LETTER OF TRANSMITTAL

To: Mr. Trevor Nobile & Mr. Binyoti Amungwafor
c/o Mr. Chue Yang, Program Associate
Wisconsin Department of Natural Resources
2300 N. Dr. Martin Luther King, Jr. Drive
Milwaukee, WI 53212-3128

From: Adam Roder
The Sigma Group, Inc.
1300 W. Canal Street
Milwaukee, WI 53233

Please check the type(s) of documents you have enclosed. Submittals will be tracked and filed based on the information you provide. **Include the FID *and* BRRTS numbers which have been assigned to this site, and identify the intent of the document(s) you are submitting in order to speed processing.** Please attach any required fees to this checklist.

Date: March 24, 2017
Site Name: Bader Philanthropies Headquarters
Address: 3300-3318 N. MLK Drive & 3317-3333 N. 4th Street
Milwaukee, WI 53212
FID# 341285010 / 34128512(
BRRTS # 02-41-578975 / 02-41-578976 / 02-41-578977

IS THIS RELEASE PECFA-ELIGIBLE?
☐ YES ☑ NO ☐ UNKNOWN AT THIS TIME

Type of Submittal:
☐ LUST ☑ ERP ☐ VPLE ☐ OTHER

CHECK	Agreements	FEE
	Tax assignment agreement - ss.75.106(2)(d) & 292.55	$700
	Tax cancellation agreement - ss. 75.106(2)(d) & 292.55	$700
	Negotiated agreements - s. 292.11(7)(d)2	$1,400
	Technical Assistance (s. 292.55)	**FEE**
	NR 708 No Further Action Letter	$350
	NR 716 No Further Investigation	$700
	NR 716 Site Investigation Workplan	$700
	NR 716 Site Investigation Report	$1,050
	NR 720 Soil Cleanup Standards/Reports	$1,050
	NR 722 Remedial Action Options Report	$1,050
	NR 724 Remedial Design Report	$1,050
	NR 724 Operation and Maintenance Report	$425
	NR 724 Construction Documentation Reports	$350
	NR 724 Long-Term Monitoring Plan	$425
	NR 726 Case Closure Action	$1,050
	NR 506 Exemption for building on a historic waste site	$700
X	Other Technical Assistance - **NR 718 Contaminated Soil Management Request**	$700
	Liability Clarification Letters	**FEE**
	s. 292.13(3) Off-Site Exemption Letters	$700
	s. 292.55 Lease Letters - Single Properties	$700
	s. 292.55 Lease Letters - Multiple Properties	$1,400
	s. 292.55 General Liability Clarification Letters	$700
	s. 292.21(1)(c)1.d. Lender Assessments	$700
	Department Database Fees (ss. 292.12 and 292.57)	**FEE**
	Sites with groundwater contamination that attains or exceeds ch. NR 140	$350
	Sites with soil contamination that attains or exceeds ch. 720 RCLs	$300
	Sites not otherwise addressed in this schedule, where the department imposes any other limitation or condition in accordance with s. 292.12(2)	$350
	Cases submitted for closure with monitoring wells not properly abandoned, without residual groundwater contamination	$350
	Modification or removal of a site or property from the database	$1,050
	Other / Miscellaneous	

Remarks: ***$700 check #71314 from Sigma enclosed for review fee***

THE SIGMA GROUP, INC.
1300 WEST ...
MILWAUKEE, WI 53233

PNC BANK

71314

DATE ... 17, 2017

AMOUNT $700.00

... and 00/100 Dollars

TO Wisconsin ...

AUTHORIZED SIGNATURE

THE SIGMA GROUP, INC.

Check Date:

Number	Date	Voucher	Amount	Discounts	Previous	Net Amount
...Request-16620		000000042168	$700.00			$700.00
		TOTAL	$700.00			

Wisconsin DNR

E250004

PNC Checking

THE SIGMA GROUP
Single Source. Sound Solutions.

