215152
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Dane	G-8	

Latitude / Longitude (see instructions): _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ NE or Gov't Lot #	¼ NW	Section	Township	Range
		21	7 N	☒ E ☐ W

Well Street Address: 2801 Marshall Court
Well City, Village or Town: Madison
Well ZIP Code: 53705
Subdivision Name:
Lot #:

Reason for Removal from Service: Temporary borehole
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: 2801 Marshall Court
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: Stone House Development
Mailing Address of Present Owner: 1010 E. Washington Avenue
City of Present Owner: Madison
State: WI
ZIP Code: 53703

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well ☐ Water Well ☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 09/10/2018
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug ☒ Other (specify): Direct push

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
20	2
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2	--

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown
If yes, to what depth (feet)?
Depth to Water (feet): 8

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite chips	Surface	20	.5	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
SCS Engineers		09/10/2018

Street or Route	Telephone Number
2830 Dairy Drive	(608) 224-2830

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53718		09/20/2018

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources SCS No. 25215152
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015) Page 1 of 2

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Dane	G-9	

Latitude / Longitude (see instructions): _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ NE	¼ NW	Section	Township	Range
or Gov't Lot #		21	7 N	☒ E ☐ W

Well Street Address: 2801 Marshall Court
Well City, Village or Town: Madison
Well ZIP Code: 53705
Subdivision Name:
Lot #:

Reason for Removal from Service: Temporary borehole
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: 2801 Marshall Court
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: Stone House Development
Mailing Address of Present Owner: 1010 E. Washington Avenue
City of Present Owner: Madison
State: WI
ZIP Code: 53703

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 09/10/2018
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct push

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
12	2
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2	--

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	8

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite chips	Surface	12	.25	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
SCS Engineers		09/10/2018

Street or Route	Telephone Number
2830 Dairy Drive	(608) 224-2830

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53718		09/20/2018

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources SCS No. 25215152
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

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☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Dane	G-10	

Latitude / Longitude (see instructions) _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ NE	¼ NW	Section	Township	Range
or Gov't Lot #		21	7 N	☒ E ☐ W

Well Street Address: 2801 Marshall Court

Well City, Village or Town	Well ZIP Code
Madison	53705

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Temporary borehole	

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 09/10/2018
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct push

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
16	2

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2	--

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	7

2. Facility / Owner Information

Facility Name: 2801 Marshall Court
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: Stone House Development
Mailing Address of Present Owner: 1010 E. Washington Avenue

City of Present Owner	State	ZIP Code
Madison	WI	53703

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite chips	Surface	16	.25	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
SCS Engineers		09/10/2018

Street or Route	Telephone Number
2830 Dairy Drive	(608) 224-2830

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53718		09/20/2018

DNR Use Only

Date Received	Noted By

Comments:

Attachment D

Laboratory Analytical Report for Soil

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

September 24, 2018

Betty Socha
SCS ENGINEERS
2830 Dairy Drive
Madison, WI 53718

RE: Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Dear Betty Socha:
Enclosed are the analytical results for sample(s) received by the laboratory on September 11, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40175583001	**G3 (4-6')**	Solid	09/10/18 09:45	09/11/18 09:36
40175583002	**G2 (4-8')**	Solid	09/10/18 10:00	09/11/18 09:36
40175583003	**G1 (1-2')**	Solid	09/10/18 10:20	09/11/18 09:36
40175583004	**G1 (4-6')**	Solid	09/10/18 10:20	09/11/18 09:36
40175583005	**G5 (2-4')**	Solid	09/10/18 11:30	09/11/18 09:36
40175583006	**G6 (4-6')**	Solid	09/10/18 12:15	09/11/18 09:36
40175583007	**G-10 (0-2')**	Solid	09/10/18 14:35	09/11/18 09:36
40175583008	**TRIP BLANK**	Solid	09/10/18 00:00	09/11/18 09:36
40175583009	**G-9 (0-2')**	Solid	09/10/18 14:00	09/11/18 09:36

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40175583001	**G3 (4-6')**	EPA 6010	TXW	4	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	JXS	1	PASI-G
40175583002	**G2 (4-8')**	EPA 6010	TXW	4	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	JXS	1	PASI-G
40175583003	**G1 (1-2')**	EPA 8260	SMT	64	PASI-G
		ASTM D2974-87	JXS	1	PASI-G
40175583004	**G1 (4-6')**	EPA 6010	TXW	7	PASI-G
		EPA 7471	AJT	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SSM	1	PASI-G
40175583005	**G5 (2-4')**	EPA 8270 by SIM	ARO	20	PASI-G
		EPA 8260	SMT	64	PASI-G
		ASTM D2974-87	SSM	1	PASI-G
40175583006	**G6 (4-6')**	EPA 6010	TXW	7	PASI-G
		EPA 7471	AJT	1	PASI-G
		ASTM D2974-87	SSM	1	PASI-G
40175583007	**G-10 (0-2')**	EPA 6010	TXW	7	PASI-G
		EPA 7471	AJT	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SSM	1	PASI-G
40175583008	**TRIP BLANK**	EPA 8260	SMT	64	PASI-G
40175583009	**G-9 (0-2')**	EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SSM	1	PASI-G

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40175583001	**G3 (4-6')**					
EPA 6010	Arsenic	4.4J	mg/kg	5.5	09/17/18 17:41	
EPA 6010	Cadmium	0.32J	mg/kg	0.55	09/17/18 17:41	
EPA 6010	Chromium	48.2	mg/kg	1.1	09/17/18 17:41	
EPA 6010	Lead	21.1	mg/kg	2.2	09/17/18 17:41	
EPA 8270 by SIM	Acenaphthylene	920	ug/kg	496	09/21/18 13:03	
EPA 8270 by SIM	Anthracene	1680	ug/kg	856	09/21/18 13:03	
EPA 8270 by SIM	Benzo(a)anthracene	6040	ug/kg	478	09/21/18 13:03	
EPA 8270 by SIM	Benzo(a)pyrene	5860	ug/kg	377	09/21/18 13:03	
EPA 8270 by SIM	Benzo(b)fluoranthene	7650	ug/kg	424	09/21/18 13:03	
EPA 8270 by SIM	Benzo(g,h,i)perylene	3340	ug/kg	305	09/21/18 13:03	
EPA 8270 by SIM	Benzo(k)fluoranthene	2760	ug/kg	377	09/21/18 13:03	
EPA 8270 by SIM	Chrysene	5730	ug/kg	505	09/21/18 13:03	
EPA 8270 by SIM	Dibenz(a,h)anthracene	890	ug/kg	336	09/21/18 13:03	
EPA 8270 by SIM	Fluoranthene	14200	ug/kg	784	09/21/18 13:03	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	2960	ug/kg	330	09/21/18 13:03	
EPA 8270 by SIM	Phenanthrene	1930	ug/kg	1750	09/21/18 13:03	
EPA 8270 by SIM	Pyrene	11800	ug/kg	676	09/21/18 13:03	
ASTM D2974-87	Percent Moisture	11.4	%	0.10	09/11/18 17:15	
40175583002	**G2 (4-8')**					
EPA 6010	Arsenic	9.2	mg/kg	5.7	09/17/18 17:44	
EPA 6010	Cadmium	0.76	mg/kg	0.57	09/17/18 17:44	
EPA 6010	Chromium	24.3	mg/kg	1.1	09/17/18 17:44	
EPA 6010	Lead	78.0	mg/kg	2.3	09/17/18 17:44	
EPA 8270 by SIM	Acenaphthene	49.9	ug/kg	29.6	09/21/18 13:21	
EPA 8270 by SIM	Acenaphthylene	8.1J	ug/kg	25.2	09/21/18 13:21	
EPA 8270 by SIM	Anthracene	103	ug/kg	43.5	09/21/18 13:21	
EPA 8270 by SIM	Benzo(a)anthracene	263	ug/kg	24.3	09/21/18 13:21	
EPA 8270 by SIM	Benzo(a)pyrene	258	ug/kg	19.2	09/21/18 13:21	
EPA 8270 by SIM	Benzo(b)fluoranthene	333	ug/kg	21.6	09/21/18 13:21	
EPA 8270 by SIM	Benzo(g,h,i)perylene	175	ug/kg	15.5	09/21/18 13:21	
EPA 8270 by SIM	Benzo(k)fluoranthene	128	ug/kg	19.2	09/21/18 13:21	
EPA 8270 by SIM	Chrysene	278	ug/kg	25.7	09/21/18 13:21	
EPA 8270 by SIM	Dibenz(a,h)anthracene	39.9	ug/kg	17.1	09/21/18 13:21	
EPA 8270 by SIM	Fluoranthene	608	ug/kg	39.9	09/21/18 13:21	
EPA 8270 by SIM	Fluorene	38.9	ug/kg	31.6	09/21/18 13:21	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	141	ug/kg	16.8	09/21/18 13:21	
EPA 8270 by SIM	1-Methylnaphthalene	150	ug/kg	30.7	09/21/18 13:21	
EPA 8270 by SIM	2-Methylnaphthalene	194	ug/kg	38.3	09/21/18 13:21	
EPA 8270 by SIM	Naphthalene	103	ug/kg	64.4	09/21/18 13:21	
EPA 8270 by SIM	Phenanthrene	445	ug/kg	88.9	09/21/18 13:21	
EPA 8270 by SIM	Pyrene	491	ug/kg	34.4	09/21/18 13:21	
ASTM D2974-87	Percent Moisture	12.6	%	0.10	09/11/18 17:15	
40175583003	**G1 (1-2')**					
EPA 8260	Methylene Chloride	58.7J	ug/kg	67.1	09/13/18 00:24	B
ASTM D2974-87	Percent Moisture	10.5	%	0.10	09/11/18 17:15	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40175583004	**G1 (4-6')**					
EPA 6010	Arsenic	3.6J	mg/kg	5.1	09/17/18 17:46	
EPA 6010	Barium	68.2	mg/kg	0.51	09/17/18 17:46	
EPA 6010	Cadmium	0.21J	mg/kg	0.51	09/17/18 17:46	
EPA 6010	Chromium	12.7	mg/kg	1.0	09/17/18 17:46	
EPA 6010	Lead	10.0	mg/kg	2.1	09/17/18 17:46	
EPA 7471	Mercury	0.037J	mg/kg	0.12	09/19/18 16:02	
EPA 8270 by SIM	Acenaphthylene	6.2J	ug/kg	12.3	09/20/18 17:04	
EPA 8270 by SIM	Anthracene	24.1	ug/kg	21.2	09/20/18 17:04	
EPA 8270 by SIM	Benzo(a)anthracene	42.3	ug/kg	11.8	09/20/18 17:04	
EPA 8270 by SIM	Benzo(a)pyrene	25.4	ug/kg	9.3	09/20/18 17:04	
EPA 8270 by SIM	Benzo(b)fluoranthene	30.2	ug/kg	10.5	09/20/18 17:04	
EPA 8270 by SIM	Benzo(g,h,i)perylene	12.9	ug/kg	7.5	09/20/18 17:04	
EPA 8270 by SIM	Benzo(k)fluoranthene	17.7	ug/kg	9.3	09/20/18 17:04	
EPA 8270 by SIM	Chrysene	46.8	ug/kg	12.5	09/20/18 17:04	
EPA 8270 by SIM	Dibenz(a,h)anthracene	5.2J	ug/kg	8.3	09/20/18 17:04	
EPA 8270 by SIM	Fluoranthene	81.5	ug/kg	19.4	09/20/18 17:04	
EPA 8270 by SIM	Fluorene	4.8J	ug/kg	15.4	09/20/18 17:04	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	7.8J	ug/kg	8.2	09/20/18 17:04	
EPA 8270 by SIM	1-Methylnaphthalene	174	ug/kg	14.9	09/20/18 17:04	
EPA 8270 by SIM	2-Methylnaphthalene	224	ug/kg	18.6	09/20/18 17:04	
EPA 8270 by SIM	Naphthalene	67.3	ug/kg	31.3	09/20/18 17:04	
EPA 8270 by SIM	Phenanthrene	220	ug/kg	43.3	09/20/18 17:04	
EPA 8270 by SIM	Pyrene	80.8	ug/kg	16.7	09/20/18 17:04	
ASTM D2974-87	Percent Moisture	10.2	%	0.10	09/13/18 17:13	
40175583005	**G5 (2-4')**					
EPA 8270 by SIM	Acenaphthylene	411	ug/kg	242	09/20/18 16:29	
EPA 8270 by SIM	Anthracene	701	ug/kg	418	09/20/18 16:29	
EPA 8270 by SIM	Benzo(a)anthracene	1360	ug/kg	233	09/20/18 16:29	
EPA 8270 by SIM	Benzo(a)pyrene	1020	ug/kg	184	09/20/18 16:29	
EPA 8270 by SIM	Benzo(b)fluoranthene	1620	ug/kg	207	09/20/18 16:29	
EPA 8270 by SIM	Benzo(g,h,i)perylene	234	ug/kg	149	09/20/18 16:29	
EPA 8270 by SIM	Benzo(k)fluoranthene	984	ug/kg	184	09/20/18 16:29	
EPA 8270 by SIM	Chrysene	1330	ug/kg	246	09/20/18 16:29	
EPA 8270 by SIM	Fluoranthene	3460	ug/kg	383	09/20/18 16:29	
EPA 8270 by SIM	Fluorene	322	ug/kg	303	09/20/18 16:29	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	166	ug/kg	161	09/20/18 16:29	
EPA 8270 by SIM	Phenanthrene	2140	ug/kg	853	09/20/18 16:29	
EPA 8270 by SIM	Pyrene	2420	ug/kg	330	09/20/18 16:29	
EPA 8260	Methylene Chloride	58.2J	ug/kg	65.9	09/13/18 00:47	B
ASTM D2974-87	Percent Moisture	9.0	%	0.10	09/13/18 17:13	
40175583006	**G6 (4-6')**					
EPA 6010	Arsenic	5.2J	mg/kg	5.5	09/17/18 17:48	
EPA 6010	Barium	127	mg/kg	0.55	09/17/18 17:48	
EPA 6010	Cadmium	0.32J	mg/kg	0.55	09/17/18 17:48	
EPA 6010	Chromium	17.1	mg/kg	1.1	09/17/18 17:48	
EPA 6010	Lead	23.5	mg/kg	2.2	09/17/18 17:48	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40175583006	**G6 (4-6')**					
ASTM D2974-87	Percent Moisture	13.7	%	0.10	09/13/18 17:13	
40175583007	**G-10 (0-2')**					
EPA 6010	Arsenic	7.0	mg/kg	5.3	09/17/18 17:56	
EPA 6010	Barium	38.4	mg/kg	0.53	09/17/18 17:56	
EPA 6010	Cadmium	0.83	mg/kg	0.53	09/17/18 17:56	
EPA 6010	Chromium	9.4	mg/kg	1.1	09/17/18 17:56	
EPA 6010	Lead	66.3	mg/kg	2.1	09/17/18 17:56	
EPA 8270 by SIM	Acenaphthene	8.9J	ug/kg	14.3	09/20/18 11:34	
EPA 8270 by SIM	Acenaphthylene	6.1J	ug/kg	12.2	09/20/18 11:34	
EPA 8270 by SIM	Anthracene	31.8	ug/kg	21.0	09/20/18 11:34	
EPA 8270 by SIM	Benzo(a)anthracene	49.0	ug/kg	11.7	09/20/18 11:34	
EPA 8270 by SIM	Benzo(a)pyrene	30.2	ug/kg	9.3	09/20/18 11:34	
EPA 8270 by SIM	Benzo(b)fluoranthene	35.8	ug/kg	10.4	09/20/18 11:34	
EPA 8270 by SIM	Benzo(g,h,i)perylene	20.3	ug/kg	7.5	09/20/18 11:34	
EPA 8270 by SIM	Benzo(k)fluoranthene	14.3	ug/kg	9.2	09/20/18 11:34	
EPA 8270 by SIM	Chrysene	51.7	ug/kg	12.4	09/20/18 11:34	
EPA 8270 by SIM	Dibenz(a,h)anthracene	7.1J	ug/kg	8.2	09/20/18 11:34	
EPA 8270 by SIM	Fluoranthene	82.8	ug/kg	19.3	09/20/18 11:34	
EPA 8270 by SIM	Fluorene	6.7J	ug/kg	15.3	09/20/18 11:34	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	10.7	ug/kg	8.1	09/20/18 11:34	
EPA 8270 by SIM	1-Methylnaphthalene	151	ug/kg	14.8	09/20/18 11:34	
EPA 8270 by SIM	2-Methylnaphthalene	148	ug/kg	18.5	09/20/18 11:34	
EPA 8270 by SIM	Naphthalene	49.0	ug/kg	31.1	09/20/18 11:34	
EPA 8270 by SIM	Phenanthrene	301	ug/kg	42.9	09/20/18 11:34	
EPA 8270 by SIM	Pyrene	69.5	ug/kg	16.6	09/20/18 11:34	
ASTM D2974-87	Percent Moisture	9.7	%	0.10	09/13/18 17:13	
40175583009	**G-9 (0-2')**					
EPA 8270 by SIM	Acenaphthylene	3.9J	ug/kg	11.7	09/14/18 19:05	
EPA 8270 by SIM	Anthracene	17.0J	ug/kg	20.2	09/14/18 19:05	
EPA 8270 by SIM	Benzo(a)anthracene	31.4	ug/kg	11.3	09/14/18 19:05	
EPA 8270 by SIM	Benzo(a)pyrene	19.0	ug/kg	8.9	09/14/18 19:05	
EPA 8270 by SIM	Benzo(b)fluoranthene	22.0	ug/kg	10	09/14/18 19:05	lp
EPA 8270 by SIM	Benzo(g,h,i)perylene	7.0J	ug/kg	7.2	09/14/18 19:05	
EPA 8270 by SIM	Benzo(k)fluoranthene	16.7	ug/kg	8.9	09/14/18 19:05	lp
EPA 8270 by SIM	Chrysene	34.3	ug/kg	11.9	09/14/18 19:05	
EPA 8270 by SIM	Dibenz(a,h)anthracene	3.3J	ug/kg	7.9	09/14/18 19:05	
EPA 8270 by SIM	Fluoranthene	53.1	ug/kg	18.5	09/14/18 19:05	
EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	5.7J	ug/kg	7.8	09/14/18 19:05	
EPA 8270 by SIM	1-Methylnaphthalene	122	ug/kg	14.2	09/14/18 19:05	
EPA 8270 by SIM	2-Methylnaphthalene	148	ug/kg	17.7	09/14/18 19:05	
EPA 8270 by SIM	Naphthalene	60.7	ug/kg	29.9	09/14/18 19:05	
EPA 8270 by SIM	Phenanthrene	146	ug/kg	41.2	09/14/18 19:05	
EPA 8270 by SIM	Pyrene	58.9	ug/kg	15.9	09/14/18 19:05	
ASTM D2974-87	Percent Moisture	6.0	%	0.10	09/13/18 17:13	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Sample: G3 (4-6') **Lab ID: 40175583001** Collected: 09/10/18 09:45 Received: 09/11/18 09:36 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**4.4J**	mg/kg	5.5	1.1	1	09/17/18 07:22	09/17/18 17:41	7440-38-2	
Cadmium	**0.32J**	mg/kg	0.55	0.15	1	09/17/18 07:22	09/17/18 17:41	7440-43-9	
Chromium	**48.2**	mg/kg	1.1	0.30	1	09/17/18 07:22	09/17/18 17:41	7440-47-3	
Lead	**21.1**	mg/kg	2.2	0.65	1	09/17/18 07:22	09/17/18 17:41	7439-92-1	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<175**	ug/kg	581	175	40	09/20/18 07:59	09/21/18 13:03	83-32-9	
Acenaphthylene	**920**	ug/kg	496	149	40	09/20/18 07:59	09/21/18 13:03	208-96-8	
Anthracene	**1680**	ug/kg	856	257	40	09/20/18 07:59	09/21/18 13:03	120-12-7	
Benzo(a)anthracene	**6040**	ug/kg	478	143	40	09/20/18 07:59	09/21/18 13:03	56-55-3	
Benzo(a)pyrene	**5860**	ug/kg	377	113	40	09/20/18 07:59	09/21/18 13:03	50-32-8	
Benzo(b)fluoranthene	**7650**	ug/kg	424	127	40	09/20/18 07:59	09/21/18 13:03	205-99-2	
Benzo(g,h,i)perylene	**3340**	ug/kg	305	91.6	40	09/20/18 07:59	09/21/18 13:03	191-24-2	
Benzo(k)fluoranthene	**2760**	ug/kg	377	113	40	09/20/18 07:59	09/21/18 13:03	207-08-9	
Chrysene	**5730**	ug/kg	505	152	40	09/20/18 07:59	09/21/18 13:03	218-01-9	
Dibenz(a,h)anthracene	**890**	ug/kg	336	101	40	09/20/18 07:59	09/21/18 13:03	53-70-3	
Fluoranthene	**14200**	ug/kg	784	235	40	09/20/18 07:59	09/21/18 13:03	206-44-0	
Fluorene	**<187**	ug/kg	622	187	40	09/20/18 07:59	09/21/18 13:03	86-73-7	
Indeno(1,2,3-cd)pyrene	**2960**	ug/kg	330	99.1	40	09/20/18 07:59	09/21/18 13:03	193-39-5	
1-Methylnaphthalene	**<181**	ug/kg	604	181	40	09/20/18 07:59	09/21/18 13:03	90-12-0	
2-Methylnaphthalene	**<225**	ug/kg	753	225	40	09/20/18 07:59	09/21/18 13:03	91-57-6	
Naphthalene	**<380**	ug/kg	1270	380	40	09/20/18 07:59	09/21/18 13:03	91-20-3	
Phenanthrene	**1930**	ug/kg	1750	525	40	09/20/18 07:59	09/21/18 13:03	85-01-8	
Pyrene	**11800**	ug/kg	676	203	40	09/20/18 07:59	09/21/18 13:03	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	48	%	10-115		40	09/20/18 07:59	09/21/18 13:03	321-60-8	
Terphenyl-d14 (S)	48	%	10-121		40	09/20/18 07:59	09/21/18 13:03	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**11.4**	%	0.10	0.10	1		09/11/18 17:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Sample: G2 (4-8') **Lab ID: 40175583002** Collected: 09/10/18 10:00 Received: 09/11/18 09:36 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**9.2**	mg/kg	5.7	1.2	1	09/17/18 07:22	09/17/18 17:44	7440-38-2	
Cadmium	**0.76**	mg/kg	0.57	0.15	1	09/17/18 07:22	09/17/18 17:44	7440-43-9	
Chromium	**24.3**	mg/kg	1.1	0.32	1	09/17/18 07:22	09/17/18 17:44	7440-47-3	
Lead	**78.0**	mg/kg	2.3	0.68	1	09/17/18 07:22	09/17/18 17:44	7439-92-1	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**49.9**	ug/kg	29.6	8.9	2	09/20/18 07:59	09/21/18 13:21	83-32-9	
Acenaphthylene	**8.1J**	ug/kg	25.2	7.6	2	09/20/18 07:59	09/21/18 13:21	208-96-8	
Anthracene	**103**	ug/kg	43.5	13.1	2	09/20/18 07:59	09/21/18 13:21	120-12-7	
Benzo(a)anthracene	**263**	ug/kg	24.3	7.3	2	09/20/18 07:59	09/21/18 13:21	56-55-3	
Benzo(a)pyrene	**258**	ug/kg	19.2	5.8	2	09/20/18 07:59	09/21/18 13:21	50-32-8	
Benzo(b)fluoranthene	**333**	ug/kg	21.6	6.5	2	09/20/18 07:59	09/21/18 13:21	205-99-2	
Benzo(g,h,i)perylene	**175**	ug/kg	15.5	4.7	2	09/20/18 07:59	09/21/18 13:21	191-24-2	
Benzo(k)fluoranthene	**128**	ug/kg	19.2	5.8	2	09/20/18 07:59	09/21/18 13:21	207-08-9	
Chrysene	**278**	ug/kg	25.7	7.7	2	09/20/18 07:59	09/21/18 13:21	218-01-9	
Dibenz(a,h)anthracene	**39.9**	ug/kg	17.1	5.1	2	09/20/18 07:59	09/21/18 13:21	53-70-3	
Fluoranthene	**608**	ug/kg	39.9	11.9	2	09/20/18 07:59	09/21/18 13:21	206-44-0	
Fluorene	**38.9**	ug/kg	31.6	9.5	2	09/20/18 07:59	09/21/18 13:21	86-73-7	
Indeno(1,2,3-cd)pyrene	**141**	ug/kg	16.8	5.0	2	09/20/18 07:59	09/21/18 13:21	193-39-5	
1-Methylnaphthalene	**150**	ug/kg	30.7	9.2	2	09/20/18 07:59	09/21/18 13:21	90-12-0	
2-Methylnaphthalene	**194**	ug/kg	38.3	11.5	2	09/20/18 07:59	09/21/18 13:21	91-57-6	
Naphthalene	**103**	ug/kg	64.4	19.3	2	09/20/18 07:59	09/21/18 13:21	91-20-3	
Phenanthrene	**445**	ug/kg	88.9	26.7	2	09/20/18 07:59	09/21/18 13:21	85-01-8	
Pyrene	**491**	ug/kg	34.4	10.3	2	09/20/18 07:59	09/21/18 13:21	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	46	%	10-115		2	09/20/18 07:59	09/21/18 13:21	321-60-8	
Terphenyl-d14 (S)	41	%	10-121		2	09/20/18 07:59	09/21/18 13:21	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**12.6**	%	0.10	0.10	1		09/11/18 17:15		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Sample: G1 (1-2') **Lab ID: 40175583003** Collected: 09/10/18 10:20 Received: 09/11/18 09:36 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	630-20-6	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	71-55-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	79-34-5	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	79-00-5	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	75-34-3	W
1,1-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	75-35-4	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	563-58-6	W
1,2,3-Trichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	87-61-6	W
1,2,3-Trichloropropane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	96-18-4	W
1,2,4-Trichlorobenzene	**<47.6**	ug/kg	250	47.6	1	09/12/18 08:15	09/13/18 00:24	120-82-1	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	95-63-6	W
1,2-Dibromo-3-chloropropane	**<91.2**	ug/kg	250	91.2	1	09/12/18 08:15	09/13/18 00:24	96-12-8	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	106-93-4	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	95-50-1	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	107-06-2	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	78-87-5	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	108-67-8	W
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	541-73-1	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	142-28-9	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	106-46-7	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	594-20-7	W
2-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	95-49-8	W
4-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	106-43-4	W
Benzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	71-43-2	W
Bromobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	75-27-4	W
Bromoform	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	75-25-2	W
Bromomethane	**<69.9**	ug/kg	250	69.9	1	09/12/18 08:15	09/13/18 00:24	74-83-9	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	108-90-7	W
Chloroethane	**<67.0**	ug/kg	250	67.0	1	09/12/18 08:15	09/13/18 00:24	75-00-3	W
Chloroform	**<46.4**	ug/kg	250	46.4	1	09/12/18 08:15	09/13/18 00:24	67-66-3	W
Chloromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	74-87-3	W
Dibromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	124-48-1	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	74-95-3	W
Dichlorodifluoromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	75-71-8	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	108-20-3	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	100-41-4	W
Hexachloro-1,3-butadiene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	87-68-3	W
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	98-82-8	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	1634-04-4	W
Methylene Chloride	**58.7J**	ug/kg	67.1	27.9	1	09/12/18 08:15	09/13/18 00:24	75-09-2	B
Naphthalene	**<40.0**	ug/kg	250	40.0	1	09/12/18 08:15	09/13/18 00:24	91-20-3	W
Styrene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	100-42-5	W

