7711 N. Port Washington Road
Milwaukee, WI 53217
T: 414.751.7200 • F: 414.351.4117

August 4, 2021

Ms. Linda Michalets
Wisconsin Department of Natural Resources
Remediation and Redevelopment
2300 N. MLK Drive
Milwaukee, Wisconsin 53212

RE: **Environmental Activities Update Addendum**
1818 W National Ave (now Cristo Rey Jesuit Highschool)
1818 W. National Avenue, Milwaukee, Wisconsin
BRRTs #02-41-583465 FID #241878450
Regulatory Status: Open ERP

Dear Ms. Michalets:

Kapur Inc. (Kapur) is providing the following information per the department's request to further detail and clarify the environmental investigation and remediation activities completed at the above referenced site. Kapur believes the additional information being provided warrants department approval of a No Further Action designation per the Technical Assistance, Environmental Liability Clarification Request, Form 4400-237, recently submitted (Ref. 1).

The above 'open ERP' case, BRRTS #02-41-583465, specifically applies to a small area at the southwest portion of the subject property where, during geotechnical drilling activities being performed, contaminant impacts were identified via laboratory analysis that exceeded established ch. NR 720 Residual Contaminant Levels (RCLs) (see attached figures). The area in question was in the immediate vicinity of soil boring B-21 that appeared to be an unidentified historic release, not associated with the previously investigated and closed LUST cases onsite. At the request of the Department, the impacts identified at B-21 were reported as a new release in order to allow approval of the Materials Management Plan (approved on May 10, 2019) submitted as part of the proposed greater (property wide) redevelopment plans.

The area in question surrounding B-21 was overexcavated to an average depth of 3 to 4 feet below grade both to remediate the near surface impacted soils and due to site conditions

necessitating excavation and importing of compactible gravel and tracking pad stone for construction activities. Excavation for new stormwater utility was also completed immediately to the east and south/southwest of B-21. The excavated soils were transported to Waste Management Orchard Ridge landfill for disposal and throughout the course of excavation activities being completed, Kapur performed periodic inspections and field screening of the soils being disturbed. Soil conditions observed during construction did not vary significantly from those identified during previous geotechnical and soil profiling activities completed (see attached soil boring logs). General fill material is likely present throughout the entire property, though contaminant impacts (PAHs, RCRA Metals and VOCs) does not appear to mirror the fill extents as several boring completed did not reveal concentrations above applicable RCLs (see attached analytical data tables). PLEASE NOTE: Within the vicinity of B-21 (Open ERP) and the surrounding area, the existing grade was also raised with clean material to meet elevation requirements of the final design that would subsequently place the identified contamination at depths below the zone of Direct Contact risk. Thus, no cap maintenance requirements would be necessary for the Open ERP case although the area would be included in the approved greater site cap maintenance plan.

The extent of contaminant impacts appeared to be very limited based upon field screening and visual observations throughout excavation activities that did not reveal any significant odor, soil staining or other identifier for the elevated contaminants identified within B-21. There is a very strong likelihood that the contamination present is likely due to 'filling' of raised residential and commercial structures previously located withing the area in question. The elevated lead may be due to lead bearing paint (deteriorated) being present in the sample submitted for analysis, that would contribute to such an isolated elevated concentration. The sample did not exceed the TCLP limits during laboratory analysis completed and thus would not represent a leaching concern to impact the groundwater onsite nor would it be considered hazardous.

Additionally, as part of the construction plans a sub-slab ventilation was installed as part of proactive measures taken to mitigate any potential of contaminant/vapor migration within the constructed school facility though no VOCs were detected or noted during construction activities, that would have required addressing the vapor intrusion concern. The system is currently operating in a passive mode that includes a wind driven turbine style vent installed to facilitate vapor removal as another proactive measure. The system is also designed to easily be converted to an active depressurized system should the need arise.

FINDINGS AND CONCLUSIONS

Onsite excavation activities and utility installations indicate the area of impact associated with the open ERP case is much smaller than originally estimated, as adjacent utility trench excavations did not trigger any PID reading above background levels nor were any stained or odorous soils noted. The same area was excavated down a minimum 2-3 feet as a larger area of soil material onsite was deemed not suitable for construction and disposed of at a licensed landfill facility. The area was filled with gravel/stone material and compacted acting as a tracking pad for vehicles entering and leaving the construction site. Groundwater was not encountered during excavation activities.

The area in question has had the general elevation raised and is now located at mostly, if not entirely under an engineered barrier of asphalt driveway and concrete walkway. A grass and landscaped area lays adjacent to the north between the engineered barrier (cap) and school building. This area is capped with topsoil and seed over clean imported clay type material that was distributed over existing site soils. The area will be maintained to be sure the existing engineered barriers (cap) remains in place and without defect.

Research of the site history and potential contaminant source has been performed and though no clear point source for the petroleum contamination has been identified, the impacts are most likely attributed to historic filling (waste fill/foundry sand) that occurred onsite as previous commercial and residential buildings were being razed and site grading was completed.

OPINIONS AND RECOMMENDATIONS

The above redevelopment and monitoring activities have shown that the current site conditions and development are protective of the soil direct contact, groundwater migration and vapor intrusion pathway risk factors. Understanding only field screening of the subsurface soil was completed in the area of the Open ERP contaminant plume, it is likely the contaminant plume is much smaller than originally estimated. Based upon the extent of soil excavation completed and the engineered barriers constructed over the estimated plume, natural attenuation processes are anticipated to further breakdown the residual contamination. **As such, Kapur does not believe additional investigation activities are warranted and that No Further Action be granted for the open ERP case.**

If you have any questions or comments, please feel free to call me at 414-751-7279.

Sincerely,

KAPUR INC.