March 24, 2017

Project Reference #16620

Mr. Trevor Nobile
Wisconsin Department of Natural Resources
Remediation & Redevelopment Program
2300 N. Dr. Martin Luther King Jr. Drive
Milwaukee, WI 53212

Mr. Binyoti Amungwafor
Wisconsin Department of Natural Resources
Remediation & Redevelopment Program
2300 N. Dr. Martin Luther King Jr. Drive
Milwaukee, WI 53212

Subject: **NR 718.12 Contaminated Soil Management Request**

Source Property:
Bader Philanthropies Headquarters - 3300, 3306, 3314 and 3318 N. Martin Luther King Jr. Drive & 3317, 3323 and 3333 N. 4th Street, Milwaukee, WI 53212
BRRTS #02-41-578975 / FID #341285010: 3318 N. MLK Jr. Drive
BRRTS #02-41-578976 / FID #341285120: 3314 N. MLK Jr. Drive
BRRTS #02-41-578977 / FID #341285230: 3300 N. MLK Jr. Drive

Disposal Property:
Former Lakefield Sand and Gravel Property
7003 W. Good Hope Road, Milwaukee, WI 53223
BRRTS #02-41-548828 / FID #241377070

Dear Mr. Nobile and Mr. Amungwafor:

On behalf of MLK, LLC (entity affiliated with Bader Philanthropies, Inc.) as the owner of the proposed Bader Philanthropies Headquarters property referenced above ("Source Property"), and SWP Properties, LLC as the owner of the former Lakefield Sand and Gravel property referenced above ("Disposal Property"), The Sigma Group, Inc. (Sigma) has prepared this letter to request Wisconsin Department of Natural Resources (WDNR) approval to transport low-level impacted soil in accordance with NR 718 regulations between the Source Property and Disposal Property. As described herein, approximately 3,000 cubic yards (CY) of impacted soil are expected to be generated during site redevelopment work at the Source Property for Bader Philanthropies, Inc.'s new headquarters facility. Both the Source Property and Disposal Property are active WDNR Remediation and Redevelopment projects, and the proposed NR 718 soil management activities between the properties will be mutually beneficial.

A $700 check is included with this submittal for the WDNR's technical review and written approval of this request. It is requested that the WDNR review and approve this request in the next 30 days in consideration of the upcoming construction work in spring 2017.

SOURCE PROPERTY INFORMATION

Background Information

The Bader Philanthropies, Inc. headquarters project consists of the redevelopment of seven contiguous parcels located at 3300 to 3318 N. Martin Luther King Jr. Drive and 3317 to 3333 N. 4th Street in Milwaukee. These individual parcels that are owned by MLK, LLC comprise the Source Property and are in the process of being combined by a Certified Survey Map for the redevelopment; the total project area is approximately 1.12 acres.

Civil engineering grading and building design plans for the Source Property have estimated a soil cut volume of approximately 3,000 CY being generated from the new basement / foundation excavations (approximately 8 feet deep) for the building additions on the east end of the 3318 N. Martin Luther King Jr. Drive building (which is being rehabilitated for the headquarter offices), preparation and reconstruction of the shallow subgrade (to a depth of approximately 2 feet) beneath the new asphalt parking lot, and stripping shallow soil in the green space areas (to a depth of approximately 2 feet) to accommodate the thickness of the engineered barrier soil cover system. **Attachment 1** includes the Soil Management Plan for the Source Property; further details about the Site Investigation work and Remedial Action Plan were recently presented to the WDNR in a comprehensive report[1].

Construction at the Source Property is planned to begin in spring 2017. It is expected that the 3,000 CY of soil can be hauled from the Source Property over the course of several days in spring and summer 2017 as coordinated between the involved parties.

Location

Northwest ¼ of the Southeast ¼ of Section 8, Township 7 North, Range 22 East, in the City of Milwaukee, Milwaukee County, Wisconsin (refer to **Figure 1**)

WTM Coordinates: 689660, 291725
Latitude: 43.079260, Longitude: -87.915853.

Requester / Source Property Owner:
MLK LLC
c/o Bader Philanthropies, Inc.
233 N. Water Street, 4th Floor
Milwaukee, WI 53202
Contact: Frank Cumberbatch, Project Manager
Telephone: (414) 755-4377
Email: frank@bader.org

Environmental Consultant
The Sigma Group, Inc.
1300 W. Canal Street
Milwaukee, WI 53233
Contact: Adam J. Roder, P.E.
Telephone: 414-643-4134
Email: aroder@thesigmagroup.com

[1] *Site Investigation Report & Remedial Action Plan, Bader Philanthropies Headquarters, 3300, 3306, 3314 and 3318 N. Martin Luther King Jr. Drive & 3317, 3323 and 3333 N. 4th Street, Milwaukee, Wisconsin 53212* by Sigma (dated March 24, 2017)

Soil Characterization

Background. A draft Phase I Environmental Site Assessment (ESA)[2] was completed in July 2016 for the Source Property. Historical uses of the Source Property included (refer to **Figure 2** for parcel address):

- 3300 N. Martin Luther King Jr. Drive - This parcel was developed prior to 1893 for residential (1935 to 1990) and commercial purposes, including a restaurant (1935 to 1965), a meat store (1935 to 1955), a market / grocery store (1960 to 1990), and an ice cream parlor (1990). A permit was issued in 1992 to raze the building; aerial photographs indicate the building was demolished between 1992 and 1995.