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Sample: G1 (1-2') **Lab ID: 40175583003** Collected: 09/10/18 10:20 Received: 09/11/18 09:36 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Tetrachloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	127-18-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	108-88-3	W
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	75-69-4	W
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	75-01-4	W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	156-59-2	W
cis-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	10061-01-5	W
m&p-Xylene	**<50.0**	ug/kg	120	50.0	1	09/12/18 08:15	09/13/18 00:24	179601-23-1	W
n-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	104-51-8	W
n-Propylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	103-65-1	W
o-Xylene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	95-47-6	W
p-Isopropyltoluene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	99-87-6	W
sec-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	98-06-6	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	156-60-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:24	10061-02-6	W
Surrogates									
Dibromofluoromethane (S)	114	%	57-148		1	09/12/18 08:15	09/13/18 00:24	1868-53-7	
Toluene-d8 (S)	113	%	58-142		1	09/12/18 08:15	09/13/18 00:24	2037-26-5	
4-Bromofluorobenzene (S)	96	%	48-130		1	09/12/18 08:15	09/13/18 00:24	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**10.5**	%	0.10	0.10	1		09/11/18 17:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Sample: G1 (4-6') **Lab ID: 40175583004** Collected: 09/10/18 10:20 Received: 09/11/18 09:36 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**3.6J**	mg/kg	5.1	1.1	1	09/17/18 07:22	09/17/18 17:46	7440-38-2	
Barium	**68.2**	mg/kg	0.51	0.15	1	09/17/18 07:22	09/17/18 17:46	7440-39-3	
Cadmium	**0.21J**	mg/kg	0.51	0.14	1	09/17/18 07:22	09/17/18 17:46	7440-43-9	
Chromium	**12.7**	mg/kg	1.0	0.29	1	09/17/18 07:22	09/17/18 17:46	7440-47-3	
Lead	**10.0**	mg/kg	2.1	0.62	1	09/17/18 07:22	09/17/18 17:46	7439-92-1	
Selenium	**<1.3**	mg/kg	4.5	1.3	1	09/17/18 07:22	09/17/18 17:46	7782-49-2	
Silver	**<0.35**	mg/kg	1.0	0.35	1	09/17/18 07:22	09/17/18 17:46	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.037J**	mg/kg	0.12	0.037	1	09/18/18 09:09	09/19/18 16:02	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<4.3**	ug/kg	14.4	4.3	1	09/20/18 07:59	09/20/18 17:04	83-32-9	
Acenaphthylene	**6.2J**	ug/kg	12.3	3.7	1	09/20/18 07:59	09/20/18 17:04	208-96-8	
Anthracene	**24.1**	ug/kg	21.2	6.4	1	09/20/18 07:59	09/20/18 17:04	120-12-7	
Benzo(a)anthracene	**42.3**	ug/kg	11.8	3.5	1	09/20/18 07:59	09/20/18 17:04	56-55-3	
Benzo(a)pyrene	**25.4**	ug/kg	9.3	2.8	1	09/20/18 07:59	09/20/18 17:04	50-32-8	
Benzo(b)fluoranthene	**30.2**	ug/kg	10.5	3.1	1	09/20/18 07:59	09/20/18 17:04	205-99-2	
Benzo(g,h,i)perylene	**12.9**	ug/kg	7.5	2.3	1	09/20/18 07:59	09/20/18 17:04	191-24-2	
Benzo(k)fluoranthene	**17.7**	ug/kg	9.3	2.8	1	09/20/18 07:59	09/20/18 17:04	207-08-9	
Chrysene	**46.8**	ug/kg	12.5	3.8	1	09/20/18 07:59	09/20/18 17:04	218-01-9	
Dibenz(a,h)anthracene	**5.2J**	ug/kg	8.3	2.5	1	09/20/18 07:59	09/20/18 17:04	53-70-3	
Fluoranthene	**81.5**	ug/kg	19.4	5.8	1	09/20/18 07:59	09/20/18 17:04	206-44-0	
Fluorene	**4.8J**	ug/kg	15.4	4.6	1	09/20/18 07:59	09/20/18 17:04	86-73-7	
Indeno(1,2,3-cd)pyrene	**7.8J**	ug/kg	8.2	2.5	1	09/20/18 07:59	09/20/18 17:04	193-39-5	
1-Methylnaphthalene	**174**	ug/kg	14.9	4.5	1	09/20/18 07:59	09/20/18 17:04	90-12-0	
2-Methylnaphthalene	**224**	ug/kg	18.6	5.6	1	09/20/18 07:59	09/20/18 17:04	91-57-6	
Naphthalene	**67.3**	ug/kg	31.3	9.4	1	09/20/18 07:59	09/20/18 17:04	91-20-3	
Phenanthrene	**220**	ug/kg	43.3	13.0	1	09/20/18 07:59	09/20/18 17:04	85-01-8	
Pyrene	**80.8**	ug/kg	16.7	5.0	1	09/20/18 07:59	09/20/18 17:04	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	53	%	10-115		1	09/20/18 07:59	09/20/18 17:04	321-60-8	
Terphenyl-d14 (S)	48	%	10-121		1	09/20/18 07:59	09/20/18 17:04	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**10.2**	%	0.10	0.10	1		09/13/18 17:13		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Sample: G5 (2-4') **Lab ID: 40175583005** Collected: 09/10/18 11:30 Received: 09/11/18 09:36 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<85.3**	ug/kg	284	85.3	20	09/20/18 07:59	09/20/18 16:29	83-32-9	
Acenaphthylene	**411**	ug/kg	242	72.5	20	09/20/18 07:59	09/20/18 16:29	208-96-8	
Anthracene	**701**	ug/kg	418	126	20	09/20/18 07:59	09/20/18 16:29	120-12-7	
Benzo(a)anthracene	**1360**	ug/kg	233	69.7	20	09/20/18 07:59	09/20/18 16:29	56-55-3	
Benzo(a)pyrene	**1020**	ug/kg	184	55.2	20	09/20/18 07:59	09/20/18 16:29	50-32-8	
Benzo(b)fluoranthene	**1620**	ug/kg	207	62.1	20	09/20/18 07:59	09/20/18 16:29	205-99-2	
Benzo(g,h,i)perylene	**234**	ug/kg	149	44.7	20	09/20/18 07:59	09/20/18 16:29	191-24-2	
Benzo(k)fluoranthene	**984**	ug/kg	184	55.2	20	09/20/18 07:59	09/20/18 16:29	207-08-9	
Chrysene	**1330**	ug/kg	246	74.1	20	09/20/18 07:59	09/20/18 16:29	218-01-9	
Dibenz(a,h)anthracene	**<49.2**	ug/kg	164	49.2	20	09/20/18 07:59	09/20/18 16:29	53-70-3	
Fluoranthene	**3460**	ug/kg	383	114	20	09/20/18 07:59	09/20/18 16:29	206-44-0	
Fluorene	**322**	ug/kg	303	91.0	20	09/20/18 07:59	09/20/18 16:29	86-73-7	
Indeno(1,2,3-cd)pyrene	**166**	ug/kg	161	48.3	20	09/20/18 07:59	09/20/18 16:29	193-39-5	
1-Methylnaphthalene	**<88.4**	ug/kg	295	88.4	20	09/20/18 07:59	09/20/18 16:29	90-12-0	
2-Methylnaphthalene	**<110**	ug/kg	367	110	20	09/20/18 07:59	09/20/18 16:29	91-57-6	
Naphthalene	**<185**	ug/kg	618	185	20	09/20/18 07:59	09/20/18 16:29	91-20-3	
Phenanthrene	**2140**	ug/kg	853	256	20	09/20/18 07:59	09/20/18 16:29	85-01-8	
Pyrene	**2420**	ug/kg	330	99.2	20	09/20/18 07:59	09/20/18 16:29	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	61	%	10-115		20	09/20/18 07:59	09/20/18 16:29	321-60-8	
Terphenyl-d14 (S)	58	%	10-121		20	09/20/18 07:59	09/20/18 16:29	1718-51-0	
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	630-20-6	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	71-55-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	79-34-5	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	79-00-5	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	75-34-3	W
1,1-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	75-35-4	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	563-58-6	W
1,2,3-Trichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	87-61-6	W
1,2,3-Trichloropropane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	96-18-4	W
1,2,4-Trichlorobenzene	**<47.6**	ug/kg	250	47.6	1	09/12/18 08:15	09/13/18 00:47	120-82-1	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	95-63-6	W
1,2-Dibromo-3-chloropropane	**<91.2**	ug/kg	250	91.2	1	09/12/18 08:15	09/13/18 00:47	96-12-8	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	106-93-4	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	95-50-1	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	107-06-2	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	78-87-5	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	108-67-8	W
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	541-73-1	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	142-28-9	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	106-46-7	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	594-20-7	W
2-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	95-49-8	W