Travis Peterson
Associate, Economic Development Manager

cc: Andrew Stith, Cristo Rey Jesuit High School astith@cristoreymilwaukee.org

Attachments:

Attachment A Figures
Attachment A Tables
Attachment A Soil Boring Logs

References:

1. Kapur, Inc. (May 13, 2021) Technical Assistance, Environmental Liability Clarification Request, Form 4400-237 and Environmental Activities Update. 1818 W NATIONAL AVE, BRRTS No. 0241583465, 1818 W. National Avenue, Milwaukee, Wisconsin 53204

Area of Approved Soil Relocation

Area of Utility Trench and Over-Excavation and Estimated Extent of Residual Soil Impacts

WEST PIERCE STREET

SOUTH 20TH STREET

WEST NATIONAL AVENUE

S. 19TH ST.

S. 18TH ST.

PROJECT LIMITS

PROPOSED BUILDING FFE = 54.00

GRASS/LANDSCAPING

CONCRETE

ASPHALT

1 STORY CONCRETE BLOCK & BRICK BUILDING #1818

BUILDING AREA 111,453 S.F.

CONC. & BLOCK BUILDING #1920

BUILDING AREA 8,392 S.F.

UNPLATTED LANDS

LEGEND

- REASSESSED ESTIMATED AREA OF RESIDUAL SOIL CONTAMINATION
- EXTENT OF UTILITY EXCAVATION ADJOINING 'SOURCE AREA' FIELD SCREENED HAVING NO OBVIOUS IMPACTS
- MINIMUM AREA OF OVER-EXCAVATION OF 3-4 FEET BGS OR GREATER
- B-1 GEOTECHNICAL SOIL BORING LOCATIONS

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PROJECT:
CRISTO REY JESUIT HIGH SCHOOL

LOCATION:
1818 WEST NATIONAL AVE.
MILWAUKEE, WI 53204

CLIENT:

RELEASE:

REVISIONS:

#	DATE	DESCRIPTION

NORTH ARROW:

SCALE: 1 = 80'
0 40 80

SEAL:

SHEET:
SOIL DISPOSAL / RELOCATION MAP AND RESIDUAL SOIL CONTAMINANT PLUME

PROJECT MANAGER:	TP
PROJECT NUMBER:	180231.01
DATE:	01/29/2019

SHEET NUMBER:
5

FILENAME: S:_SiteDsgn\Bray Architects\180231 Cristo Rey Jesuit HS\Environmental\Figures\ERP Extent REV.dwg