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Sample: G5 (2-4') **Lab ID: 40175583005** Collected: 09/10/18 11:30 Received: 09/11/18 09:36 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
4-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	106-43-4	W
Benzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	71-43-2	W
Bromobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	75-27-4	W
Bromoform	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	75-25-2	W
Bromomethane	**<69.9**	ug/kg	250	69.9	1	09/12/18 08:15	09/13/18 00:47	74-83-9	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	108-90-7	W
Chloroethane	**<67.0**	ug/kg	250	67.0	1	09/12/18 08:15	09/13/18 00:47	75-00-3	W
Chloroform	**<46.4**	ug/kg	250	46.4	1	09/12/18 08:15	09/13/18 00:47	67-66-3	W
Chloromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	74-87-3	W
Dibromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	124-48-1	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	74-95-3	W
Dichlorodifluoromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	75-71-8	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	108-20-3	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	100-41-4	W
Hexachloro-1,3-butadiene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	87-68-3	W
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	98-82-8	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	1634-04-4	W
Methylene Chloride	**58.2J**	ug/kg	65.9	27.5	1	09/12/18 08:15	09/13/18 00:47	75-09-2	B
Naphthalene	**<40.0**	ug/kg	250	40.0	1	09/12/18 08:15	09/13/18 00:47	91-20-3	W
Styrene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	100-42-5	W
Tetrachloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	127-18-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	108-88-3	W
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	75-69-4	W
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	75-01-4	W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	156-59-2	W
cis-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	10061-01-5	W
m&p-Xylene	**<50.0**	ug/kg	120	50.0	1	09/12/18 08:15	09/13/18 00:47	179601-23-1	W
n-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	104-51-8	W
n-Propylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	103-65-1	W
o-Xylene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	95-47-6	W
p-Isopropyltoluene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	99-87-6	W
sec-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	98-06-6	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	156-60-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 00:47	10061-02-6	W
Surrogates									
Dibromofluoromethane (S)	113	%	57-148		1	09/12/18 08:15	09/13/18 00:47	1868-53-7	
Toluene-d8 (S)	115	%	58-142		1	09/12/18 08:15	09/13/18 00:47	2037-26-5	
4-Bromofluorobenzene (S)	97	%	48-130		1	09/12/18 08:15	09/13/18 00:47	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Sample: G5 (2-4') **Lab ID: 40175583005** Collected: 09/10/18 11:30 Received: 09/11/18 09:36 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**9.0**	%	0.10	0.10	1		09/13/18 17:13		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Sample: G6 (4-6') **Lab ID: 40175583006** Collected: 09/10/18 12:15 Received: 09/11/18 09:36 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**5.2J**	mg/kg	5.5	1.1	1	09/17/18 07:22	09/17/18 17:48	7440-38-2	
Barium	**127**	mg/kg	0.55	0.16	1	09/17/18 07:22	09/17/18 17:48	7440-39-3	
Cadmium	**0.32J**	mg/kg	0.55	0.15	1	09/17/18 07:22	09/17/18 17:48	7440-43-9	
Chromium	**17.1**	mg/kg	1.1	0.30	1	09/17/18 07:22	09/17/18 17:48	7440-47-3	
Lead	**23.5**	mg/kg	2.2	0.65	1	09/17/18 07:22	09/17/18 17:48	7439-92-1	
Selenium	**<1.4**	mg/kg	4.8	1.4	1	09/17/18 07:22	09/17/18 17:48	7782-49-2	
Silver	**<0.38**	mg/kg	1.1	0.38	1	09/17/18 07:22	09/17/18 17:48	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**<0.038**	mg/kg	0.13	0.038	1	09/18/18 09:09	09/19/18 16:04	7439-97-6	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**13.7**	%	0.10	0.10	1		09/13/18 17:13		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Sample: G-10 (0-2') **Lab ID: 40175583007** Collected: 09/10/18 14:35 Received: 09/11/18 09:36 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**7.0**	mg/kg	5.3	1.1	1	09/17/18 07:22	09/17/18 17:56	7440-38-2	
Barium	**38.4**	mg/kg	0.53	0.16	1	09/17/18 07:22	09/17/18 17:56	7440-39-3	
Cadmium	**0.83**	mg/kg	0.53	0.14	1	09/17/18 07:22	09/17/18 17:56	7440-43-9	
Chromium	**9.4**	mg/kg	1.1	0.29	1	09/17/18 07:22	09/17/18 17:56	7440-47-3	
Lead	**66.3**	mg/kg	2.1	0.63	1	09/17/18 07:22	09/17/18 17:56	7439-92-1	
Selenium	**<1.4**	mg/kg	4.6	1.4	1	09/17/18 07:22	09/17/18 17:56	7782-49-2	
Silver	**<0.36**	mg/kg	1.1	0.36	1	09/17/18 07:22	09/17/18 17:56	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**<0.036**	mg/kg	0.12	0.036	1	09/18/18 09:09	09/19/18 16:07	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**8.9J**	ug/kg	14.3	4.3	1	09/20/18 07:59	09/20/18 11:34	83-32-9	
Acenaphthylene	**6.1J**	ug/kg	12.2	3.6	1	09/20/18 07:59	09/20/18 11:34	208-96-8	
Anthracene	**31.8**	ug/kg	21.0	6.3	1	09/20/18 07:59	09/20/18 11:34	120-12-7	
Benzo(a)anthracene	**49.0**	ug/kg	11.7	3.5	1	09/20/18 07:59	09/20/18 11:34	56-55-3	
Benzo(a)pyrene	**30.2**	ug/kg	9.3	2.8	1	09/20/18 07:59	09/20/18 11:34	50-32-8	
Benzo(b)fluoranthene	**35.8**	ug/kg	10.4	3.1	1	09/20/18 07:59	09/20/18 11:34	205-99-2	
Benzo(g,h,i)perylene	**20.3**	ug/kg	7.5	2.2	1	09/20/18 07:59	09/20/18 11:34	191-24-2	
Benzo(k)fluoranthene	**14.3**	ug/kg	9.2	2.8	1	09/20/18 07:59	09/20/18 11:34	207-08-9	
Chrysene	**51.7**	ug/kg	12.4	3.7	1	09/20/18 07:59	09/20/18 11:34	218-01-9	
Dibenz(a,h)anthracene	**7.1J**	ug/kg	8.2	2.5	1	09/20/18 07:59	09/20/18 11:34	53-70-3	
Fluoranthene	**82.8**	ug/kg	19.3	5.8	1	09/20/18 07:59	09/20/18 11:34	206-44-0	
Fluorene	**6.7J**	ug/kg	15.3	4.6	1	09/20/18 07:59	09/20/18 11:34	86-73-7	
Indeno(1,2,3-cd)pyrene	**10.7**	ug/kg	8.1	2.4	1	09/20/18 07:59	09/20/18 11:34	193-39-5	
1-Methylnaphthalene	**151**	ug/kg	14.8	4.5	1	09/20/18 07:59	09/20/18 11:34	90-12-0	
2-Methylnaphthalene	**148**	ug/kg	18.5	5.5	1	09/20/18 07:59	09/20/18 11:34	91-57-6	
Naphthalene	**49.0**	ug/kg	31.1	9.3	1	09/20/18 07:59	09/20/18 11:34	91-20-3	
Phenanthrene	**301**	ug/kg	42.9	12.9	1	09/20/18 07:59	09/20/18 11:34	85-01-8	
Pyrene	**69.5**	ug/kg	16.6	5.0	1	09/20/18 07:59	09/20/18 11:34	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	71	%	10-115		1	09/20/18 07:59	09/20/18 11:34	321-60-8	
Terphenyl-d14 (S)	60	%	10-121		1	09/20/18 07:59	09/20/18 11:34	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**9.7**	%	0.10	0.10	1		09/13/18 17:13		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Sample: TRIP BLANK **Lab ID: 40175583008** Collected: 09/10/18 00:00 Received: 09/11/18 09:36 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	630-20-6	W
1,1,1-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	71-55-6	W
1,1,2,2-Tetrachloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	79-34-5	W
1,1,2-Trichloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	79-00-5	W
1,1-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	75-34-3	W
1,1-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	75-35-4	W
1,1-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	563-58-6	W
1,2,3-Trichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	87-61-6	W
1,2,3-Trichloropropane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	96-18-4	W
1,2,4-Trichlorobenzene	**<47.6**	ug/kg	250	47.6	1	09/12/18 08:15	09/13/18 11:29	120-82-1	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	95-63-6	W
1,2-Dibromo-3-chloropropane	**<91.2**	ug/kg	250	91.2	1	09/12/18 08:15	09/13/18 11:29	96-12-8	W
1,2-Dibromoethane (EDB)	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	106-93-4	W
1,2-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	95-50-1	W
1,2-Dichloroethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	107-06-2	W
1,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	78-87-5	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	108-67-8	W
1,3-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	541-73-1	W
1,3-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	142-28-9	W
1,4-Dichlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	106-46-7	W
2,2-Dichloropropane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	594-20-7	W
2-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	95-49-8	W
4-Chlorotoluene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	106-43-4	W
Benzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	71-43-2	W
Bromobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	108-86-1	W
Bromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	74-97-5	W
Bromodichloromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	75-27-4	W
Bromoform	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	75-25-2	W
Bromomethane	**<69.9**	ug/kg	250	69.9	1	09/12/18 08:15	09/13/18 11:29	74-83-9	W
Carbon tetrachloride	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	56-23-5	W
Chlorobenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	108-90-7	W
Chloroethane	**<67.0**	ug/kg	250	67.0	1	09/12/18 08:15	09/13/18 11:29	75-00-3	W
Chloroform	**<46.4**	ug/kg	250	46.4	1	09/12/18 08:15	09/13/18 11:29	67-66-3	W
Chloromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	74-87-3	W
Dibromochloromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	124-48-1	W
Dibromomethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	74-95-3	W
Dichlorodifluoromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	75-71-8	W
Diisopropyl ether	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	108-20-3	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	100-41-4	W
Hexachloro-1,3-butadiene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	87-68-3	W
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	98-82-8	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	1634-04-4	W
Methylene Chloride	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	75-09-2	W
Naphthalene	**<40.0**	ug/kg	250	40.0	1	09/12/18 08:15	09/13/18 11:29	91-20-3	W
Styrene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	100-42-5	W

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Sample: TRIP BLANK **Lab ID: 40175583008** Collected: 09/10/18 00:00 Received: 09/11/18 09:36 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Tetrachloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	127-18-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	108-88-3	W
Trichloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	79-01-6	W
Trichlorofluoromethane	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	75-69-4	W
Vinyl chloride	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	75-01-4	W
cis-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	156-59-2	W
cis-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	10061-01-5	W
m&p-Xylene	**<50.0**	ug/kg	120	50.0	1	09/12/18 08:15	09/13/18 11:29	179601-23-1	W
n-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	104-51-8	W
n-Propylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	103-65-1	W
o-Xylene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	95-47-6	W
p-Isopropyltoluene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	99-87-6	W
sec-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	135-98-8	W
tert-Butylbenzene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	98-06-6	W
trans-1,2-Dichloroethene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	156-60-5	W
trans-1,3-Dichloropropene	**<25.0**	ug/kg	60.0	25.0	1	09/12/18 08:15	09/13/18 11:29	10061-02-6	W
Surrogates									
Dibromofluoromethane (S)	96	%	57-148		1	09/12/18 08:15	09/13/18 11:29	1868-53-7	
Toluene-d8 (S)	93	%	58-142		1	09/12/18 08:15	09/13/18 11:29	2037-26-5	
4-Bromofluorobenzene (S)	92	%	48-130		1	09/12/18 08:15	09/13/18 11:29	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Sample: G-9 (0-2') **Lab ID: 40175583009** Collected: 09/10/18 14:00 Received: 09/11/18 09:36 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<4.1**	ug/kg	13.7	4.1	1	09/14/18 08:37	09/14/18 19:05	83-32-9	
Acenaphthylene	**3.9J**	ug/kg	11.7	3.5	1	09/14/18 08:37	09/14/18 19:05	208-96-8	
Anthracene	**17.0J**	ug/kg	20.2	6.1	1	09/14/18 08:37	09/14/18 19:05	120-12-7	
Benzo(a)anthracene	**31.4**	ug/kg	11.3	3.4	1	09/14/18 08:37	09/14/18 19:05	56-55-3	
Benzo(a)pyrene	**19.0**	ug/kg	8.9	2.7	1	09/14/18 08:37	09/14/18 19:05	50-32-8	
Benzo(b)fluoranthene	**22.0**	ug/kg	10	3.0	1	09/14/18 08:37	09/14/18 19:05	205-99-2	lp
Benzo(g,h,i)perylene	**7.0J**	ug/kg	7.2	2.2	1	09/14/18 08:37	09/14/18 19:05	191-24-2	
Benzo(k)fluoranthene	**16.7**	ug/kg	8.9	2.7	1	09/14/18 08:37	09/14/18 19:05	207-08-9	lp
Chrysene	**34.3**	ug/kg	11.9	3.6	1	09/14/18 08:37	09/14/18 19:05	218-01-9	
Dibenz(a,h)anthracene	**3.3J**	ug/kg	7.9	2.4	1	09/14/18 08:37	09/14/18 19:05	53-70-3	
Fluoranthene	**53.1**	ug/kg	18.5	5.5	1	09/14/18 08:37	09/14/18 19:05	206-44-0	
Fluorene	**<4.4**	ug/kg	14.7	4.4	1	09/14/18 08:37	09/14/18 19:05	86-73-7	
Indeno(1,2,3-cd)pyrene	**5.7J**	ug/kg	7.8	2.3	1	09/14/18 08:37	09/14/18 19:05	193-39-5	
1-Methylnaphthalene	**122**	ug/kg	14.2	4.3	1	09/14/18 08:37	09/14/18 19:05	90-12-0	
2-Methylnaphthalene	**148**	ug/kg	17.7	5.3	1	09/14/18 08:37	09/14/18 19:05	91-57-6	
Naphthalene	**60.7**	ug/kg	29.9	8.9	1	09/14/18 08:37	09/14/18 19:05	91-20-3	
Phenanthrene	**146**	ug/kg	41.2	12.4	1	09/14/18 08:37	09/14/18 19:05	85-01-8	
Pyrene	**58.9**	ug/kg	15.9	4.8	1	09/14/18 08:37	09/14/18 19:05	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	48	%	10-115		1	09/14/18 08:37	09/14/18 19:05	321-60-8	
Terphenyl-d14 (S)	61	%	10-121		1	09/14/18 08:37	09/14/18 19:05	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**6.0**	%	0.10	0.10	1		09/13/18 17:13		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

QC Batch: 300456 Analysis Method: EPA 7471
QC Batch Method: EPA 7471 Analysis Description: 7471 Mercury
Associated Lab Samples: 40175583004, 40175583006, 40175583007

METHOD BLANK: 1754679 Matrix: Solid
Associated Lab Samples: 40175583004, 40175583006, 40175583007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.035	0.12	09/19/18 15:04	

LABORATORY CONTROL SAMPLE: 1754680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.83	0.87	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1754681 1754682

Parameter	Units	40175947006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	<0.048	1.2	1.2	1.3	1.2	108	106	85-115	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

QC Batch: 300092 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 40175583001, 40175583002, 40175583004, 40175583006, 40175583007

METHOD BLANK: 1752263 Matrix: Solid
Associated Lab Samples: 40175583001, 40175583002, 40175583004, 40175583006, 40175583007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	<1.0	5.0	09/17/18 15:06	
Barium	mg/kg	<0.15	0.50	09/17/18 15:06	
Cadmium	mg/kg	<0.13	0.50	09/17/18 15:06	
Chromium	mg/kg	<0.28	1.0	09/17/18 15:06	
Lead	mg/kg	0.61J	2.0	09/17/18 15:06	
Selenium	mg/kg	<1.3	4.4	09/17/18 15:06	
Silver	mg/kg	<0.34	1.0	09/17/18 15:06	

LABORATORY CONTROL SAMPLE: 1752264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	48.2	96	80-120	
Barium	mg/kg	50	48.5	97	80-120	
Cadmium	mg/kg	50	49.4	99	80-120	
Chromium	mg/kg	50	51.9	104	80-120	
Lead	mg/kg	50	50.7	101	80-120	
Selenium	mg/kg	50	50.1	100	80-120	
Silver	mg/kg	25	25.8	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1752265 1752266

Parameter	Units	40175384001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	8.7	58.6	58.5	62.3	62.8	91	92	75-125	1	20	
Barium	mg/kg	60.6	58.6	58.5	123	121	106	104	75-125	1	20	
Cadmium	mg/kg	0.35J	58.6	58.5	57.3	56.7	97	96	75-125	1	20	
Chromium	mg/kg	27.5	58.6	58.5	85.5	84.1	99	97	75-125	2	20	
Lead	mg/kg	14.6	58.6	58.5	67.8	65.5	91	87	75-125	4	20	
Selenium	mg/kg	<1.5	58.6	58.5	56.4	53.1	96	91	75-125	6	20	
Silver	mg/kg	<0.40	29.3	29.3	30.1	29.7	102	101	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

QC Batch: 299940 Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Level Normal List
Associated Lab Samples: 40175583003, 40175583005, 40175583008

METHOD BLANK: 1751454 Matrix: Solid
Associated Lab Samples: 40175583003, 40175583005, 40175583008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<13.7	50.0	09/12/18 17:51	
1,1,1-Trichloroethane	ug/kg	<14.4	50.0	09/12/18 17:51	
1,1,2,2-Tetrachloroethane	ug/kg	<17.5	50.0	09/12/18 17:51	
1,1,2-Trichloroethane	ug/kg	<20.2	50.0	09/12/18 17:51	
1,1-Dichloroethane	ug/kg	<17.6	50.0	09/12/18 17:51	
1,1-Dichloroethene	ug/kg	<17.6	50.0	09/12/18 17:51	
1,1-Dichloropropene	ug/kg	<14.0	50.0	09/12/18 17:51	
1,2,3-Trichlorobenzene	ug/kg	18.4J	50.0	09/12/18 17:51	
1,2,3-Trichloropropane	ug/kg	<22.3	50.0	09/12/18 17:51	
1,2,4-Trichlorobenzene	ug/kg	<47.6	250	09/12/18 17:51	
1,2,4-Trimethylbenzene	ug/kg	<12.2	50.0	09/12/18 17:51	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	250	09/12/18 17:51	
1,2-Dibromoethane (EDB)	ug/kg	<14.7	50.0	09/12/18 17:51	
1,2-Dichlorobenzene	ug/kg	<16.2	50.0	09/12/18 17:51	
1,2-Dichloroethane	ug/kg	<15.0	50.0	09/12/18 17:51	
1,2-Dichloropropane	ug/kg	<16.8	50.0	09/12/18 17:51	
1,3,5-Trimethylbenzene	ug/kg	<14.5	50.0	09/12/18 17:51	
1,3-Dichlorobenzene	ug/kg	<13.2	50.0	09/12/18 17:51	
1,3-Dichloropropane	ug/kg	<12.0	50.0	09/12/18 17:51	
1,4-Dichlorobenzene	ug/kg	<15.9	50.0	09/12/18 17:51	
2,2-Dichloropropane	ug/kg	<12.6	50.0	09/12/18 17:51	
2-Chlorotoluene	ug/kg	<15.8	50.0	09/12/18 17:51	
4-Chlorotoluene	ug/kg	<13.0	50.0	09/12/18 17:51	
Benzene	ug/kg	<9.2	20.0	09/12/18 17:51	
Bromobenzene	ug/kg	<20.6	50.0	09/12/18 17:51	
Bromochloromethane	ug/kg	<21.4	50.0	09/12/18 17:51	
Bromodichloromethane	ug/kg	<9.8	50.0	09/12/18 17:51	
Bromoform	ug/kg	<19.8	50.0	09/12/18 17:51	
Bromomethane	ug/kg	<69.9	250	09/12/18 17:51	
Carbon tetrachloride	ug/kg	<12.1	50.0	09/12/18 17:51	
Chlorobenzene	ug/kg	<14.8	50.0	09/12/18 17:51	
Chloroethane	ug/kg	<67.0	250	09/12/18 17:51	
Chloroform	ug/kg	<46.4	250	09/12/18 17:51	
Chloromethane	ug/kg	<20.4	50.0	09/12/18 17:51	
cis-1,2-Dichloroethene	ug/kg	<16.6	50.0	09/12/18 17:51	
cis-1,3-Dichloropropene	ug/kg	<16.6	50.0	09/12/18 17:51	
Dibromochloromethane	ug/kg	<17.9	50.0	09/12/18 17:51	
Dibromomethane	ug/kg	<19.3	50.0	09/12/18 17:51	
Dichlorodifluoromethane	ug/kg	<12.3	50.0	09/12/18 17:51	
Diisopropyl ether	ug/kg	<17.7	50.0	09/12/18 17:51	
Ethylbenzene	ug/kg	<12.4	50.0	09/12/18 17:51	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

METHOD BLANK: 1751454 Matrix: Solid
Associated Lab Samples: 40175583003, 40175583005, 40175583008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/kg	64.1	50.0	09/12/18 17:51	
Isopropylbenzene (Cumene)	ug/kg	<12.6	50.0	09/12/18 17:51	
m&p-Xylene	ug/kg	<34.4	100	09/12/18 17:51	
Methyl-tert-butyl ether	ug/kg	<12.7	50.0	09/12/18 17:51	
Methylene Chloride	ug/kg	43.6J	50.0	09/12/18 17:51	
n-Butylbenzene	ug/kg	<10.5	50.0	09/12/18 17:51	
n-Propylbenzene	ug/kg	<11.6	50.0	09/12/18 17:51	
Naphthalene	ug/kg	<40.0	250	09/12/18 17:51	
o-Xylene	ug/kg	<14.0	50.0	09/12/18 17:51	
p-Isopropyltoluene	ug/kg	<12.0	50.0	09/12/18 17:51	
sec-Butylbenzene	ug/kg	<11.9	50.0	09/12/18 17:51	
Styrene	ug/kg	<9.0	50.0	09/12/18 17:51	
tert-Butylbenzene	ug/kg	<9.5	50.0	09/12/18 17:51	
Tetrachloroethene	ug/kg	<12.9	50.0	09/12/18 17:51	
Toluene	ug/kg	<11.2	50.0	09/12/18 17:51	
trans-1,2-Dichloroethene	ug/kg	<16.5	50.0	09/12/18 17:51	
trans-1,3-Dichloropropene	ug/kg	<14.4	50.0	09/12/18 17:51	
Trichloroethene	ug/kg	<23.6	50.0	09/12/18 17:51	
Trichlorofluoromethane	ug/kg	<24.7	50.0	09/12/18 17:51	
Vinyl chloride	ug/kg	<21.1	50.0	09/12/18 17:51	
4-Bromofluorobenzene (S)	%	92	48-130	09/12/18 17:51	
Dibromofluoromethane (S)	%	109	57-148	09/12/18 17:51	
Toluene-d8 (S)	%	111	58-142	09/12/18 17:51	

LABORATORY CONTROL SAMPLE: 1751455

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2540	102	70-130	
1,1,2,2-Tetrachloroethane	ug/kg	2500	2530	101	68-130	
1,1,2-Trichloroethane	ug/kg	2500	2570	103	70-130	
1,1-Dichloroethane	ug/kg	2500	2650	106	67-132	
1,1-Dichloroethene	ug/kg	2500	2460	99	67-128	
1,2,4-Trichlorobenzene	ug/kg	2500	2260	90	51-131	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2130	85	49-117	
1,2-Dibromoethane (EDB)	ug/kg	2500	2680	107	70-130	
1,2-Dichlorobenzene	ug/kg	2500	2390	96	70-130	
1,2-Dichloroethane	ug/kg	2500	2470	99	65-137	
1,2-Dichloropropane	ug/kg	2500	2510	100	75-126	
1,3-Dichlorobenzene	ug/kg	2500	2460	98	70-130	
1,4-Dichlorobenzene	ug/kg	2500	2400	96	70-130	
Benzene	ug/kg	2500	2630	105	70-130	
Bromodichloromethane	ug/kg	2500	2460	98	70-130	
Bromoform	ug/kg	2500	2160	86	57-117	
Bromomethane	ug/kg	2500	2100	84	48-135	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

LABORATORY CONTROL SAMPLE: 1751455

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/kg	2500	2680	107	65-133	
Chlorobenzene	ug/kg	2500	2450	98	70-130	
Chloroethane	ug/kg	2500	2550	102	37-165	
Chloroform	ug/kg	2500	2560	102	72-126	
Chloromethane	ug/kg	2500	2050	82	34-120	
cis-1,2-Dichloroethene	ug/kg	2500	2520	101	70-130	
cis-1,3-Dichloropropene	ug/kg	2500	2490	100	69-130	
Dibromochloromethane	ug/kg	2500	2520	101	68-130	
Dichlorodifluoromethane	ug/kg	2500	1530	61	22-100	
Ethylbenzene	ug/kg	2500	2610	105	79-121	
Isopropylbenzene (Cumene)	ug/kg	2500	2600	104	70-130	
m&p-Xylene	ug/kg	5000	5240	105	70-130	
Methyl-tert-butyl ether	ug/kg	2500	2480	99	66-129	
Methylene Chloride	ug/kg	2500	2670	107	68-129	
o-Xylene	ug/kg	2500	2590	103	70-130	
Styrene	ug/kg	2500	2420	97	70-130	
Tetrachloroethene	ug/kg	2500	2330	93	70-130	
Toluene	ug/kg	2500	2660	107	80-123	
trans-1,2-Dichloroethene	ug/kg	2500	2470	99	70-130	
trans-1,3-Dichloropropene	ug/kg	2500	2780	111	67-130	
Trichloroethene	ug/kg	2500	2340	94	70-130	
Trichlorofluoromethane	ug/kg	2500	2400	96	64-134	
Vinyl chloride	ug/kg	2500	2400	96	52-122	
4-Bromofluorobenzene (S)	%			101	48-130	
Dibromofluoromethane (S)	%			113	57-148	
Toluene-d8 (S)	%			109	58-142	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1751456 1751457

Parameter	Units	40175593007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/kg	<25.0	1410	1410	1360	1270	97	90	62-130	7	20	
1,1,2,2-Tetrachloroethane	ug/kg	<25.0	1410	1410	1610	1350	114	96	64-137	17	20	
1,1,2-Trichloroethane	ug/kg	<25.0	1410	1410	1580	1600	111	113	70-130	1	20	
1,1-Dichloroethane	ug/kg	<25.0	1410	1410	1440	1420	102	101	65-132	1	20	
1,1-Dichloroethene	ug/kg	<25.0	1410	1410	1300	1210	92	85	50-128	7	21	
1,2,4-Trichlorobenzene	ug/kg	<47.6	1410	1410	1600	1530	113	108	51-148	5	20	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	1410	1410	1420	1360	101	96	43-134	4	23	
1,2-Dibromoethane (EDB)	ug/kg	<25.0	1410	1410	1570	1510	111	107	70-130	4	20	
1,2-Dichlorobenzene	ug/kg	<25.0	1410	1410	1530	1460	108	103	70-130	4	20	
1,2-Dichloroethane	ug/kg	<25.0	1410	1410	1400	1440	99	102	65-139	3	20	
1,2-Dichloropropane	ug/kg	<25.0	1410	1410	1470	1440	104	102	74-128	2	20	
1,3-Dichlorobenzene	ug/kg	<25.0	1410	1410	1510	1460	107	103	70-130	3	20	
1,4-Dichlorobenzene	ug/kg	<25.0	1410	1410	1490	1440	106	102	70-130	4	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1751456 1751457

Parameter	Units	40175593007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	<25.0	1410	1410	1450	1410	103	100	66-132	3	20	
Bromodichloromethane	ug/kg	<25.0	1410	1410	1450	1380	103	98	69-130	5	20	
Bromoform	ug/kg	<25.0	1410	1410	1340	1390	95	99	57-130	4	20	
Bromomethane	ug/kg	<69.9	1410	1410	1140	1090	80	77	34-145	4	20	
Carbon tetrachloride	ug/kg	<25.0	1410	1410	1410	1330	100	94	54-133	6	20	
Chlorobenzene	ug/kg	<25.0	1410	1410	1430	1400	101	99	70-130	2	20	
Chloroethane	ug/kg	<67.0	1410	1410	1330	1180	94	84	33-165	12	20	
Chloroform	ug/kg	<46.4	1410	1410	1430	1440	101	102	72-128	1	20	
Chloromethane	ug/kg	<25.0	1410	1410	1010	985	71	70	20-120	2	20	
cis-1,2-Dichloroethene	ug/kg	<25.0	1410	1410	1370	1350	97	96	69-130	1	20	
cis-1,3-Dichloropropene	ug/kg	<25.0	1410	1410	1380	1380	97	98	65-130	0	20	
Dibromochloromethane	ug/kg	<25.0	1410	1410	1440	1460	102	104	65-130	2	20	
Dichlorodifluoromethane	ug/kg	<25.0	1410	1410	765	718	54	51	10-109	6	29	
Ethylbenzene	ug/kg	<25.0	1410	1410	1480	1440	103	100	63-127	2	20	
Isopropylbenzene (Cumene)	ug/kg	<25.0	1410	1410	1460	1410	103	100	66-130	4	20	
m&p-Xylene	ug/kg	66.7J	2830	2830	3030	3130	105	108	70-130	3	20	
Methyl-tert-butyl ether	ug/kg	<25.0	1410	1410	1410	1350	100	96	62-135	5	20	
Methylene Chloride	ug/kg	59.2J	1410	1410	1440	1500	98	102	68-129	4	20	
o-Xylene	ug/kg	<25.0	1410	1410	1530	1490	107	104	69-130	3	20	
Styrene	ug/kg	<25.0	1410	1410	1480	1480	105	105	70-130	0	20	
Tetrachloroethene	ug/kg	<25.0	1410	1410	1290	1270	92	90	70-130	2	20	
Toluene	ug/kg	108	1410	1410	1560	1590	103	105	80-123	2	20	
trans-1,2-Dichloroethene	ug/kg	<25.0	1410	1410	1280	1350	91	96	70-130	5	20	
trans-1,3-Dichloropropene	ug/kg	<25.0	1410	1410	1580	1560	111	110	67-130	1	20	
Trichloroethene	ug/kg	<25.0	1410	1410	1290	1280	91	91	70-130	0	20	
Trichlorofluoromethane	ug/kg	<25.0	1410	1410	1250	1110	88	78	41-134	12	26	
Vinyl chloride	ug/kg	<25.0	1410	1410	1150	1090	82	77	39-122	6	20	
4-Bromofluorobenzene (S)	%						97	100	48-130			
Dibromofluoromethane (S)	%						113	108	57-148			
Toluene-d8 (S)	%						114	110	58-142			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

QC Batch: 300168
QC Batch Method: EPA 3546
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 40175583009

METHOD BLANK: 1753074
Matrix: Solid
Associated Lab Samples: 40175583009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/kg	<4.0	13.4	09/14/18 11:46	
2-Methylnaphthalene	ug/kg	<5.0	16.7	09/14/18 11:46	
Acenaphthene	ug/kg	<3.9	12.9	09/14/18 11:46	
Acenaphthylene	ug/kg	<3.3	11.0	09/14/18 11:46	
Anthracene	ug/kg	<5.7	19.0	09/14/18 11:46	
Benzo(a)anthracene	ug/kg	<3.2	10.6	09/14/18 11:46	
Benzo(a)pyrene	ug/kg	<2.5	8.4	09/14/18 11:46	
Benzo(b)fluoranthene	ug/kg	<2.8	9.4	09/14/18 11:46	
Benzo(g,h,i)perylene	ug/kg	<2.0	6.8	09/14/18 11:46	
Benzo(k)fluoranthene	ug/kg	<2.5	8.4	09/14/18 11:46	
Chrysene	ug/kg	<3.4	11.2	09/14/18 11:46	
Dibenz(a,h)anthracene	ug/kg	<2.2	7.5	09/14/18 11:46	
Fluoranthene	ug/kg	<5.2	17.4	09/14/18 11:46	
Fluorene	ug/kg	<4.1	13.8	09/14/18 11:46	
Indeno(1,2,3-cd)pyrene	ug/kg	<2.2	7.3	09/14/18 11:46	
Naphthalene	ug/kg	<8.4	28.1	09/14/18 11:46	
Phenanthrene	ug/kg	<11.7	38.8	09/14/18 11:46	
Pyrene	ug/kg	<4.5	15.0	09/14/18 11:46	
2-Fluorobiphenyl (S)	%	71	10-115	09/14/18 11:46	
Terphenyl-d14 (S)	%	83	10-121	09/14/18 11:46	

LABORATORY CONTROL SAMPLE: 1753075

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/kg	334	294	88	45-103	
2-Methylnaphthalene	ug/kg	334	262	79	43-98	
Acenaphthene	ug/kg	334	243	73	43-100	
Acenaphthylene	ug/kg	334	251	75	40-100	
Anthracene	ug/kg	334	281	84	50-113	
Benzo(a)anthracene	ug/kg	334	254	76	49-102	
Benzo(a)pyrene	ug/kg	334	259	78	51-105	
Benzo(b)fluoranthene	ug/kg	334	289	87	49-105	
Benzo(g,h,i)perylene	ug/kg	334	173	52	34-113	
Benzo(k)fluoranthene	ug/kg	334	257	77	54-110	
Chrysene	ug/kg	334	284	85	55-116	
Dibenz(a,h)anthracene	ug/kg	334	187	56	45-108	
Fluoranthene	ug/kg	334	279	84	50-118	
Fluorene	ug/kg	334	251	75	41-103	
Indeno(1,2,3-cd)pyrene	ug/kg	334	189	57	43-115	
Naphthalene	ug/kg	334	252	75	44-92	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

LABORATORY CONTROL SAMPLE: 1753075

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenanthrene	ug/kg	334	266	80	51-104	
Pyrene	ug/kg	334	285	85	51-106	
2-Fluorobiphenyl (S)	%			81	10-115	
Terphenyl-d14 (S)	%			92	10-121	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1753076 1753077