Parameter	Units	ch. NR 720 Direct Contact Industrial RCLs	ch. NR 720 Direct Contact Non-Industrial RCLs	ch. NR 720 Soil to Groundwater Pathway RCLs	EPA TCLP Limits	Background Threshold Value	Sample Date: 09/18/2018											
							B-1	B-2	B-4	B-12	B-12 TCLP	B-12	B-16	B-17	B-18	B-18	B-19	B-20
						Soil Type:	GW	SW-SM	ML	ML	ML	GW	SW-SM	GW/CL	CL-ML	GW	ML	ML
						Saturated/Unsaturated:	U	U	U	U	U	U	U	U	U	U	U	U
						Sample Depth:	(2-3.5)	(2-3.5)	(2-3.5)	(2-3.5)	(2-3.5)	(9.5-11)	(2-3.5)	(.5-2.5)	(.5-2)	(9.5-11)	(.5-3.5)	(.5-3.5)
Polynuclear Aromatic Hydrocarbons (PAHs)																		
1-Methylnaphthalene	mg/kg	72.7	17.6				<0.0048	<0.0043	<0.0048	0.0149 J		<0.0048	<0.0048	<0.0045	<0.0043	<0.0045	0.0137 J	<0.0043
2-Methylnaphthalene	mg/kg	3,010	239.0				<0.0060	<0.0053	<0.0060	0.0215		<0.0059	<0.0059	<0.0055	<0.0053	<0.0056	0.0209	<0.0053
Acenaphthene	mg/kg	45,200	3,590				<0.0046	<0.0041	<0.0047	0.0045 J		<0.0046	<0.0046	<0.0043	<0.0041	0.0053 J	0.0127 J	<0.0041
Acenaphthylene	mg/kg						<0.0039	<0.0035	<0.0040	0.0048 J		<0.0039	<0.0039	<0.0037	<0.0035	<0.0037	0.0054 J	<0.0035
Anthracene	mg/kg	100,000	17,900	**196.9492**			<0.0068	<0.0061	<0.0069	0.0192 J		<0.0068	<0.0067	<0.0063	<0.0060	0.0121 J	0.0449	0.0079 J
Benzo(a)anthracene	mg/kg	20.8	1.14				<0.0038	<0.0034	<0.0038	0.0827		<0.0037	<0.0037	0.0204	0.0198	0.0198	0.136	0.0261
Benzo(a)pyrene	mg/kg	2.11	0.115	**0.47**			<0.0030	<0.0027	<0.0030	0.0846		<0.0030	<0.0030	0.0225	0.0225	0.0151	0.142	0.0265
Benzo(b)fluoranthene	mg/kg	21.1	1.15	**0.4793**			<0.0034	<0.0030	<0.0034	0.166		<0.0033	<0.0033	0.0336	0.0301	0.0248	0.234	0.0414
Benzo(g,h,i)perylene	mg/kg						<0.0024	<0.0022	<0.0024	0.0577		<0.0024	<0.0024	0.0129	0.0134	0.0070 J	0.0612	0.0105
Benzo(k)fluoranthene	mg/kg	211	11.5				<0.0030	<0.0027	<0.0030	0.0462		<0.0030	<0.0030	0.0140	0.0138	0.0098	0.0774	0.0146
Chrysene	mg/kg	2,110	115	**0.1446**			<0.0040	<0.0036	<0.0040	0.133		<0.0040	<0.0040	0.0277	0.0202	0.0269	**[0.173]**	0.0341
Dibenz(a,h)anthracene	mg/kg	2.11	0.115				<0.0027	<0.0024	<0.0027	0.0208		<0.0026	<0.0026	0.0037 J	0.0033 J	<0.0025	0.0159	0.0028 J
Fluoranthene	mg/kg	30,100	2,390	**88.8778**			<0.0062	<0.0055	<0.0063	0.171		<0.0062	<0.0062	0.0535	0.0376	0.0781	0.360	0.0609
Fluorene	mg/kg	30,100	2,390	**14.8299**			<0.0049	<0.0044	<0.0050	<0.0047		<0.0049	<0.0049	<0.0046	<0.0044	0.0054 J	0.0113 J	<0.0044
Indeno(1,2,3-cd)pyrene	mg/kg	21.1	1.15				<0.0026	<0.0023	<0.0026	0.0443		<0.0026	<0.0026	0.0102	0.0102	0.0059 J	0.0412	0.0074 J
Naphthalene	mg/kg	26	5.2	**0.66**			<0.0100	<0.0090	0.0111 J	0.0297 J		<0.0100	<0.0099	<0.0093	<0.0089	<0.0094	<0.0096	<0.0090
Phenanthrene	mg/kg						<0.0139	<0.0124	<0.0140	0.0799		<0.0138	<0.0138	<0.0129	<0.0123	0.0508	0.212	0.0326 J
Pyrene	mg/kg	22,600	1,790	**54.5455**			<0.0054	<0.0048	<0.0054	0.122		<0.0053	<0.0053	0.0433	0.0318	0.0519	0.271	0.0469
RCRA Metals																		
Arsenic	mg/kg	3.0	0.677	**0.5484**	5	**8**	**[8.0]**	**[2.4 J]***	**[4.3 J]***	**[7.7]***		**[6.4]***	**[5.4]***	**[4.0 J]***	**[4.1 J]***	**[4.9 J]***	**[5.3 J]***	**[5.9 J]***
Barium	mg/kg	100,000	15,300	**164.8**	100	**364**	72.1	8.2	46.6	**[180]***		57.6	52.3	11.7	14.7	45.2	12.9	8.9
Cadmium	mg/kg	985	71.1	**0.752**	1	**1**	0.27 J	<0.14	0.17 J	0.65		0.20 J	0.20 J	<0.14	<0.27	<0.27	<0.29	<0.28
Chromium	mg/kg			**360,000**	5	**44**	20.5	7.7	18.7	12.2		14.7	15.9	8.4	6.9	9.0	7.6	4.5
Lead	mg/kg	800	400	**27**	5	**52**	10.3	3.4	9.1	[429]	2.9	8.0	7.9	3.8	4.1	5.2	1.9 J	7.0
Mercury	mg/kg	3.13	3.13	**0.208**	0.2		<0.037	<0.036	<0.038	0.040 J		<0.037	<0.038	<0.035	<0.034	<0.039	<0.039	<0.034
Selenium	mg/kg	5,840	391	**0.52**	1		<1.6	<1.4	<1.5	<1.5		<1.5	<1.4	<1.4	<2.7	<2.7	<2.8	<2.7
Silver	mg/kg	391	5,110	**0.85**	5		<0.41	<0.36	<0.40	<0.39		<0.38	<0.37	<0.37	<0.70	<0.71	<0.74	<0.72
Volatile Organic Compounds (VOCs)																		
1,2,4-Trichlorobenzene	mg/kg	113	24	**0.41**			<0.0476	<0.0476	<0.0476	<0.0476		<0.0476	<0.0476	<0.0476	<0.0476	<0.0476	<0.0476	<0.0476
1,2,4-Trimethylbenzene	mg/kg	219	219	**1.382**			<0.0250	<0.0250	<0.0250	0.0354 J		<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250
1,2-Dichlorobenzene	mg/kg	376	376	**1.2**			<0.0250	<0.0250	<0.0250	0.332		<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250
1,2-Dichloroethane	mg/kg	3	0.652	**0.0028**			<0.0250	<0.0250	<0.0250	**[0.0396]**		**[0.174]**	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250
1,3,5-Trimethylbenzene	mg/kg	182	182	**1.382**			<0.0250	<0.0250	<0.0250	<0.0250		<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250
1,3-Dichlorobenzene	mg/kg	297	297	**1.2**			<0.0250	<0.0250	<0.0250	<0.0250		<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250
1,4-Dichlorobenzene	mg/kg	16.4	3.7	**0.14**			<0.0250	<0.0250	<0.0250	**[0.306]**		<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250
Chlorobenzene	mg/kg	761	370	**0.14**			<0.0250	<0.0250	<0.0250	**[0.243]**		<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250
Ethylbenzene	mg/kg	35.4	8.02	**1.57**			<0.0250	<0.0250	<0.0250	<0.0250		<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250
m&p-Xylene	mg/kg	260	260	**3.96**			<0.0500	<0.0500	<0.0500	0.0910 J		<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
Methylene Chloride*	mg/kg	1,070	61	**0.0026**			**[0.0703]**	**[0.0664]**	**[0.0658]**	**[0.0568]**		**[0.0660]**	**[0.0563]**	**[0.0675]**	**[0.0516]**	**[0.0638]**	**[0.0573]**	**[0.0440]**
Naphthalene	mg/kg	24.1	5.52	**0.6582**			<0.0400	<0.0400	<0.0400	0.430		<0.0400	<0.0400	<0.0400	<0.0400	<0.0400	<0.0400	<0.0400
n-Butylbenzene	mg/kg	108	108				<0.0250	<0.0250	<0.0250	<0.0250		<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250
o-Xylene	mg/kg	260	260	**3.96**			<0.0250	<0.0250	<0.0250	0.0571 J		<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250
Toluene	mg/kg	818	818	**1.1072**			<0.0250	<0.0250	<0.0250	<0.0250		<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250
Percent Moisture	%						16.2	6.1	16.7	12.1		15.5	15.3	9.9	5.5	10.3	12.5	6.1
PID	ppmv						0.5	0.7	0.6	0.9		1	0.7	0.8	0.4	0.8	1.2	0.7

Notes:

Only analytes with a detection in at least one sample are shown
(2-3) = sample depth in feet below ground surface
RCL = Residual Contaminant Level
PID - Photoionization Detector
ppmv = parts per million by volume in air
NR = Not Reported/Below Detection Limits
NA = Not Analyzed

Concentrations equal to or exceeding the NR 720 Soil RCL Industrial Direct Contact Standards are **bold red**
Concentrations equal to or exceeding the NR 720 Soil RCL Non-Industrial Direct Contact Standards are **bold blue**
Concentrations equal to or exceeding the NR 720 Soil RCL (via EPA RSLs) Soil to Groundwater Standards are in **[Brackets]**
J = Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
mg/kg = milligrams per kilogram
* = Above industrial standard but below background threshold value