Parameter	Units	40175562002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/kg	<4.5	376	376	305	313	81	83	21-105	2	30	
2-Methylnaphthalene	ug/kg	<5.6	376	376	273	272	73	72	18-103	0	29	
Acenaphthene	ug/kg	<4.4	376	376	253	263	67	70	31-100	4	28	
Acenaphthylene	ug/kg	<3.7	376	376	259	266	69	71	30-100	3	27	
Anthracene	ug/kg	<6.4	376	376	287	303	76	81	27-113	6	30	
Benzo(a)anthracene	ug/kg	<3.6	376	376	266	280	71	75	28-102	5	30	
Benzo(a)pyrene	ug/kg	<2.8	376	376	261	271	70	72	27-105	4	32	
Benzo(b)fluoranthene	ug/kg	<3.2	376	376	303	305	81	81	24-109	1	37	
Benzo(g,h,i)perylene	ug/kg	<2.3	376	376	145	150	39	40	10-113	3	38	
Benzo(k)fluoranthene	ug/kg	<2.8	376	376	277	299	74	79	35-110	7	31	
Chrysene	ug/kg	<3.8	376	376	311	322	83	86	29-116	4	29	
Dibenz(a,h)anthracene	ug/kg	<2.5	376	376	118	117	31	31	22-108	1	32	
Fluoranthene	ug/kg	<5.9	376	376	285	300	76	80	27-118	5	34	
Fluorene	ug/kg	<4.7	376	376	257	264	68	70	31-103	3	28	
Indeno(1,2,3-cd)pyrene	ug/kg	<2.5	376	376	135	134	36	36	18-115	0	33	
Naphthalene	ug/kg	<9.5	376	376	261	262	69	70	34-92	0	31	
Phenanthrene	ug/kg	<13.1	376	376	270	280	72	75	28-104	4	32	
Pyrene	ug/kg	<5.1	376	376	287	328	77	87	13-117	13	40	
2-Fluorobiphenyl (S)	%						72	72	10-115			
Terphenyl-d14 (S)	%						84	85	10-121			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

QC Batch: 300700 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 40175583001, 40175583002, 40175583004, 40175583005, 40175583007

METHOD BLANK: 1756101 Matrix: Solid
Associated Lab Samples: 40175583001, 40175583002, 40175583004, 40175583005, 40175583007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/kg	<4.0	13.4	09/20/18 11:00	
2-Methylnaphthalene	ug/kg	<5.0	16.7	09/20/18 11:00	
Acenaphthene	ug/kg	<3.9	12.9	09/20/18 11:00	
Acenaphthylene	ug/kg	<3.3	11.0	09/20/18 11:00	
Anthracene	ug/kg	<5.7	19.0	09/20/18 11:00	
Benzo(a)anthracene	ug/kg	<3.2	10.6	09/20/18 11:00	
Benzo(a)pyrene	ug/kg	<2.5	8.4	09/20/18 11:00	
Benzo(b)fluoranthene	ug/kg	<2.8	9.4	09/20/18 11:00	
Benzo(g,h,i)perylene	ug/kg	<2.0	6.8	09/20/18 11:00	
Benzo(k)fluoranthene	ug/kg	<2.5	8.4	09/20/18 11:00	
Chrysene	ug/kg	<3.4	11.2	09/20/18 11:00	
Dibenz(a,h)anthracene	ug/kg	<2.2	7.4	09/20/18 11:00	
Fluoranthene	ug/kg	<5.2	17.4	09/20/18 11:00	
Fluorene	ug/kg	<4.1	13.8	09/20/18 11:00	
Indeno(1,2,3-cd)pyrene	ug/kg	<2.2	7.3	09/20/18 11:00	
Naphthalene	ug/kg	<8.4	28.1	09/20/18 11:00	
Phenanthrene	ug/kg	<11.6	38.8	09/20/18 11:00	
Pyrene	ug/kg	<4.5	15.0	09/20/18 11:00	
2-Fluorobiphenyl (S)	%	76	10-115	09/20/18 11:00	
Terphenyl-d14 (S)	%	70	10-121	09/20/18 11:00	

LABORATORY CONTROL SAMPLE: 1756102

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/kg	334	239	72	45-103	
2-Methylnaphthalene	ug/kg	334	235	71	43-98	
Acenaphthene	ug/kg	334	256	77	43-100	
Acenaphthylene	ug/kg	334	251	75	40-100	
Anthracene	ug/kg	334	270	81	50-113	
Benzo(a)anthracene	ug/kg	334	267	80	49-102	
Benzo(a)pyrene	ug/kg	334	289	87	51-105	
Benzo(b)fluoranthene	ug/kg	334	268	80	49-105	
Benzo(g,h,i)perylene	ug/kg	334	273	82	34-113	
Benzo(k)fluoranthene	ug/kg	334	319	96	54-110	
Chrysene	ug/kg	334	277	83	55-116	
Dibenz(a,h)anthracene	ug/kg	334	276	83	45-108	
Fluoranthene	ug/kg	334	301	90	50-118	
Fluorene	ug/kg	334	280	84	41-103	
Indeno(1,2,3-cd)pyrene	ug/kg	334	280	84	43-115	
Naphthalene	ug/kg	334	225	67	44-92	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

LABORATORY CONTROL SAMPLE: 1756102

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenanthrene	ug/kg	334	267	80	51-104	
Pyrene	ug/kg	334	273	82	51-106	
2-Fluorobiphenyl (S)	%			73	10-115	
Terphenyl-d14 (S)	%			73	10-121	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1756103 1756104

Parameter	Units	40175846002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/kg	<4.6	383	383	285	295	74	76	21-105	3	30	
2-Methylnaphthalene	ug/kg	<5.7	383	383	275	289	71	75	18-103	5	29	
Acenaphthene	ug/kg	<4.5	383	383	273	295	71	77	31-100	8	28	
Acenaphthylene	ug/kg	<3.8	383	383	275	297	72	78	30-100	8	27	
Anthracene	ug/kg	7.3J	383	383	283	292	72	74	27-113	3	30	
Benzo(a)anthracene	ug/kg	22.0	383	383	305	315	74	77	28-102	3	30	
Benzo(a)pyrene	ug/kg	14.3	383	383	296	310	74	77	27-105	5	32	
Benzo(b)fluoranthene	ug/kg	18.4	383	383	344	352	85	87	24-109	2	37	
Benzo(g,h,i)perylene	ug/kg	9.7	383	383	220	218	55	54	10-113	1	38	
Benzo(k)fluoranthene	ug/kg	9.2J	383	383	282	300	71	76	35-110	7	31	
Chrysene	ug/kg	34.8	383	383	328	341	77	80	29-116	4	29	
Dibenz(a,h)anthracene	ug/kg	2.7J	383	383	167	170	43	44	22-108	2	32	
Fluoranthene	ug/kg	56.9	383	383	431	401	98	90	27-118	7	34	
Fluorene	ug/kg	<4.8	383	383	301	312	78	81	31-103	4	28	
Indeno(1,2,3-cd)pyrene	ug/kg	3.3J	383	383	188	188	48	48	18-115	0	33	
Naphthalene	ug/kg	<9.7	383	383	262	283	67	72	34-92	7	31	
Phenanthrene	ug/kg	50.3	383	383	377	367	85	83	28-104	3	32	
Pyrene	ug/kg	52.8	383	383	329	398	72	90	13-117	19	40	
2-Fluorobiphenyl (S)	%						73	68	10-115			
Terphenyl-d14 (S)	%						55	69	10-121			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

QC Batch: 299850 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 40175583001, 40175583002, 40175583003

SAMPLE DUPLICATE: 1751203

Parameter	Units	40175584003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	11.4	12.6	9	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

QC Batch: 300140 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 40175583004, 40175583005, 40175583006, 40175583007, 40175583009

SAMPLE DUPLICATE: 1752823

Parameter	Units	40175782001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	21.9	21.6	2	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
Ip	Benzo(b)fluoranthene and benzo(k)fluoranthene were separated in the check standard but did not meet the resolution criteria in SW846 8270C. Sample results included are reported as individual isomers, but the lab and the client must recognize them as an isomeric pair.
W	Non-detect results are reported on a wet weight basis.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175583

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40175583001	**G3 (4-6')**	EPA 3050	300092	EPA 6010	300389
40175583002	**G2 (4-8')**	EPA 3050	300092	EPA 6010	300389
40175583004	**G1 (4-6')**	EPA 3050	300092	EPA 6010	300389
40175583006	**G6 (4-6')**	EPA 3050	300092	EPA 6010	300389
40175583007	**G-10 (0-2')**	EPA 3050	300092	EPA 6010	300389
40175583004	**G1 (4-6')**	EPA 7471	300456	EPA 7471	300470
40175583006	**G6 (4-6')**	EPA 7471	300456	EPA 7471	300470
40175583007	**G-10 (0-2')**	EPA 7471	300456	EPA 7471	300470
40175583001	**G3 (4-6')**	EPA 3546	300700	EPA 8270 by SIM	300753
40175583002	**G2 (4-8')**	EPA 3546	300700	EPA 8270 by SIM	300753
40175583004	**G1 (4-6')**	EPA 3546	300700	EPA 8270 by SIM	300753
40175583005	**G5 (2-4')**	EPA 3546	300700	EPA 8270 by SIM	300753
40175583007	**G-10 (0-2')**	EPA 3546	300700	EPA 8270 by SIM	300753
40175583009	**G-9 (0-2')**	EPA 3546	300168	EPA 8270 by SIM	300197
40175583003	**G1 (1-2')**	EPA 5035/5030B	299940	EPA 8260	299942
40175583005	**G5 (2-4')**	EPA 5035/5030B	299940	EPA 8260	299942
40175583008	**TRIP BLANK**	EPA 5035/5030B	299940	EPA 8260	299942
40175583001	**G3 (4-6')**	ASTM D2974-87	299850		
40175583002	**G2 (4-8')**	ASTM D2974-87	299850		
40175583003	**G1 (1-2')**	ASTM D2974-87	299850		
40175583004	**G1 (4-6')**	ASTM D2974-87	300140		
40175583005	**G5 (2-4')**	ASTM D2974-87	300140		
40175583006	**G6 (4-6')**	ASTM D2974-87	300140		
40175583007	**G-10 (0-2')**	ASTM D2974-87	300140		
40175583009	**G-9 (0-2')**	ASTM D2974-87	300140		

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

SSM

40175583

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CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	SCS Engineers
Branch/Location:	25-Madison
Project Contact:	Betty Socha
Phone:	608-216-7331
Project Number:	25218152
Project Name:	2801 Marshall Court
Project State:	WI
Sampled By (Print):	Matt Harms
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	Betty Socha
Mail To Company:	SCS Engineers
Mail To Address:	2830 Dairy Drive Madison, WI 53718
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

FILTERED? (YES/NO)
PRESERVATION (CODE)*

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Y/N	Pick Letter	Analyses Requested: PAHs	VOCs	DRO w/ Silica Gel	RCRA Metals & Hg As, Pb, Cd, Cr					CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	G3 (4-6')	9/10/18	0945	S		A	X				X						
002	G2 (4-8')		1000	S			X				X						
003	G1 (1-2')		1020	S				X	X								
004	G1 (4-6')		1020	S			X			X							
005	G5 (2-4')		1130	S			X	X	X								
006	G6 (4-6')		1215	S						X							
007	G10 (0-2')		1435	S			X			X							
008	Trip Blank							X									
009	G9 (0-2')	↓	1400	S			X										

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
Matt Harms	9/10/18 1700		
Fedex	9/11/18 0936	Pace	9/11/18 0936

PACE Project No.
40175583

Receipt Temp = DOT °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Preservation Receipt Form

Client Name: SCS eng. Project # 90175583

All containers needing preservation have been checked and noted below: □Yes □No ☑N/A

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted):

Initial when completed: Date/ Time:

	Glass							Plastic							Vials						Jars			General							
Pace Lab #	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001																					1												2.5 / 5 / 10
002																					1												2.5 / 5 / 10
003																			1				1										2.5 / 5 / 10
004																					1												2.5 / 5 / 10
005																			1		1												2.5 / 5 / 10
006																					1												2.5 / 5 / 10
007																					1												2.5 / 5 / 10
008																			1														2.5 / 5 / 10
009																					1												2.5 / 5 / 10
010																																	2.5 / 5 / 10
011																																	2.5 / 5 / 10
012																																	2.5 / 5 / 10
013																																	2.5 / 5 / 10
014																																	2.5 / 5 / 10
015																																	2.5 / 5 / 10
016																																	2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

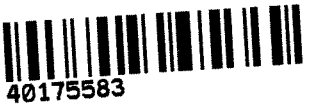
Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : □Yes □No ☑N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	

Pace Analytical 1241 Bellevue Street, Green Bay, WI 54302	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: 25Apr2018
	Document No.: **F-GB-C-031-Rev.07**	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #: **WO# : 40175583**



Client Name: SCS engineers

Courier: ☐ CS Logistics ☑ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other: _____

Tracking #: 8130 2340 4525

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used SR - N/A **Type of Ice:** Wet Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 0.0 /Corr: _____

Temp Blank Present: ☐ yes ☑ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Person examining contents:
Date: _____
Initials: _____

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☑No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☐Yes ☐No MS/MSD:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: S		
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Ryan Gr DR **Date:** 9/11/18

9/11/18

Attachment E

Laboratory Analytical Report for Groundwater

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

September 19, 2018

Betty Socha
SCS ENGINEERS
2830 Dairy Drive
Madison, WI 53718

RE: Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175824

Dear Betty Socha:
Enclosed are the analytical results for sample(s) received by the laboratory on September 14, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175824

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175824

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40175824001	**TW-1**	Water	09/13/18 10:00	09/14/18 09:30
40175824002	**TRIP BLANK**	Water	09/13/18 00:00	09/14/18 09:30

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175824

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40175824001	**TW-1**	EPA 8260	HNW	64	PASI-G
40175824002	**TRIP BLANK**	EPA 8260	HNW	64	PASI-G

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175824

Sample: TW-1 **Lab ID: 40175824001** Collected: 09/13/18 10:00 Received: 09/14/18 09:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		09/18/18 14:40	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		09/18/18 14:40	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		09/18/18 14:40	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		09/18/18 14:40	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		09/18/18 14:40	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		09/18/18 14:40	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		09/18/18 14:40	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		09/18/18 14:40	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		09/18/18 14:40	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		09/18/18 14:40	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		09/18/18 14:40	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		09/18/18 14:40	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		09/18/18 14:40	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		09/18/18 14:40	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		09/18/18 14:40	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		09/18/18 14:40	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		09/18/18 14:40	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		09/18/18 14:40	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		09/18/18 14:40	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		09/18/18 14:40	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		09/18/18 14:40	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		09/18/18 14:40	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		09/18/18 14:40	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		09/18/18 14:40	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		09/18/18 14:40	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		09/18/18 14:40	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		09/18/18 14:40	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		09/18/18 14:40	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		09/18/18 14:40	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		09/18/18 14:40	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		09/18/18 14:40	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		09/18/18 14:40	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		09/18/18 14:40	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		09/18/18 14:40	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		09/18/18 14:40	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		09/18/18 14:40	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		09/18/18 14:40	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		09/18/18 14:40	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		09/18/18 14:40	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		09/18/18 14:40	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		09/18/18 14:40	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		09/18/18 14:40	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		09/18/18 14:40	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		09/18/18 14:40	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		09/18/18 14:40	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		09/18/18 14:40	630-20-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175824

Sample: TW-1 **Lab ID: 40175824001** Collected: 09/13/18 10:00 Received: 09/14/18 09:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		09/18/18 14:40	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		09/18/18 14:40	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		09/18/18 14:40	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		09/18/18 14:40	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		09/18/18 14:40	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		09/18/18 14:40	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		09/18/18 14:40	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		09/18/18 14:40	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		09/18/18 14:40	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		09/18/18 14:40	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		09/18/18 14:40	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		09/18/18 14:40	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		09/18/18 14:40	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		09/18/18 14:40	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		09/18/18 14:40	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		09/18/18 14:40	460-00-4	
Dibromofluoromethane (S)	97	%	70-130		1		09/18/18 14:40	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		09/18/18 14:40	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175824

Sample: TRIP BLANK **Lab ID: 40175824002** Collected: 09/13/18 00:00 Received: 09/14/18 09:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		09/19/18 10:24	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		09/19/18 10:24	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		09/19/18 10:24	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		09/19/18 10:24	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		09/19/18 10:24	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		09/19/18 10:24	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		09/19/18 10:24	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		09/19/18 10:24	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		09/19/18 10:24	98-06-6	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		09/19/18 10:24	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		09/19/18 10:24	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		09/19/18 10:24	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		09/19/18 10:24	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		09/19/18 10:24	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		09/19/18 10:24	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		09/19/18 10:24	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		09/19/18 10:24	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		09/19/18 10:24	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		09/19/18 10:24	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		09/19/18 10:24	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		09/19/18 10:24	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		09/19/18 10:24	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		09/19/18 10:24	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		09/19/18 10:24	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		09/19/18 10:24	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		09/19/18 10:24	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		09/19/18 10:24	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		09/19/18 10:24	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		09/19/18 10:24	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		09/19/18 10:24	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		09/19/18 10:24	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		09/19/18 10:24	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		09/19/18 10:24	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		09/19/18 10:24	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		09/19/18 10:24	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		09/19/18 10:24	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		09/19/18 10:24	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		09/19/18 10:24	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		09/19/18 10:24	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		09/19/18 10:24	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		09/19/18 10:24	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		09/19/18 10:24	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		09/19/18 10:24	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		09/19/18 10:24	103-65-1	
Styrene	**<0.47**	ug/L	1.6	0.47	1		09/19/18 10:24	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		09/19/18 10:24	630-20-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175824

Sample: TRIP BLANK **Lab ID: 40175824002** Collected: 09/13/18 00:00 Received: 09/14/18 09:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		09/19/18 10:24	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		09/19/18 10:24	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		09/19/18 10:24	108-88-3	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		09/19/18 10:24	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		09/19/18 10:24	120-82-1	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		09/19/18 10:24	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		09/19/18 10:24	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		09/19/18 10:24	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		09/19/18 10:24	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		09/19/18 10:24	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		09/19/18 10:24	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		09/19/18 10:24	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		09/19/18 10:24	75-01-4	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		09/19/18 10:24	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		09/19/18 10:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		09/19/18 10:24	460-00-4	HS
Dibromofluoromethane (S)	98	%	70-130		1		09/19/18 10:24	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		09/19/18 10:24	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175824

QC Batch: 300283 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40175824001, 40175824002

METHOD BLANK: 1754136 Matrix: Water
Associated Lab Samples: 40175824001, 40175824002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	09/18/18 08:16	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	09/18/18 08:16	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	09/18/18 08:16	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	09/18/18 08:16	
1,1-Dichloroethane	ug/L	<0.27	1.0	09/18/18 08:16	
1,1-Dichloroethene	ug/L	<0.24	1.0	09/18/18 08:16	
1,1-Dichloropropene	ug/L	<0.54	1.8	09/18/18 08:16	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	09/18/18 08:16	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	09/18/18 08:16	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	09/18/18 08:16	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	09/18/18 08:16	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	09/18/18 08:16	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	09/18/18 08:16	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	09/18/18 08:16	
1,2-Dichloroethane	ug/L	<0.28	1.0	09/18/18 08:16	
1,2-Dichloropropane	ug/L	<0.28	1.0	09/18/18 08:16	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	09/18/18 08:16	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	09/18/18 08:16	
1,3-Dichloropropane	ug/L	<0.83	2.8	09/18/18 08:16	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	09/18/18 08:16	
2,2-Dichloropropane	ug/L	<2.3	7.6	09/18/18 08:16	
2-Chlorotoluene	ug/L	<0.93	5.0	09/18/18 08:16	
4-Chlorotoluene	ug/L	<0.76	2.5	09/18/18 08:16	
Benzene	ug/L	<0.25	1.0	09/18/18 08:16	
Bromobenzene	ug/L	<0.24	1.0	09/18/18 08:16	
Bromochloromethane	ug/L	<0.36	5.0	09/18/18 08:16	
Bromodichloromethane	ug/L	<0.36	1.2	09/18/18 08:16	
Bromoform	ug/L	<4.0	13.2	09/18/18 08:16	
Bromomethane	ug/L	<0.97	5.0	09/18/18 08:16	
Carbon tetrachloride	ug/L	<0.17	1.0	09/18/18 08:16	
Chlorobenzene	ug/L	<0.71	2.4	09/18/18 08:16	
Chloroethane	ug/L	<1.3	5.0	09/18/18 08:16	
Chloroform	ug/L	<1.3	5.0	09/18/18 08:16	
Chloromethane	ug/L	<2.2	7.3	09/18/18 08:16	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	09/18/18 08:16	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	09/18/18 08:16	
Dibromochloromethane	ug/L	<2.6	8.7	09/18/18 08:16	
Dibromomethane	ug/L	<0.94	3.1	09/18/18 08:16	
Dichlorodifluoromethane	ug/L	<0.50	5.0	09/18/18 08:16	
Diisopropyl ether	ug/L	<1.9	6.3	09/18/18 08:16	
Ethylbenzene	ug/L	<0.22	1.0	09/18/18 08:16	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175824

METHOD BLANK: 1754136 Matrix: Water
Associated Lab Samples: 40175824001, 40175824002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	09/18/18 08:16	
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	09/18/18 08:16	
m&p-Xylene	ug/L	<0.47	2.0	09/18/18 08:16	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	09/18/18 08:16	
Methylene Chloride	ug/L	<0.58	5.0	09/18/18 08:16	
n-Butylbenzene	ug/L	<0.71	2.4	09/18/18 08:16	
n-Propylbenzene	ug/L	<0.81	5.0	09/18/18 08:16	
Naphthalene	ug/L	<1.2	5.0	09/18/18 08:16	
o-Xylene	ug/L	<0.26	1.0	09/18/18 08:16	
p-Isopropyltoluene	ug/L	<0.80	2.7	09/18/18 08:16	
sec-Butylbenzene	ug/L	<0.85	5.0	09/18/18 08:16	
Styrene	ug/L	<0.47	1.6	09/18/18 08:16	
tert-Butylbenzene	ug/L	<0.30	1.0	09/18/18 08:16	
Tetrachloroethene	ug/L	<0.33	1.1	09/18/18 08:16	
Toluene	ug/L	<0.17	5.0	09/18/18 08:16	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	09/18/18 08:16	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	09/18/18 08:16	
Trichloroethene	ug/L	<0.26	1.0	09/18/18 08:16	
Trichlorofluoromethane	ug/L	<0.21	1.0	09/18/18 08:16	
Vinyl chloride	ug/L	<0.17	1.0	09/18/18 08:16	
4-Bromofluorobenzene (S)	%	97	70-130	09/18/18 08:16	
Dibromofluoromethane (S)	%	98	70-130	09/18/18 08:16	
Toluene-d8 (S)	%	100	70-130	09/18/18 08:16	

LABORATORY CONTROL SAMPLE: 1754137

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	58.6	117	70-133	
1,1,2,2-Tetrachloroethane	ug/L	50	51.3	103	67-130	
1,1,2-Trichloroethane	ug/L	50	53.2	106	70-130	
1,1-Dichloroethane	ug/L	50	61.6	123	70-134	
1,1-Dichloroethene	ug/L	50	61.7	123	75-132	
1,2,4-Trichlorobenzene	ug/L	50	50.6	101	68-130	
1,2-Dibromo-3-chloropropane	ug/L	50	53.1	106	60-126	
1,2-Dibromoethane (EDB)	ug/L	50	52.7	105	70-130	
1,2-Dichlorobenzene	ug/L	50	51.8	104	70-130	
1,2-Dichloroethane	ug/L	50	56.6	113	73-134	
1,2-Dichloropropane	ug/L	50	49.3	99	79-128	
1,3-Dichlorobenzene	ug/L	50	51.9	104	70-130	
1,4-Dichlorobenzene	ug/L	50	51.9	104	70-130	
Benzene	ug/L	50	53.0	106	69-137	
Bromodichloromethane	ug/L	50	57.6	115	70-130	
Bromoform	ug/L	50	60.1	120	64-133	
Bromomethane	ug/L	50	35.8	72	29-123	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175824

LABORATORY CONTROL SAMPLE: 1754137

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	50	58.8	118	73-142	
Chlorobenzene	ug/L	50	51.8	104	70-130	
Chloroethane	ug/L	50	49.0	98	59-133	
Chloroform	ug/L	50	60.0	120	80-129	
Chloromethane	ug/L	50	36.3	73	27-125	
cis-1,2-Dichloroethene	ug/L	50	63.3	127	70-134	
cis-1,3-Dichloropropene	ug/L	50	55.7	111	70-130	
Dibromochloromethane	ug/L	50	55.0	110	70-130	
Dichlorodifluoromethane	ug/L	50	39.8	80	12-127	
Ethylbenzene	ug/L	50	56.7	113	86-127	
Isopropylbenzene (Cumene)	ug/L	50	57.1	114	70-130	
m&p-Xylene	ug/L	100	111	111	70-131	
Methyl-tert-butyl ether	ug/L	50	60.7	121	65-136	
Methylene Chloride	ug/L	50	57.4	115	72-133	
o-Xylene	ug/L	50	54.6	109	70-130	
Styrene	ug/L	50	56.4	113	70-130	
Tetrachloroethene	ug/L	50	55.9	112	70-130	
Toluene	ug/L	50	54.9	110	84-124	
trans-1,2-Dichloroethene	ug/L	50	62.2	124	70-133	
trans-1,3-Dichloropropene	ug/L	50	60.2	120	67-130	
Trichloroethene	ug/L	50	55.7	111	70-130	
Trichlorofluoromethane	ug/L	50	64.5	129	69-147	
Vinyl chloride	ug/L	50	49.0	98	48-134	
4-Bromofluorobenzene (S)	%			102	70-130	
Dibromofluoromethane (S)	%			97	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1754251 1754252

Parameter	Units	40175815006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.24	50	50	58.6	60.3	117	121	70-136	3	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	47.4	50.3	95	101	67-133	6	20	
1,1,2-Trichloroethane	ug/L	<0.55	50	50	50.8	53.9	102	108	70-130	6	20	
1,1-Dichloroethane	ug/L	<0.27	50	50	61.2	62.7	122	125	70-139	3	20	
1,1-Dichloroethene	ug/L	<0.24	50	50	62.9	64.1	126	128	72-137	2	20	
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	49.5	50.9	99	102	68-130	3	20	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	48.8	54.9	98	110	60-130	12	21	
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	50.4	53.3	101	107	70-130	6	20	
1,2-Dichlorobenzene	ug/L	<0.71	50	50	49.7	51.6	99	103	70-130	4	20	
1,2-Dichloroethane	ug/L	<0.28	50	50	53.2	55.4	106	111	71-137	4	20	
1,2-Dichloropropane	ug/L	<0.28	50	50	47.7	49.6	95	99	78-130	4	20	
1,3-Dichlorobenzene	ug/L	<0.63	50	50	50.6	51.9	101	104	70-130	3	20	
1,4-Dichlorobenzene	ug/L	<0.94	50	50	50.5	51.8	101	104	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175824

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1754251 1754252

Parameter	Units	40175815006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.25	50	50	52.4	53.6	105	107	66-143	2	20	
Bromodichloromethane	ug/L	<0.36	50	50	55.5	57.4	111	115	70-130	3	20	
Bromoform	ug/L	<4.0	50	50	56.8	61.4	114	123	64-134	8	20	
Bromomethane	ug/L	<0.97	50	50	42.7	45.3	85	91	29-136	6	25	
Carbon tetrachloride	ug/L	<0.17	50	50	58.6	60.3	117	121	73-142	3	20	
Chlorobenzene	ug/L	<0.71	50	50	50.6	51.7	101	103	70-130	2	20	
Chloroethane	ug/L	<1.3	50	50	51.2	53.3	102	107	58-138	4	20	
Chloroform	ug/L	<1.3	50	50	58.6	60.8	117	122	80-131	4	20	
Chloromethane	ug/L	<2.2	50	50	38.8	39.4	78	79	24-125	2	20	
cis-1,2-Dichloroethene	ug/L	<0.27	50	50	62.0	63.4	124	127	68-137	2	22	
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	54.0	55.6	108	111	70-130	3	20	
Dibromochloromethane	ug/L	<2.6	50	50	52.9	55.6	106	111	70-131	5	20	
Dichlorodifluoromethane	ug/L	<0.50	50	50	43.0	44.0	86	88	10-127	2	20	
Ethylbenzene	ug/L	<0.22	50	50	56.0	57.7	112	115	81-136	3	20	
Isopropylbenzene (Cumene)	ug/L	<0.39	50	50	56.4	58.2	113	116	70-132	3	20	
m&p-Xylene	ug/L	<0.47	100	100	110	112	110	112	70-135	3	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	58.8	61.8	118	124	58-142	5	23	
Methylene Chloride	ug/L	<0.58	50	50	57.7	59.3	115	118	69-137	3	20	
o-Xylene	ug/L	<0.26	50	50	53.6	55.3	107	111	70-132	3	20	
Styrene	ug/L	<0.47	50	50	55.6	57.6	111	115	70-130	4	20	
Tetrachloroethene	ug/L	<0.33	50	50	54.8	56.0	110	112	70-132	2	20	
Toluene	ug/L	<0.17	50	50	53.6	55.0	107	110	81-130	2	20	
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	62.1	62.8	124	126	70-136	1	20	
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	57.4	59.9	115	120	67-130	4	20	
Trichloroethene	ug/L	<0.26	50	50	54.3	56.0	109	112	70-131	3	20	
Trichlorofluoromethane	ug/L	<0.21	50	50	66.0	67.3	132	135	66-150	2	20	
Vinyl chloride	ug/L	<0.17	50	50	52.7	53.5	105	107	46-134	2	20	
4-Bromofluorobenzene (S)	%						102	103	70-130			
Dibromofluoromethane (S)	%						99	100	70-130			
Toluene-d8 (S)	%						99	99	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175824

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25218152 2801 MARSHALL COURT
Pace Project No.: 40175824

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40175824001	**TW-1**	EPA 8260	300283		
40175824002	**TRIP BLANK**	EPA 8260	300283		

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Pace Analytical®
www.pacelabs.com

CHAIN OF CUSTODY

401758Z4

(Please Print Clearly)	
Company Name:	SCS Engineers
Branch/Location:	25-Madison
Project Contact:	Betty Socha
Phone:	608-216-7331
Project Number:	25218152
Project Name:	2801 Marshall Court
Project State:	WI
Sampled By (Print):	Jeff Harris
Sampled By (Sign):	
PO #:	Regulatory Program:

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #:	
Mail To Contact:	Betty Socha
Mail To Company:	SCS Engineers
Mail To Address:	2830 Dairy Drive Madison, WI 53718
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
Sl = Sludge	WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	TW-1	9/13/18	1000	GW		X				
002	Trip Blank					X				

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
Jeff Harris	9/13/18 1130		
CS Logistics	9/14/18 0930	PACE	9/14/18 0930

PACE Project No. 401758Z4

Receipt Temp = 2.0 1 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Preservation Receipt Form

Client Name: SCS

Project # 40175824

All containers needing preservation have been checked and noted below: □Yes □No ☒N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Initial when completed:

Date/ Time:

	Glass							Plastic							Vials						Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
Pace Lab #	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN						
001																		3									-					2.5 / 5 / 10
002																		1									1					2.5 / 5 / 10
003																																2.5 / 5 / 10
004																																2.5 / 5 / 10
005																																2.5 / 5 / 10
006																																2.5 / 5 / 10
007																																2.5 / 5 / 10
008																																2.5 / 5 / 10
009																																2.5 / 5 / 10
010																																2.5 / 5 / 10
011																																2.5 / 5 / 10
012																																2.5 / 5 / 10
013																																2.5 / 5 / 10
014																																2.5 / 5 / 10
015																																2.5 / 5 / 10
016																																2.5 / 5 / 10
017																																2.5 / 5 / 10
018																																2.5 / 5 / 10
019																																2.5 / 5 / 10
020																																2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : ☒Yes □No □N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	

Pace Analytical 1241 Bellevue Street, Green Bay, WI 54302	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: 25Apr2018
	Document No.: **F-GB-C-031-Rev.07**	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #: **WO# : 40175824**

40175824

Client Name: SCS ENGINEERING

Courier: ☒ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☐ Client ☐ Pace Other:

Tracking #: 2293-0913 1E

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Thermometer Used SR - VIA **Type of Ice:** Wet Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 2.01 /Corr:

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Person examining contents:
Date: 9/14/18
Initials: JM

Chain of Custody Present:	☒Yes ☐No ☐N/A	1. + CC JM 9/14/18
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. no ph #, invoice JM 9/14/18
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD: ☐Yes ☒No ☐N/A		8.
Correct Containers Used:	☒Yes ☐No	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
Trip Blank Present:	☒Yes ☐No ☐N/A	13.
Trip Blank Custody Seals Present	☒Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 407		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: Rmr for DM **Date:** 9/14/18

Attachment F

Information from McGettigan Property
Open ERP Site – BRRTS #02-13-321347

Table 1. Sub-Slab Vapor Analytical Results Summary*
MOM Partnership Project, Madison, Wisconsin / SCS Engineers Project #25211228.71
(Results are in ppbV)

Sample	Location	Date	Tetrachloroethylene (PCE)	Trichloroethylene (TCE)	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	Other VOCs
Psychiatric Services	2727 Marshall Court	3/2/2016	7.5	<0.43	<0.43	<0.43	<0.43	NA
		7/6/2016	0.42 *IS	<0.085 *IS	<0.085 *IS	<0.085 *IS	<0.085 *IS	NA
Forest Products Society	2801 Marshall Court	3/2/2016	0.75	<0.085	<0.085	<0.085	<0.085	NA
		7/6/2016	0.39	0.10 F	<0.085	<0.085	<0.085	NA
Vapor Risk Screening Level (Residential Building)			210	13	NE	NE	22	NE
Vapor Risk Screening Level (Small Commercial Building)			900	53	NE	NE	370	NE

Abbreviations:
ppbV = parts per billion by volume
cis-1,2-DCE = cis-1,2-dichloroethylene
-- = Not Applicable
NA = Not Analyzed
trans-1,2-DCE = trans-1,2-dichloroethylene
NE = Not Established
ND = None Detected

Notes:
1. Samples were collected in 6-liter summa canisters over a 30-minute period and analyzed using the USEPA TO-15 analytical method.
2. Vapor Risk Screening Levels are from Wisconsin Department of Natural Resources Quick Look-Up Table, which is based on May 2016 USEPA Regional Screening Level Tables.
3. **Bold+underlined** values meet or exceed Vapor Risk Screening Levels.
4. A vapor mitigation system was installed at 2803-2807 University Avenue in September 2014.

*Table is modified from original. Only data relevant to 2801 Marshall Court is shown.