Soil Classification:
GW = Well graded gravel, fine to coarse
SW = Well graded sand, fine to coarse
SM = Silty sand
ML = Silt
CL = Clay of low plasticity

kapur

Table A.2: Soil Analytical Results
1818 West National Ave
Milwaukee, Wisconsin

Parameter	Units	ch. NR 720 Direct Contact Industrial RCLs	ch. NR 720 Direct Contact Non-Industrial RCLs	ch. NR 720 Soil to Groundwater Pathway RCLs	EPA TCLP Limits	Background Threshold Value	Sample Date: 09/18/2018					Sample Date: 12/05/2018						
							B-21	B-21 TCLP	B-21	B-23	B-23	GP-13	GP-14	GP-14	GP-15	GP-16	GP-16	GP-17
						Soil Type:	GW	GW	SW	GW/SW	GW	SW	ML	ML	CL	CL	CL	SW
						Saturated/Unsaturated:	U	U	U	U	U	U	U	U	U	U	U	U
						Sample Depth:	(2-3.5)	(2-3.5)	(14.5-16)	(.5-2)	(12-13.5)	(1-3)	(1-3)	(6-8)	(1-3)	(1-3)	(6-8)	(1-3)
Polynuclear Aromatic Hydrocarbons (PAHs)																		
1-Methylnaphthalene	mg/kg	72.7	17.6				0.323		9.27	0.0377 J	<0.0049	<0.0049	0.058	<0.0048	<0.0048	<0.0047	<0.0049	<0.0046
2-Methylnaphthalene	mg/kg	3,010	239.0				0.564		16.9	<0.0223	<0.0061	<0.0061	0.12	<0.0060	<0.0060	<0.0059	<0.0061	<0.0057
Acenaphthene	mg/kg	45,200	3,590				0.538		0.884	0.185	<0.0047	<0.0047	0.025	0.017	<0.0046	<0.0046	<0.0047	<0.0044
Acenaphthylene	mg/kg						0.0908 J		0.207 J	0.0340 J	<0.0040	<0.0040	0.0091 J	<0.0039	<0.0039	<0.0039	<0.0040	<0.0038
Anthracene	mg/kg	100,000	17,900	**196.9492**			1.40		0.384 J	0.322	<0.0069	<0.0070	0.067	0.037	<0.0068	<0.0067	<0.0069	<0.0065
Benzo(a)anthracene	mg/kg	20.8	1.14				2.09		<0.0939	0.729	0.0056 J	<0.0039	0.25	0.074	<0.0038	<0.0037	<0.0039	<0.0036
Benzo(a)pyrene	mg/kg	2.11	0.115	**0.47**			**[2.19]**		<0.0744	**[0.744]**	<0.0030	<0.0031	0.3	0.087	<0.0030	<0.0030	<0.0031	0.0042 J
Benzo(b)fluoranthene	mg/kg	21.1	1.15	**0.4793**			2.74		<0.0836	**[0.905]**	<0.0034	<0.0035	0.38	0.082	<0.0034	<0.0033	<0.0034	0.0045 J
Benzo(g,h,i)perylene	mg/kg						1.56		<0.0602	0.420	<0.0025	<0.0025	0.22	0.059	<0.0024	<0.0024	<0.0025	0.0045 J
Benzo(k)fluoranthene	mg/kg	211	11.5				1.23		<0.0743	0.425	<0.0030	<0.0031	0.27	0.073	<0.0030	<0.0030	<0.0030	0.0049 J
Chrysene	mg/kg	2,110	115	**0.1446**			**[2.41]**		<0.0999	**[0.827]**	<0.0041	<0.0041	**[0.30]**	0.080	<0.0040	<0.0040	<0.0041	0.0067 J
Dibenz(a,h)anthracene	mg/kg	2.11	0.115				0.306		<0.0662	0.111	<0.0027	<0.0027	0.062	0.016	<0.0027	<0.0026	<0.0027	<0.0025
Fluoranthene	mg/kg	30,100	2,390	**88.8778**			6.77		<0.154	1.63	0.0066 J	<0.0064	0.65	0.22	<0.0062	<0.0061	<0.0063	0.0071 J
Fluorene	mg/kg	30,100	2,390	**14.8299**			0.756		0.996	0.0262 J	<0.0050	<0.0051	0.016	0.013 J	<0.0049	<0.0049	<0.0050	<0.0047
Indeno(1,2,3-cd)pyrene	mg/kg	21.1	1.15				1.19		<0.0651	0.369	<0.0027	<0.0027	0.19	0.048	<0.0026	<0.0026	<0.0027	<0.0025
Naphthalene	mg/kg	26	5.2	**0.66**			**[1.09]**		**[3.51]**	<0.0376	<0.0102	<0.010	0.060	<0.010	<0.010	<0.0099	<0.010	<0.0096
Phenanthrene	mg/kg						4.11		3.26	0.576	<0.0141	<0.014	0.24	0.089	<0.014	<0.014	<0.014	<0.013
Pyrene	mg/kg	22,600	1,790	**54.5455**			5.08		0.175 J	1.22	0.0058 J	<0.0055	0.41	0.17	<0.0054	<0.0053	<0.0055	0.0064 J
RCRA Metals																		
Arsenic	mg/kg	3.0	0.677	**0.5484**	5	**8**	**[9.1]**		**[6.4]** *	**[5.2]** *	**[4.8]** *	**[4.0]** *	**[4.7]** *	**[6.1]** *	**[4.2]** *	**[4.4]** *	**[4.4]** *	**[3.1]** *
Barium	mg/kg	100,000	15,300	**164.8**	100	**364**	**[660]**		61.9	66.8	75.2	38.3	41.3	64.6	60.6	44.0	63.2	18.9
Cadmium	mg/kg	985	71.1	**0.752**	1	**1**	**[104]**	0.28	0.39 J	0.36 J	0.25 J	<0.16	<0.15	<0.15	<0.15	<0.15	<0.16	<0.15
Chromium	mg/kg			**360,000**	5	**44**	214		16.6	18.2	20.7	13.5	12.7	14.7	20.4	13.7	17.7	8.9
Lead	mg/kg	800	400	**27**	5	**52**	**[8,250]**	4.1	17.9	**[50.3]**	11.7	6.4	13.8	7.3	9.0	6.6	8.0	4.3
Mercury	mg/kg	3.13	3.13	**0.208**	0.2		**[0.22]**		<0.036	0.069 J	<0.037	0.014 J	0.016 J	0.020 J	0.017 J	0.013 J	0.016 J	<0.011
Selenium	mg/kg	5,840	391	**0.52**	1		**[3.9]**		<1.5	<1.4	<1.4	<1.6	<1.5	<1.5	<1.5	<1.5	<1.6	<1.5
Silver	mg/kg	391	5,110	**0.85**	5		**[1.1]**		<0.40	<0.37	<0.38	<0.41	<0.38	<0.39	<0.38	<0.39	<0.41	<0.39
Volatile Organic Compounds (VOCs)																		
1,2,4-Trichlorobenzene	mg/kg	113	24	**0.41**			0.102 J		<0.0476	<0.0476	<0.0476	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,2,4-Trimethylbenzene	mg/kg	219	219	**1.382**			0.0773		<0.0250	<0.0250	<0.0250	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,2-Dichlorobenzene	mg/kg	376	376	**1.2**			**[1.29]**		<0.0250	<0.0250	<0.0250	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,2-Dichloroethane	mg/kg	3	0.652	**0.0028**			<0.0250		<0.0250	<0.0250	**[0.115]**	<0.025	<0.025	<0.025	<0.025	<0.025	0.0022	<0.025
1,3,5-Trimethylbenzene	mg/kg	182	182	**1.382**			0.0444 J		<0.0250	<0.0250	<0.0250	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,3-Dichlorobenzene	mg/kg	297	297	**1.2**			0.0884		<0.0250	<0.0250	<0.0250	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,4-Dichlorobenzene	mg/kg	16.4	3.7	**0.14**			**[1.17]**		<0.0250	<0.0250	<0.0250	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	mg/kg	761	370	**0.14**			**[1.43]**		<0.0250	<0.0250	<0.0250	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Ethylbenzene	mg/kg	35.4	8.02	**1.57**			0.130		<0.0250	<0.0250	<0.0250	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
m&p-Xylene	mg/kg	260	260	**3.96**			0.254		<0.0500	<0.0500	<0.0500	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methylene Chloride*	mg/kg	1,070	61	**0.0026**			**[0.0601]**		**[0.0498]**	**[0.0641]**	**[0.0597]**	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Naphthalene	mg/kg	24.1	5.52	**0.6582**			**[1.14]**		0.106 J	<0.0400	<0.0400	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
n-Butylbenzene	mg/kg	108	108				0.0406 J		<0.0250	<0.0250	<0.0250	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
o-Xylene	mg/kg	260	260	**3.96**			0.134		<0.0250	<0.0250	<0.0250	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Toluene	mg/kg	818	818	**1.1072**			0.136		<0.0250	<0.0250	<0.0250	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Percent Moisture	%						13.3		15.5	10.4	17.4	18.1	11.4	16.4	16.4	15.1	17.8	12.4
PID	ppmv						9.4		51.4	1	0.6	0.5	0.5	0.3	0.5	0.4	0.4	0.4