Lab Notes:
*D = LOD not achievable due to dilution
*IS = The internal standard QC limit is exceeded
F = Result is between LOD and LOQ

Created by: AV Date: 4/20/2016
Last revision by: AV Date: 7/15/2016
Checked by: LMH Date: 7/18/2016

I:\25218152.00\Deliverables\Phase 2 ESA\Attachment F Info from McGettigan Property\[Table 1_Sub-Slab Vapor_MOM Partnership.xlsx]Sub-Slab Results

Table 2. Groundwater Analytical Results Summary*
2803-2809 University Avenue, Madison, Wisconsin / SCS Engineers Project #25211228.71
(Results are in µg/L)

Sample	Date	Benzene	1,2-Dichloroethane	cis-1,2-Dichloroethylene	trans-1,2-Dichloroethylene	Ethylbenzene	Naphthalene	Tetrachloroethylene	Toluene	Trichloroethylene	TMBs	Vinyl Chloride	Xylenes
MW3	9/17/2002	<0.31	<0.17	2.0	2.93	<0.5	<0.8	**23.7**	<0.3	**16.9**	<0.71	<0.2	<0.92
	10/16/2002	<0.31	<0.17	2.35	2.5	<0.5	<0.8 CSH	**24.3** CSH	<0.3	**20.6**	<0.71	<0.2	<0.92
	5/20/2004	<0.31	<0.4	<0.4	<0.39	<0.5	<0.8	**29.8**	<0.3	*1.04* J	<0.71	<0.2	<0.92
	5/24/2005	<0.20	<0.50	<0.50	<0.50	<0.50	<0.25	**10**	<0.20	<0.20	<0.40	<0.20	<0.50
	8/23/2005	<0.20	<0.50	1.0 J	1.4 J	<0.50	<0.25	**13**	<0.20	**10**	<0.40	<0.20	<0.50
	11/22/2005	<0.20	<0.50	1.9	3.5	<0.50	<0.25	**49**	<0.20	**32**	<0.40	<0.20 C	<0.50
	2/7/2006	<0.20	<0.50	<0.50	<0.50	<0.50	<0.25	**50**	<0.20	*2.4*	<0.40	<0.20	<0.50
	6/27/2007	<0.41	<0.36	<0.83	<0.89	<0.54	<0.74	**7.6**	<0.67	*0.55* J	<1.8	<0.18	<2.63 &
	10/9/2007	<0.21	<0.15	<0.21	<0.22	<0.23	<0.25	**8.9**	<0.20	*1.5*	<0.46	<0.17	<0.43
	2/5/2008	<0.41	<0.36	<0.83	0.92 Q	<0.54	<0.74	**18**	<0.67	**7.9**	<1.8	<0.18	<2.63
	3/22/2011	<0.20	<0.50	<0.50	<0.50	<0.50	<0.25	**39**	<0.50	<0.20	<0.40	<0.20	<0.50
	10/9/2015	<0.50	<0.17	<0.26	<0.26	<0.50	<2.5	**9.5**	<0.50	<0.33	<1.0	<0.18	<1.5
	6/6/2018	<0.15	<0.39	<0.41	<0.35	<0.18	<0.34	*3.3*	<0.15	<0.16	<0.61	<0.20	<0.22
MW5	1/21/2004	<0.31	<0.17	<0.23	<0.39	<0.5	<0.8	**20**	<0.3	<0.36	<0.71	<0.2	<0.92
	5/20/2004	<0.31	<0.4	<0.4	<0.39	<0.5	<0.8	**14.8**	<0.3	<0.5	<0.71	<0.2	<0.92
	5/24/2005	<0.20	<0.50	<0.50	<0.50	<0.50	<0.25	**14**	<0.20	<0.20	<0.40	<0.20	<0.50
	8/23/2005	<0.20	<0.50	<0.50	<0.50	<0.50	<0.25	**8.8**	<0.20	<0.20	<0.40	<0.20	<0.50
	11/22/2005	<0.20	<0.50	<0.50	<0.50	<0.50	<0.25	**11**	<0.20	<0.20	<0.40	<0.20 C	<0.50
	2/7/2006	<0.20	<0.50	<0.50	<0.50	<0.50	<0.25	**12**	<0.20	<0.20	<0.40	<0.20	<0.50
	6/27/2007	<0.41	<0.36	<0.83	<0.89	<0.54	<0.74	**13**	<0.67	<0.48	<1.8	<0.18	<2.63 &
	10/9/2007	<0.21	<0.15	<0.21	<0.22	<0.23	<0.25	**8.2**	<0.20	<0.20	<0.46	<0.17	<0.43
	2/5/2008	<0.41	<0.36	<0.83	<0.89	<0.54	<0.74	**9.1**	<0.67	<0.48	<1.8	<0.18	<2.63
	3/22/2011	<0.20	<0.50	<0.50	<0.50	<0.50	<0.25	**5.7**	<0.50	<0.20	<0.40	<0.20	<0.50
	10/9/2015	<0.50	<0.17	<0.26	<0.26	<0.50	<2.5	<0.50	<0.50	<0.33	<1.0	<0.18	<1.5
	6/6/2018	<0.15	<0.39	<0.41	<0.35	<0.18	<0.34	*2.7*	<0.15	<0.16	<0.61	<0.20	<0.22

Table 2. Groundwater Analytical Results Summary*
2803-2809 University Avenue, Madison, Wisconsin / SCS Engineers Project #25211228.71
(Results are in µg/L)

Sample	Date	Benzene	1,2-Dichloroethane	cis-1,2-Dichloroethylene	trans-1,2-Dichloroethylene	Ethylbenzene	Naphthalene	Tetrachloroethylene	Toluene	Trichloroethylene	TMBs	Vinyl Chloride	Xylenes
MW8	5/24/2005	<0.20	<0.50	<0.50	<0.50	<0.50	<0.25 C4	*1.6* J	<0.20	<0.20	<0.40	<0.20	NA
	8/23/2005	<0.20	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.20	<0.50	<0.40	<0.20	<0.50
	11/22/2005	<0.20	<0.50	<0.50	<0.50	<0.50	<0.25	*1.0* J	<0.20	<0.20	<0.40	<0.20 C	<0.50
	2/7/2006	<0.20	<0.50	<0.50	<0.50	<0.50	<0.25	*1.0* J	<0.20	<0.20	<0.40	<0.20	<0.50
	6/27/2007	<0.41	<0.36	<0.83	<0.89	<0.54	<0.74	*0.77* J	<0.67	<0.48	<1.8	<0.18	<2.63 &
	3/22/2011	<0.20	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.50	<0.20	<0.40	<0.20	<0.50
	10/9/2015	<0.50	<0.17	<0.26	<0.26	<0.50	<2.5	<0.50	<0.50	<0.33	<1.0	<0.18	<1.5
	6/6/2018	<0.15	<0.39	<0.41	<0.35	<0.18	<0.34	<0.37	<0.15	<0.16	<0.61	<0.20	<0.22
U PUMP MW1	5/20/2004	<0.31	<0.4	<0.4	<0.39	<0.5	<0.8	<0.45	<0.3	<0.5	<0.71	<0.2	<0.92
	5/24/2005	**16**	*4.8*	<0.50	<0.50	6.9	0.95	<0.50	0.70	<0.20	17.3	<0.20	34
	8/23/2005	<0.20	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.20	<0.20	<0.40	<0.20	<0.50
	11/22/2005	<0.20	**5.4**	<0.50	<0.50	<0.50	<0.25	<0.50	<0.20	<0.20	<0.40	<0.20	<0.50
	2/7/2006	<0.20	*0.78* J	<0.50	<0.50	<0.50	<0.25	<0.50	<0.20	<0.20	<0.40	<0.20	<0.50
	6/27/2007	<0.41	<0.36	<0.83	<0.89	<0.54	<0.74	<0.45	<0.67	<0.48	<1.8	<0.18	<2.63 &
	3/22/2011	**92**	<1.0	4.5	<1.0	*190*	*65*	<1.0	60	<0.40	*178*	<0.40	*670*
	10/9/2015	**9.3**	<0.17	0.39 J1	<0.26	44.4	*11.7*	<0.50	*5.7*	<0.33	34.8	<0.18	97.2
	6/7/2018	**85**	<0.39	<0.41	<0.35	*220*	**42**	<0.37	13	<0.16	*72*	<0.20	380
NR 140 Enforcement Standards		*5*	*5*	*70*	100	*700*	100	*5*	800	*5*	480	0.2	2,000
NR 140 Preventive Action Limits		0.5	0.5	*7*	20	140	10	0.5	160	0.5	96	0.02	400

Abbreviations
µg/L = micrograms per liter or parts per billion (ppb) -- = Not Applicable
TMBs = 1,2,4- and 1,3,5-trimethylbenzenes

Table 2. Groundwater Analytical Results Summary*
2803-2809 University Avenue, Madison, Wisconsin / SCS Engineers Project #25211228.71

Notes:
Bold values equal or exceed NR 140 enforcement standards.
Italic values equal or exceed NR 140 preventive action limits.
Only detected compounds and vinyl chloride shown. For complete results, see laboratory reports.
Values in [brackets] represent results greater than or equal to the LOD but less than the LOQ and are within a region of "less-certain quantitation." Results greater than or equal to the LOQ are considered to be in the region of "certain quantitation."
LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.
C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
C4 = Calibration Verification recovery was below the method control limit for this analyte.
CSH = Check standard for this analyte exhibited a high bias. Sample results may also be biased high.
CSL = Check standard for this analyte exhibited a low bias. Sample results may also be biased low.
J = Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
J1 = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ).
J2 = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Q = The analyte has been detected between the LOD and LOQ. The results are qualified due to the uncertainty of analyte concentrations within this range.
S2 = Compound is a common lab solvent and contaminant.
SPH = Matrix spike recovery within analytical batch was high. Sample matrix appears similar to your sample; result may be biased high.
& = Laboratory Control Spike recovery not within control limits.

*Table is modified from original. Only data relevant to 2801 Marshall Court is shown.

Laboratory Notes:
(1) Hexachlorobutadiene analysis - Calibration Verification recovery was below the method control limit for this analyte.
(2) Bromomethane, 4-chlorotoluene, hexachlorobutadiene and 1,2,3-trichlorobenzene analyses - Calibration Verification recovery was below the method control limit for this analyte.
(3) Surr: Toluene-d8 (91-100%) - Surrogate recovery was below acceptance limits.
(4) Bromomethane analysis - Calibration Verification recovery was below the method control limit for this analyte.
(5) 1,1,2-Trichloroethane was detected in UPUMP MW4 on 11/23/05 at a concentration of 0.91 ug/l (PAL = 0.5 ug/l, ES = 5 ug/l). This compound was not detected in any other site sample.
(6) Styrene - Laboratory Control Spike recovery not within control limits.
(7) Surrogate analysis - This compound is a surrogate used to evaluate the quality control of a method.
(8) Bromodichloromethane was detected at a concentration of [0.29].
(9) Bromomethane - Laboratory Control Spike recovery not within control limits. Chlorodibromomethane was detected at a concentration of 0.95; the analyte has been detected between the limit of detection (LOD) and limit of quantitation (LOQ). The results are qualified due to the uncertainty of analyte concentrations within this range.
(10) Bromomethane - Laboratory Control Spike recovery not within control limits.
(11) Bromodichloromethane was detected at a concentration of [0.22].
(12) Bromodichloromethane was detected at a concentration of [0.33].
(13) Bromodichloromethane was detected at a concentration of [0.44], and Bromoform at [0.46], and Chlorodibromomethane at [0.71].
(14) Surrogate: 4-Bromofluorobenzene (S) - Post-analysis pH measurement indicates insufficient VOA sample preservation.
(15) Chloroethane = LCS or LCSD is outside acceptance limits.

Created by: LMH Date: 10/4/2002
Last revision by: JSN Date: 6/20/2018
Checked by: LMH Date: 6/20/2018

Table 3. Water Level Summary*
2803-2809 University Avenue, Madison, Wisconsin / SCS Engineers Project #25211228.72

Raw Data	MW3	MW5	MW8	UP MW1
Measurement Date				
September 6, 2002	NA	NA	NA	NM
September 17, 2002	29.07	NA	NA	NM
October 16, 2002	29.33	NA	NA	28.75
May 29, 2003	26.05	NA	NA	25.84
January 21, 2004	26.09	27.52	NA	25.99
May 20, 2004	25.88	27.57	NA	26.63
May 24, 2005	24.78	26.35	29.06	24.54
August 23, 2005	29.51	31.06	33.50	29.37
November 22, 2005	28.01	29.38	32.00	27.83
February 7, 2006	26.87	28.39	31.16	27.15
June 27, 2007	26.67	28.41	31.06	26.83
October 9, 2007	32.53	33.55	Dry	Dry
February 5, 2008	25.20	26.73	NM	NM
March 22, 2011	18.98	20.13	23.58	19.14
October 8 & 9, 2015	24.79	25.84	28.72	24.93
June 6, 2018	19.31	20.86	24.19	19.20
September 19, 2018	18.36	20.15	23.58	17.95
Well Number	**MW3**	**MW5**	**MW8**	**UP MW1**
Top of Casing Elevation (feet amsl)	877.03	878.45	880.56	876.92
Measurement Date				
September 6, 2002	--	--	--	--
September 17, 2002	847.96	--	--	--
October 16, 2002	847.70	--	--	848.17
May 29, 2003	850.98	--	--	851.08
January 21, 2004	850.94	850.93	--	850.93
May 20, 2004	851.15	850.88	--	850.29
May 24, 2005	852.25	852.10	851.50	852.38
August 23, 2005	847.52	847.39	847.06	847.55
November 22, 2005	849.02	849.07	848.56	849.09
February 7, 2006	850.16	850.06	849.40	849.77
June 27, 2007	850.36	850.04	849.50	850.09
October 9, 2007	844.50	844.90	--	--
February 5, 2008	851.83	851.72	--	--
March 22, 2011	858.05	858.32	856.98	857.78
October 8 & 9, 2015	852.24	852.61	851.84	851.99
June 6, 2018	857.72	857.59	856.37	857.72
September 19, 2018	858.67	858.30	856.98	858.97

Abbreviations:
NM = Not Measured
NA = Well not installed yet

Notes:
May 2004, May 2005, August 2005, and November 2005 water level measurement events took place over two day periods. Significant rain fell during the May 2004 measurement event.

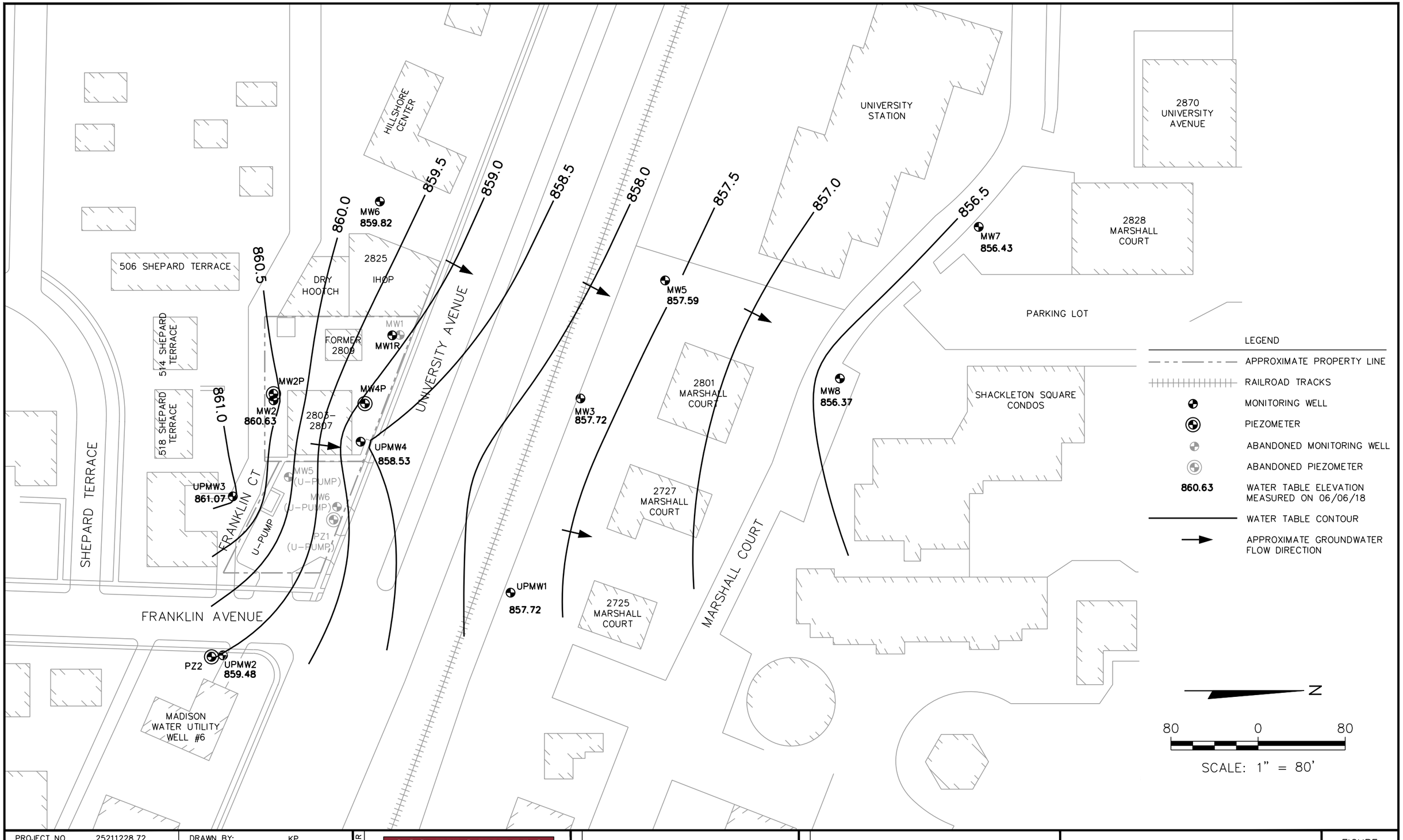
Well elevations relative to fire hydrant located at the corner of University and Franklin, elevation is 880.34 feet amsl.

Upump MW4 elevation was resurveyed during the 1/21/04 sampling event.

*Table is modified from original. Only data relevant to 2801 Marshall Court is shown.