Notes:

Only analytes with a detection in at least one sample are shown
(2-3) = sample depth in feet below ground surface
RCL = Residual Contaminant Level
PID - Photoionization Detector
ppmv = parts per million by volume in air
NR = Not Reported/Below Detection Limits
NA = Not Analyzed

Concentrations equal to or exceeding the NR 720 Soil RCL Industrial Direct Contact Standards are **bold red**
Concentrations equal to or exceeding the NR 720 Soil RCL Non-Industrial Direct Contact Standards are **bold blue**
Concentrations equal to or exceeding the NR 720 Soil RCL (via EPA RSLs) Soil to Groundwater Standards are in **[Brackets]**
J = Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
mg/kg = milligrams per kilogram
* = Above industrial standard but below background threshold value

Soil Classification:
GW = Well graded gravel, fine to coarse
SW = Well graded sand, fine to coarse
SM = Silty sand
ML = Silt
CL = Clay of low plasticity

BORING NO. & LOCATION: 1	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 55.3 feet	PROPOSED SCHOOL BUILDING	
COMPLETION DATE: 09/18/18	1818 W. NATIONAL AVENUE MILWAUKEE, WISCONSIN	
FIELD REP: KEITH FLOWERS	PROJECT NO: 1G-1808025	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
± 5" Asphalt Concrete		55								
± 12" Aggregate Base Course			1-SS	4						
Brown and Gray Mottled lean Clay, trace to little fine Sand-Moist (contains Silty fine Sand lenses)	+/- 2ft		2-SS	7	2.1	1.5		21		
	▽ 5	50	3-SS	8	1.2	0.5		22		
Gray lean Clay, trace fine Sand-Moist			4-SS	6		1.0		20		
Gray Sandy Silt-Moist	10	45	5-SS	9		1.2		20		
Boring Terminated at about 11 feet (EL. 44.3')										

	Water Observation Data
▽	Water Encountered During Drilling: 5 ft.
▼	Water Level At End of Drilling:
	Cave Depth At End of Drilling: 9 ft.
▼	Water Level After Drilling:
	Cave Depth After Drilling:

Remarks:

+/- ft

Suitable soil-bearing depth confirmed by Giles on 11/1/18

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G1808025.GPJ GILES.GDT 10/10/18

BORING NO. & LOCATION: 2	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 54.3 feet	PROPOSED SCHOOL BUILDING	
COMPLETION DATE: 09/18/18	1818 W. NATIONAL AVENUE MILWAUKEE, WISCONSIN	
FIELD REP: KEITH FLOWERS	PROJECT NO: 1G-1808025	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
± 5" Asphalt Concrete	+/- 1ft									
± 3" Aggregate Base Course			1-SS	12						
Gray-Brown fine Sand, trace Silt-Moist			2-SS	12						
Gray fine Sand, trace Silt-Moist to Wet	5	50	3-SS	14						
			4-SS	25						
	10	45	5-SS	8						
Boring Terminated at about 11 feet (EL. 43.3')										

Water Observation Data	Remarks:
▽ Water Encountered During Drilling: 7.5 ft.	
▼ Water Level At End of Drilling:	+/- ft
Cave Depth At End of Drilling: 8 ft.	Suitable soil-bearing depth confirmed by Giles on 11/1/18
▼ Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G1808025.GPJ GILES.GDT 10/10/18

BORING NO. & LOCATION: 4	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 53.1 feet	PROPOSED SCHOOL BUILDING	
COMPLETION DATE: 09/18/18	1818 W. NATIONAL AVENUE MILWAUKEE, WISCONSIN	
FIELD REP: KEITH FLOWERS	PROJECT NO: 1G-1808025	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
± 5" Asphalt Concrete										
± 6" Aggregate Base Course			1-SS	6						
Fill: Brown Silty Clay, some Sand and Gravel-Moist	+/- 2ft		2-SS	7	2.6	1.2		22		
Gray lean Clay-Moist (contains Silt lenses)		50								
	5		3-SS	7				18		(a)
	▽	45	4-SS	6	1.7	1.2		20		
	10		5-SS	6				19		(b)
Boring Terminated at about 11 feet (EL. 42.1')										

	Water Observation Data
▽	Water Encountered During Drilling: 8 ft.
▽	Water Level At End of Drilling:
	Cave Depth At End of Drilling: 8.5 ft.
▼	Water Level After Drilling:
	Cave Depth After Drilling:

Remarks:

(a) No split-spoon recovery-Auger sample taken
(b) Poor sample recovery

+/- ft

Suitable soil-bearing depth confirmed by Giles on 11/1/18

GILES LOG REPORT 1G1808025.GPJ GILES.GDT 10/10/18

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 12	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 51.5 feet	PROPOSED SCHOOL BUILDING	
COMPLETION DATE: 09/18/18	1818 W. NATIONAL AVENUE MILWAUKEE, WISCONSIN	
FIELD REP: KEITH FLOWERS	PROJECT NO: 1G-1808025	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
± 4 1/2" Asphalt Concrete										
± 7" Aggregate Base Course										
Fill: Gray-Brown fine Sand and Gravel-Damp		50	1-SS	12						
			2-SS	14						
Gray-Brown lean Clay, trace Sand-Very Mo (contains Silty fine Sand lenses) +/- 4ft	5		3-SS	9				21		
		45								
Gray lean Clay-Very Moist to Wet (contains Silty fine Sand lenses)			4-SS	7				21		
	10		5-SS	7				20		
		40								
	15		6-SS	8				19		
		35								
	20		7-SS	11		1.3		20		
		30								
	25		8-SS	11						
Boring Terminated at about 26 feet (EL. 25.5')										

	Water Observation Data	Remarks:
▽	Water Encountered During Drilling: 5 ft.	
▼	Water Level At End of Drilling:	
	Cave Depth At End of Drilling: 7 ft.	+/- ft ◆——◆ Suitable Soil-Bearing Depth provided by Giles in original Geotech Report
▼	Water Level After Drilling:	
	Cave Depth After Drilling:	

GILES LOG REPORT 1G1808025.GPJ GILES.GDT 10/10/18

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 16	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 51.1 feet	PROPOSED SCHOOL BUILDING	
COMPLETION DATE: 09/18/18	1818 W. NATIONAL AVENUE MILWAUKEE, WISCONSIN	
FIELD REP: KEITH FLOWERS	PROJECT NO: 1G-1808025	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
± 4" Asphalt Concrete										
± 7" Aggregate Base Course										
Fill: Brown Silty Clay, little to some Sand and Gravel-Moist (contains Asphalt Rubble and Cinders)			1-SS	7						
		50	2-SS	9		1.0		18		
Gray Sandy Silt-Moist										
	5	45	3-SS	8				18		
Gray lean Clay-Very Moist to Wet (contains Silty fine Sand lenses)			4-SS	8	2.6	1.5		20		
	10	40	5-SS	9	2.3	1.5		21		
	15	35	6-SS	13	1.8	1.2		19		
	20	30	7-SS	11		1.5		19		
Gray Silty fine Sand-Wet	25		8-SS	10				18		
Boring Terminated at about 26 feet (EL. 25.1')										

+/- 4ft

Water Observation Data	Remarks:
Water Encountered During Drilling: 3 ft.	+/- ft — Suitable Soil-Bearing Depth provided by Giles in original Geotech Report
Water Level At End of Drilling:	
Cave Depth At End of Drilling: 12 ft.	
Water Level After Drilling:	
Cave Depth After Drilling:	

GILES LOG REPORT 1G1808025.GPJ GILES.GDT 10/10/18

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 17	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 51.9 feet	PROPOSED SCHOOL BUILDING	
COMPLETION DATE: 09/18/18	1818 W. NATIONAL AVENUE MILWAUKEE, WISCONSIN	
FIELD REP: KEITH FLOWERS	PROJECT NO: 1G-1808025	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
± 4" Asphalt Concrete										
± 6" Aggregate Base Course			1-SS	10		1.7		15		
Gray-Brown Sandy Silt-Moist		50	2-SS	7		1.7		16		(a)
+/- 3ft										
Gray Sandy Silt-Wet	5		3-SS	8				19		
		45								
Gray lean Clay-Moist to Wet (contains Silty fine Sand lenses)			4-SS	7		2.0		21		
	10		5-SS	6	1.9	1.5		19		
		40								
	15		6-SS	11		1.0		20		
		35								
	20		7-SS	11		1.5		18		
		30								
	25		8-SS	11		1.0		17		
Boring Terminated at about 26 feet (EL. 25.9')										

	Water Observation Data
▽	Water Encountered During Drilling: 6 ft.
▼	Water Level At End of Drilling:
	Cave Depth At End of Drilling: 13 ft.
▼	Water Level After Drilling:
	Cave Depth After Drilling:

Remarks:

(a) Poor sample recovery

+/- ft

Suitable Soil-Bearing Depth provided by Giles in original Geotech Report

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G1808025.GPJ GILES.GDT 10/10/18

BORING NO. & LOCATION: 18	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 45.2 feet	PROPOSED SCHOOL BUILDING	
COMPLETION DATE: 09/18/18	1818 W. NATIONAL AVENUE MILWAUKEE, WISCONSIN	
FIELD REP: KEITH FLOWERS	PROJECT NO: 1G-1808025	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
± 3" Asphalt Concrete		45								
± 4" Aggregate Base Course			1-SS	32						
Fill: Light Brown Silty fine to medium Sand and Gravel-Damp			2-SS	34						
	5	40	3-SS	52						
			4-SS	50/5"						
Gray Silty fine Sand and Gravel-Wet (contains Concrete fragments)	10	35	5-SS	39						
Gray lean Clay-Very Moist			6-SS	4		0.6		19		
	15	30	7-SS	7						
Boring Terminated at about 16 feet (EL. 29.2')										

+/- 11ft

	Water Observation Data
▽	Water Encountered During Drilling: 9 ft.
▼	Water Level At End of Drilling: 5 ft.
	Cave Depth At End of Drilling: 7 ft.
▼	Water Level After Drilling:
	Cave Depth After Drilling:

Remarks:

+/- ft

Suitable soil-bearing depth confirmed by Giles on 11/1/18

GILES LOG REPORT 1G1808025.GPJ GILES.GDT 10/10/18

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 19	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 51.8 feet	PROPOSED SCHOOL BUILDING	
COMPLETION DATE: 09/18/18	1818 W. NATIONAL AVENUE MILWAUKEE, WISCONSIN	
FIELD REP: KEITH FLOWERS	PROJECT NO: 1G-1808025	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
± 6" Asphalt Concrete										
± 6" Aggregate Base Course			1-SS	6				17		(a)
Brown lean Clay, trace Sand-Moist	+/- 2ft		2-SS	10		2.3		17		
Gray lean Clay, trace Silt-Moist (contains Silty fine Sand lenses)	5		3-SS	9	1.1	2.0		19		
Gray-Brown Silty fine Sand-Moist		45	4-SS	15				17		
Gray Silty fine Sand-Moist	10		5-SS	13				22		
Gray Sandy Silt-Wet ▽		40	6-SS	13				18		
	15		7-SS	12				16		
Boring Terminated at about 16 feet (EL. 35.8')										

	Water Observation Data
▽	Water Encountered During Drilling: 12 ft.
▼	Water Level At End of Drilling:
	Cave Depth At End of Drilling: 12 ft.
▼	Water Level After Drilling:
	Cave Depth After Drilling:

Remarks:

(a) No split-spoon recovery-Auger sample taken

+/- ft

Suitable soil-bearing depth confirmed by Giles on 11/1/18

GILES LOG REPORT 1G1808025.GPJ GILES.GDT 10/10/18

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 20	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 53.1 feet	PROPOSED SCHOOL BUILDING	
COMPLETION DATE: 09/18/18	1818 W. NATIONAL AVENUE MILWAUKEE, WISCONSIN	
FIELD REP: KEITH FLOWERS	PROJECT NO: 1G-1808025	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
± 5" Asphalt Concrete										
± 10" Aggregate Base Course			1-SS	17						
Fill: Gray-Brown Silty fine Sand and Gravel-Moist		50	2-SS	17						
	5		3-SS	17						
	+/- 6ft									
Gray-Brown Sandy Silt-Very Moist to Wet		45	4-SS	13				16		
Gray Sandy Silt-Wet	10		5-SS	13				16		
		40	6-SS	10				16		
	15		7-SS	9				18		
Boring Terminated at about 16 feet (EL. 37.1')										

	Water Observation Data	Remarks:
▽	Water Encountered During Drilling: 7 ft.	+/- ft
▼	Water Level At End of Drilling:	Suitable soil-bearing depth confirmed by Giles on 11/1/18
	Cave Depth At End of Drilling: 11 ft.	
▼	Water Level After Drilling:	
	Cave Depth After Drilling:	

GILES LOG REPORT 1G1808025.GPJ GILES.GDT 10/10/18

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 21	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 52.9 feet	PROPOSED SCHOOL BUILDING	
COMPLETION DATE: 09/18/18	1818 W. NATIONAL AVENUE MILWAUKEE, WISCONSIN	
FIELD REP: KEITH FLOWERS	PROJECT NO: 1G-1808025	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
± 3" Asphalt Concrete										
± 8" Aggregate Base Course			1-SS	12						
Fill: Black Silty fine to coarse Sand and Gravel-Damp (contains Cinder and foundry Material)		50	2-SS	5				14		(a)
+/- 4ft										
Fill: Black Silty Clay, little Sand and Gravel-Moist (contains Organic Matter and Glass fragments)	5		3-SS	5		0.5		24		
Light Gray lean Clay-Very Moist to Wet										
Gray lean Clay-Moist		45	4-SS	8		2.5		19		
	10		5-SS	8				21		
		40								
Gray Sandy Silt-Wet **(contains Petroleum odor in sample 6-SS)**	15		6-SS	10	1.6	1.0		17		
Boring Terminated at about 16 feet (EL. 36.9')										

	Water Observation Data	Remarks:
▽	Water Encountered During Drilling:	(a) Poor sample recovery
▼	Water Level At End of Drilling:	+/- ft
	Cave Depth At End of Drilling: 8 ft.	**Suitable soil-bearing depth confirmed by Giles on 11/1/18**
▼	Water Level After Drilling:	
	Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G1808025.GPJ GILES.GDT 10/10/18