Last revision by:
Checked by:

I:\25218152.00\Deliverables\Phase 2 ESA\Attachment F Info from McGettigan Property\[Table 3_water levels.xls]Water Levels



PROJECT NO.	25211228.72	DRAWN BY:	KP
DRAWN:	06/11/18	CHECKED BY:	REL
REVISED:	06/29/18	APPROVED BY:	REL 06/29/18

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT: MOM PARTNERSHIP

SITE: 2803–2809 UNIVERSITY AVENUE
MADISON, WISCONSIN

WATER TABLE MAP
JUNE 6, 2018

FIGURE 4

I:\25211228.72\Drawings\WTBL-2018.dwg, 6/29/2018 1:56:27 PM

State of Wisconsin
Department of Natural Resources

Route To:
- ☐ Solid Waste
- ☐ Emergency Response
- ☐ Wastewater
- ☐ Haz. Waste
- ☐ Underground Tanks
- ☐ Water Resources
- ☒ Other DERF

SOIL BORING LOG INFORMATION
Form 4400-122 10-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
2803-2809 University Avenue BT²# 2287		MW3

Boring Drilled By (Firm name and name of crew chief)	Drilling Started	Drilling Completed	Drilling Method
Boart Longyear Mike Mueller	09/14/2002	09/14/2002	4¼" HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Static Water Level	Surface Elevation	Borehole Diam.
	PG561		Feet	Feet	8.5 Inches

Boring Location	Lat. / Long.	Local Grid Location (If applicable)
State Plane N, E NE 1/4 of NW 1/4 of Section 21, T. 7 N., R. 9 E.		Feet N., Feet E.

County	DNR County Code	Civil Town/City/or Village
Dane	13	Madison

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
				2" ASPHALT PAVEMENT/SILTY GRAVEL, (fill).	GM							
				SILTY SAND with gravel; black, loose (fill).	SM							
S1	14	02-01 01-02		SAND, fine, with silt; loose, brown; Thin (¼") horizontal silt seams.				0.6		M		no odors
S2	14	01-01 01-01	5		SP-SM			0.6		M		no odors
S3	15	01-01 01-01		SILTY SAND, fine, with gravel; loose, gray, massive.	SM			0.6		M		no odors
S4	24	01-02 03-03	10	SANDY SILT, fine, gray-brown, medium dense, contorted laminae.	ML			0.6		M		no odors
				SAND, fine, with silt; brown.	SP-SM							
S5	24	01-01 03-04	15	SILTY SAND, fine to medium; loose, dark brown, massive.	SM			0.6		M		no odors
S6	24	04-05 06-04	20	SAND, fine, with silt; medium dense, brown, massive.	SP-SM			0.6		M		no odors
S7	20	03-03 04-07	25	SAND, fine to medium, medium dense, brown, massive.	SP			0.6		M		no odors

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	
	BT², Inc.	Geoff Prior

This form is authorized by Chapters 144, 147 and 162, Wis. Stats. Completion of this form is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06 Wis. Stats.

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
				SAND, fine to medium, medium dense, brown, massive.	SP							
S8	24	05-05 02-02	30					1.8		W		no odors
				SILTY SAND, fine to medium, with gravel; loose, brown; massive (till).	SM							
S9	4	06-10 15-15	35					1.8		W		no odors
				SILTY SAND, fine, with gravel; dense; brown; angular sandstone gravels (weathered sandstone bedrock).	SM							
				End of boring @ 36.5'; Set 10' PVC screen to 34.2'.								
			40	*Blow counts represent a 300 lb wireline hammer with variable drop.								
			45									
			50									
			55									
			60									
			65									

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
#2287 Remediation/Redevelopment ☐ Other ☒ DERF

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: 2803-2809 University Ave.	Local Grid Location of Well: ____ ft. ☐N. ☐S. ____ ft. ☐E. ☐W.	Well Name: MW3
Facility License,Permit or Monitoring Number:	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or St.Plane ____ ft. N. ____ ft. S.	Wis. Unique Well Number: PG561 / DNR Well ID No.:
Facility ID:	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 21, T. 7 N, R. 9 ☒E. ☐W.	Date Well Installed: 09 / 14 / 2002 (mm / dd / yyyy)
Type of Well: Well Code 11 / MW	Location of Well Relative to Waste/Source: u ☐Upgradient s ☐Sidegradient d ☒Downgradient n ☐Not Known	Gov. Lot Number:
Distance From Waste/Source: ____ ft. / Enf. Stds. Apply ☒		Well Installed By: Name (first, last) and Firm: Mike Mueller, Boart Longyear

A. Protective pipe, top elevation ____.__ ft. MSL
B. Well casing, top elevation ____.__ ft. MSL
C. Land surface elevation ____.__ ft. MSL
D. Surface seal, bottom ____.__ ft. MSL or 1.5 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐Yes ☒No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐Yes ☒No
Describe ____

17. Source of water (attach analysis, if required): ____

E. Bentonite seal, top ____.__ ft. MSL or ___.__ ft.
F. Fine sand, top ____.__ ft. MSL or 20.1 ft.
G. Filter pack, top ____.__ ft. MSL or 22.4 ft.
H. Screen joint, top ____.__ ft. MSL or 23.8 ft.
I. Well bottom ____.__ ft. MSL or 34.2 ft.
J. Filter pack, bottom ____.__ ft. MSL or 36.5 ft.
K. Borehole, bottom ____.__ ft. MSL or 36.5 ft.

L. Borehole, diameter 8.5 in.
M. O.D. well casing 2.40 in.
N. I.D. well casing 2.00 in.

1. Cap and lock? ☒Yes ☐No
2. Protective cover pipe:
a. Inside diameter: 10.0 in.
b. Length: 1.1 ft.
c. Material: Steel ☒ 04 / Other ☐ ____
d. Additional protection? ☐Yes ☒No
If yes, describe: ____
3. Surface Seal: Bentonite ☐ 30 / Concrete ☒ 01 / Other ☐ ____
4. Material between well casing and protective pipe: Bentonite ☐ 30 / Filter Sand / Other ☒ ____
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight...Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight.....Bentonite slurry ☐ 31
d. ____ % Bentonite.....Bentonite-cement grout ☐ 50
e. 5.6 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. none ☒
7. Fine sand material: Manufacturer, product name & mesh size
a. Badger Mining Silica #BB7
b. Volume added 0.5 ft^3
8. Filter pack material:Manufacturer, product name & mesh size
a. American Mat'ls. Red Flint #30
b. Volume added 3.0 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / ☐ ____
10. Screen material: same
a. Screen type: Factory cut ☒ 01 / Continuous slot ☐ 02 / Other ☐ ____
b. Manufacturer: Boart Longyear
c. Slot size: 0.010 in.
d. Slotted length: 8.9 ft.
11. Backfill material (below filter pack): None ☒ 14 / Other ☐ ____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: BT², Inc., 2830 Dairy Drive, Madison, WI 53718-6751

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats. failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on thses forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be

State of Wisconsin
Department of Natural Resources

Route To:
- ☐ Solid Waste
- ☐ Emergency Response
- ☐ Wastewater
- ☐ Haz. Waste
- ☐ Underground Tanks
- ☐ Water Resources
- ☒ Other DERF

SOIL BORING LOG INFORMATION
Form 4400-122 10-92

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
2803-2809 University Avenue BT²# 2287		MW5

Boring Drilled By (Firm name and name of crew chief)	Drilling Started	Drilling Completed	Drilling Method
Badger State Drilling Kevin McCumber	01/12/2004	01/12/2004	4¼" HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Static Water Level	Surface Elevation	Borehole Diam.
	PL349		Feet	Feet	8.5 Inches

Boring Location	Lat. / Long.	Local Grid Location (If applicable)
State Plane N, E NE 1/4 of NW 1/4 of Section 21, T. 7 N., R. 9 E.		Feet N., Feet E.

County	DNR County Code	Civil Town/City/or Village
Dane	13	Madison

Sample Number	Sample Length Recovered	Sample Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. (PID) (HNu)	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
				3" ASPHALT PAVEMENT/SILTY GRAVEL (fill).	GM							
S1	22	30-11 08-11		SILTY SAND, brown, fine to medium; medium dense (fill).	SM			0.7		M		no odors
S2	20	03-05 07-11	5	ORGANIC SILT, dark brown (old topsoil).	OL			4.0		M		no odors
S3	24	08-08 09-09		SILT, light brown; medium dense.	ML			2.8		M		no odors
S4	24	05-08 08-08	10	SAND, brown, fine to medium; medium dense to loose.				3.4		M		no odors
S5	24	04-03 04-04			SP			4.9		W		no odors
S6	24	04-03 03-02	15					4.0		W		no odors
S7	20	¼-¼ ¼-¼		SAND, dark brown, fine to medium, with silt; very loose.	SP-SM			4.7		W		no odors
S8	22	¼-¼ ¼-¼	20					4.4		W		no odors
S9	24	20-29 15-28		SAND, brown, fine to medium, with gravel; dense.				4.2		W/ M		no odors
S10	20	15-19 22-26	25		SP			4.9		M		no odors

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature [signature] Firm BT², Inc. Geoff Prior

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Department of Natural Resources | Form 4400-122A | 10-92

Boring Number MW5 | Use only as an attachment to Form 4400-122. |

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Soil Properties: Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S11	20	11-15 20-22		SAND, brown, fine; medium dense to dense.	SP			4.9		M/ W		no odors
S12	22	04-05 09-13	30					4.9		W		no odors
S13	24	11-25 25-27						5.3		W		no odors
S14	8	27- 50/4	35	SILTY SAND, brown, fine to medium, with gravel; very dense.	SM			4.6		W		no odors
				End of boring @ 37'; Set 10' PVC screen to 36.5'.								
			40									
			45									
			50									
			55									
			60									
			65									

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERF

MONITORING WELL CONSTRUCTION
Form 4400-113A **Rev. 7-98**

Facility/Project Name: 2803-2809 University Ave BT2#2287

Facility License,Permit or Monitoring Number:

Facility ID:

Type of Well — Well Code: 11 / MW

Distance From Waste/Source: ____ ft.

Enf. Stds. Apply ☒

Local Grid Location of Well: ____ ft. ☐N. ☐S. ____ ft. ☐E. ☐W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐
Lat. ° ' " Long. ° ' " or
St.Plane ____ ft. N. ____ ft. S.

Section Location of Waste/Source ☒E. ☐W.
NE 1/4 of NW 1/4 of Sec. 21, T. 7 N,R. 9

Location of Well Relative to Waste/Source
u ☐ Upgradient s ☐ Sidegradient
d ☐ Downgradient n ☐ Not Known

Gov. Lot Number:

Well Name: MW5

Wis. Unique Well Number: PL349

DNR Well ID No.:

Date Well Installed: 01 / 12 / 2004 (mm / dd / yyyy)

Well Installed By: Name (first, last) and Firm
Kevin McCumber
Badger State Drilling

A. Protective pipe, top elevation ____.__ ft. MSL

B. Well casing, top elevation ____.__ ft. MSL

C. Land surface elevation ____.__ ft. MSL

D. Surface seal, bottom ____.__ ft. MSL or 1.5 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50 Hollow Stem Auger ☒ 41 Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01 Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe

17. Source of water (attach analysis, if required):

E. Bentonite seal, top ____.__ ft. MSL or ___.__ ft.

F. Fine sand, top ____.__ ft. MSL or 22.0 ft.

G. Filter pack, top ____.__ ft. MSL or 24.0 ft.

H. Screen joint, top ____.__ ft. MSL or 26.3 ft.

I. Well bottom ____.__ ft. MSL or 36.5 ft.

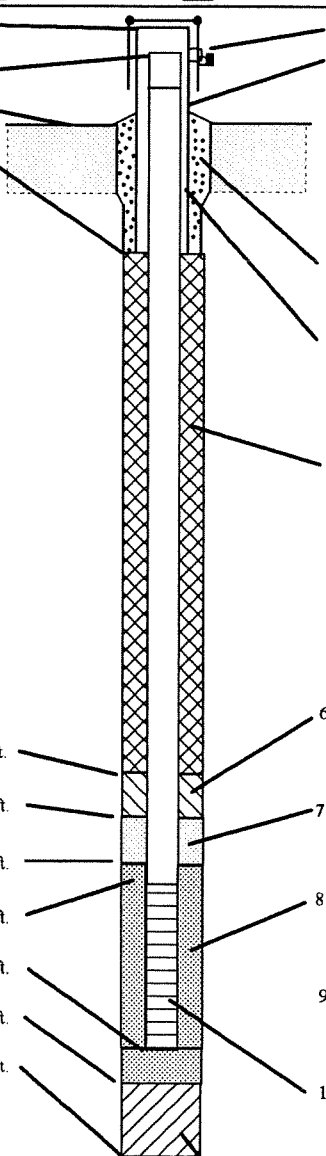
J. Filter pack, bottom ____.__ ft. MSL or 37.0 ft.

K. Borehole, bottom ____.__ ft. MSL or 37.0 ft.

L. Borehole, diameter 8.5 in.

M. O.D. well casing 2.40 in.

N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 10.0 in.
b. Length: 1.1 ft.
c. Material: Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe:

3. Surface Seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐

4. Material between well casing and protective pipe: Bentonite ☐ 30 Filter Sand Other ☒

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight...Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight.....Bentonite slurry ☐ 31
d. ____ % Bentonite.....Bentonite-cement grout ☐ 50
e. 6.9 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 32
c. none ☒

7. Fine sand material: Manufacturer, product name & mesh size
a. Ohio #40-60
b. Volume added 0.5 ft^3

8. Filter pack material:Manufacturer, product name & mesh size
a. Ohio #5
b. Volume added 3.0 ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐

10. Screen material: same
a. Screen type: Factory cut ☒ 01 Continuous slot ☐ 02 Other ☐
b. Manufacturer: Monoflex
c. Slot size: 0.010 in.
d. Slotted length: 9.5 ft.

11. Backfill material (below filter pack): None ☒ 14 Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: BT², Inc., 2830 Dairy Drive, Madison, WI 53718-6751

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats. failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on thses forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be

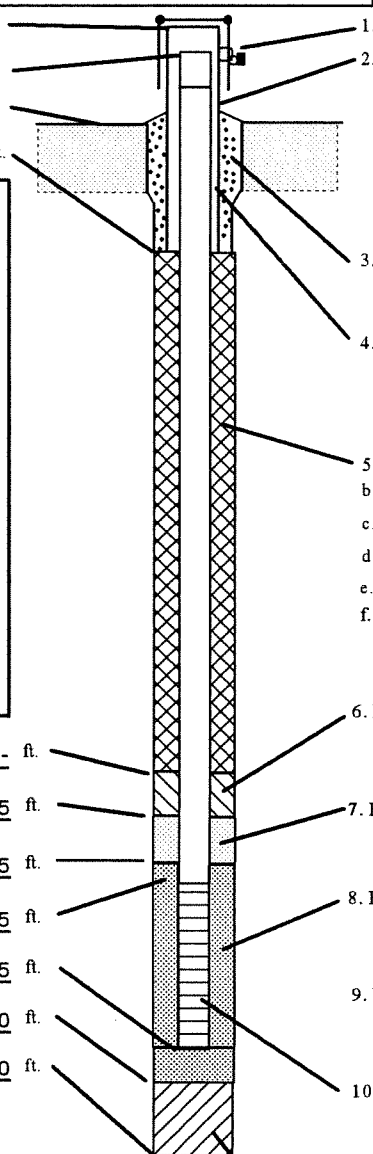
State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A **Rev. 7-98**

Facility/Project Name: 2803-2809 University Ave BT2#2287	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: MW8
Facility License,Permit or Monitoring Number:	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or St.Plane ____ ft. N. ____ ft. S.	Wis. Unique Well Number: PP555 / DNR Well ID No.:
Facility ID:	Section Location of Waste/Source ☒ E. NE 1/4 of NW 1/4 of Sec. 21, T. 7 N, R. 9 ☐ W.	Date Well Installed: 04 / 22 / 2005 (m m / d d / y y y y)
Type of Well: Well Code 11 / MW	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	Gov. Lot Number:	Well Installed By: Name (first, last) and Firm: Kevin McCumber / Badger State Drilling
Distance From Waste/Source: 450 ft.	Enf. Stds. Apply ☒		



A. Protective pipe, top elevation ____.__ ft. MSL
B. Well casing, top elevation ____.__ ft. MSL
C. Land surface elevation ____.__ ft. MSL
D. Surface seal, bottom ____.__ ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐ ____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01 Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe ____

17. Source of water (attach analysis, if required): ____

E. Bentonite seal, top ____.__ ft. MSL or ___.__ ft.
F. Fine sand, top ____.__ ft. MSL or 21.5 ft.
G. Filter pack, top ____.__ ft. MSL or 23.5 ft.
H. Screen joint, top ____.__ ft. MSL or 25.5 ft.
I. Well bottom ____.__ ft. MSL or 35.5 ft.
J. Filter pack, bottom ____.__ ft. MSL or 36.0 ft.
K. Borehole, bottom ____.__ ft. MSL or 36.0 ft.

L. Borehole, diameter 8.5 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.07 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 10.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 / Other ☐ ____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____
3. Surface Seal: Bentonite ☐ 30 / Concrete ☒ 01 / Other ☐ ____
4. Material between well casing and protective pipe: Bentonite ☐ 30 / Filter Sand Other ☒ ____
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight...Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight.....Bentonite slurry ☐ 31
d. ____ % Bentonite.....Bentonite-cement grout ☐ 50
e. 7.5 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 32
c. none ☒ ____
7. Fine sand material: Manufacturer, product name & mesh size
a. Ohio #40/60 ____
b. Volume added 0.7 ft^3
8. Filter pack material:Manufacturer, product name & mesh size
a. Ohio #5 ____
b. Volume added 4.5 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / ☐ ____
10. Screen material same
a. Screen type: Factory cut ☒ 01 / Continuous slot ☐ 02 / Other ☐ ____
b. Manufacturer Monoflex
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 14 / Other ☐ ____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Stephen Gilmore | Firm BT², Inc., 2830 Dairy Drive, Madison, WI 53718-6751

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats. failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on thses forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be