BORING NO. & LOCATION: 22	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 51.7 feet	PROPOSED SCHOOL BUILDING	
COMPLETION DATE: 09/17/18	1818 W. NATIONAL AVENUE MILWAUKEE, WISCONSIN	
FIELD REP: KEITH FLOWERS	PROJECT NO: 1G-1808025	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
± 3" Asphalt Concrete										
± 8" Aggregate Base Course										
Fill: Brown Silty Sandy Gravel-Damp			1-SS	20						
Gray Sandy Silt-Very Moist		50	2-SS	13				16		
	5		3-SS	6		0.9		19		
Gray lean Clay, little fine Sand-Moist		45	4-SS	4		1.7		18		
	10		5-SS	9		2.0		18		
		40								
	15		6-SS	11		2.0		20		
Boring Terminated at about 16 feet (EL. 35.7')										

+/- 2ft

Water Observation Data	Remarks:
Water Encountered During Drilling: 5 ft.	+/- ft
Water Level At End of Drilling:	Suitable soil-bearing depth confirmed by Giles on 11/1/18
Cave Depth At End of Drilling: 11 ft.	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G1808025.GPJ GILES.GDT 10/10/18

BORING NO. & LOCATION: 23	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 50 feet	PROPOSED SCHOOL BUILDING	
COMPLETION DATE: 09/18/18	1818 W. NATIONAL AVENUE MILWAUKEE, WISCONSIN	
FIELD REP: KEITH FLOWERS	PROJECT NO: 1G-1808025	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
± 4" Asphalt Concrete										
± 4" Aggregate Base Course			1-SS	10		3.2		17		
Fill: Dark Gray Silty Clay, little Sand and Gravel-Moist			2-SS	50/3"						(a)
Concrete Rubble										
Fill: Gray Silty, Sandy Gravel-Damp to Wet	5	45	3-SS	13						(a)
			4-SS	7						
	10	40	5-SS	6						
+/- 12ft										
Gray lean Clay-Moist to Very Moist (Contain Silty fine Sand lenses)			6-SS	7		1.5		21		
	15	35	7-SS	7		2.0		20		
Boring Terminated at about 16 feet (EL. 34')										

	Water Observation Data
▽	Water Encountered During Drilling: 9 ft.
▼	Water Level At End of Drilling:
	Cave Depth At End of Drilling: 4 ft.
▼	Water Level After Drilling:
	Cave Depth After Drilling:

Remarks:

(a) Poor sample recovery

+/- ft — **Suitable Soil-Bearing Depth provided by Giles in original Geotech Report**

GILES LOG REPORT 1G1808025.GPJ GILES.GDT 10/10/18

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

State of Wisconsin
Department of Natural Resources

Soil Boring Log Information

Form 4400-122 Rev. 7-98

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

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
		GP-13

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name Matt Last Name Blakke Firm	Dec 5	Dec 5	Geoprobe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			_____ Feet	_____ Feet MSL	_____ inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐	Lat	Local Grid Location
State Plane _____ N. _____ E S☐ /C☐ /N☐		☐ N ☐ E
_____ 1/4 of _____ 1/4 of Section _____ ,T _____ N,R _____	Long _____	_____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/or Village

Sample										Soil Properties					
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
			1	Asphalt + Base 0-1										PID
			2	Fill sand										1-3=0.5
				Slightly Silty Sand		Moist @ 3'								3-5=0.5
			5	end of Boring										

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

Signature

Firm **Kapur & Associates, Inc.**
7711 N. Port Washington Road, Milwaukee, WI 53217
Phone: (414) 351-6668

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in 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 this form is not intended to be used for any other purpose. NOTE: See instructions for more information,

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Department of Natural Resources

Soil Boring Log Information

Form 4400-122 Rev. 7-98

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

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
		GP-14

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name Matt Last Name Blakke Firm	12/05	12/05	GeoProbe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			_____ Feet	_____ Feet MSL	_____ inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E S☐/C☐ /N☐ Lat _____
_____ 1/4 of _____ 1/4 of Section _____ ,T _____ N,R _____ Long _____

Local Grid Location
☐ N ☐ E
_____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/or Village

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				0-1 Asphalt & base slightly silty sand gray 2' organics 3" gray slighty silty sand 5' 3" organics mix w/sand ↓ gray s-silty sand 10' EOB			Moist @ 6'							PID 1-3=0.5 3-5=0.3 6-8 0.3 8-10 0.4

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

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
		GP-15

Boring Drilled By: Name of crew chief (first, last) and Firm First Name Last Name Firm	Date Drilling Started	Date Drilling Completed	Drilling Method

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			_____ Feet	_____ Feet MSL	_____ inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E S☐/C☐/N☐ Lat _____
_____ 1/4 of _____ 1/4 of Section _____ ,T _____ N,R _____ Long _____

Local Grid Location
☐ N ☐ E
_____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/or Village

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
			0-1	Asphalt + Base										PID
			1-3	reddish brown sandy clay-clayey sand										1-3 = 0.5
					Moist @ 3'									
			3-5	Gray clayey sand										3-5 = 0.4
				5' EOB										

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Soil Boring Log Information

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
		GP-16

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name Last Name Firm			

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			_____ Feet	_____ Feet MSL	_____ inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N. _____ E S☐/C☐ /N☐
_____ 1/4 of _____ 1/4 of Section _____ ,T _____ N,R _____
Lat _____
Long _____

Local Grid Location
☐ N ☐ E
_____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/or Village

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				0-1 Asphalt + base reddish brown clayey sand w/iron mottles				Moist @ 2'						PID 1-3 = 0.4 3-5 = 0.4 6-8 = 0.4 8-10 = 0.4
				3.5' gray clayey sand w/iron mottles										
				6' ↓ gray clayey FS										
				10' EOB										

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

Signature

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

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
		GP-17

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name Last Name Firm	12/5/18	12/5/18	Geoprobe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			_____ Feet	_____ Feet MSL	_____ inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E S☐/C☐/N☐ | Lat _____
_____ 1/4 of _____ 1/4 of Section _____ ,T _____ N,R _____ | Long _____

Local Grid Location
☐ N ☐ E
_____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/or Village

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
			0	0-1 Asphalt + base										PID
			1	1-2.5 reddish brown clayey sand										0-3 = 0.4
			2.5	Moist @ 2.5										3-5 = 0.3
			5	2.5-5 gray clayey sand										
				EOB										

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