- 3306 N. Martin Luther King Jr. Drive - This parcel was developed prior to 1935 for residential, commercial, and light industrial purposes. From approximately 1970 to 1975, a dry-cleaning pick-up station occupied this parcel. A permit application to raze the building was filed in 1980; City of Milwaukee records indicate the building was demolished by 1981.

- 3314 N. Martin Luther King Jr. Drive - This parcel was developed prior to 1909 for commercial and light industrial purposes, including an electric shop (1930 permit), a sheet metal shop (1934 permit), a dry cleaning agency (1934 permit), a tire and battery shop (1934 permit), a tire repair and auto accessories shop (1935 permit), and various retail occupants since 1935. In July 2016, the building was occupied by a beauty shop, but as of January 2017, the building was vacant.

- 3318 N. Martin Luther King Jr. Drive - This parcel was developed by 1935 for residential, commercial, and light industrial purposes. Permit records indicate occupants have included an electric shop (1934, possibly through the late 1970s) and Retail Gasoline Dealers Association (1965).

- 3317 N. 4th Street - This parcel was developed prior to 1921 as a multi-family residential dwelling. The home has been vacant since sometime between 2010 and 2014.

- 3323 N. 4th Street - This parcel was developed prior to 1918 for residential (1935 to 1940, and 1950 to 2010) and commercial purposes (electrical contractor in 1945). The building was razed between 2010 and 2014.

- 3333 N. 4th Street - This parcel was developed with several buildings prior to 1935 for residential (1935 to 1965) and commercial purposes (beauty salon 1955 to 1965). Aerial photographs indicate the buildings were demolished between 1963 and 1969, at which time the parcel was paved as an asphalt parking lot.

One Recognized Environmental Condition (REC) was reported in the Phase I ESA:

- A June 1934 occupancy permit for a dry cleaning agency was identified for the 3314 N. Martin Luther King Jr. Drive parcel; a time period of operation was not documented.

[2] *Phase I Environmental Site Assessment, MLK LLC, 3300, 3306, 3314, 3318 North Martin Luther King Jr. Drive; and 3317, 3323, 3333 North 4th Street, Milwaukee, Wisconsin* by Ramboll Environ US Corporation, prepared for Foley & Lardner LLP (DRAFT dated July 2016)

Historical dry cleaning operations may have potentially used chlorinated- and/or petroleum-based solvents. No subsurface investigation work had been conducted [as of the time of the July 2016 Phase I ESA report], and the parcel was not listed on any environmental databases indicative of a release or hazardous waste generation.

Investigation Activities. Phase II ESA and Site Investigation activities were completed between September 2016 and February 2017, which included the installation of 23 Geoprobe® soil borings, four of which were converted into temporary monitoring wells and three of which were converted into NR 141-compliant groundwater monitoring wells, at the locations depicted on **Figure 3**. Soil samples were analyzed for volatile organic compounds (VOCs; 16 samples), polynuclear aromatic hydrocarbons (PAHs; 34 samples), Resource Conservation and Recovery Act (RCRA) metals (24 samples), lead and mercury (8 samples), water-leachable PAHs (3 samples), and water-leachable RCRA metals (2 samples). Groundwater samples collected from the temporary wells were analyzed for VOCs, while groundwater samples collected from the NR 141-compliant monitoring wells were analyzed for VOCs, PAHs, and dissolved RCRA metals.

Based on the estimated quantity of 3,000 CY of soil to be generated at the Source Property, 14 soil samples would be needed to satisfy the NR 718 sampling frequency of one sample per 100 CY or soil for the first 600 CY and then one sample per 300 CY thereafter. As summarized in **Table 1** and described below, 19 soil samples (including 14 for VOCs, 19 for PAHs, 15 for RCRA metals, 4 for lead and mercury, 3 for water-leachable PAHs, and 2 for water-leachable RCRA metals) collected from the Source Property are representative of the soil proposed to be transported to the Disposal Property.

Investigation Results. The Source Property geology generally consists of several feet up to approximately 10 to 12 feet of reworked silt, silty sand, and/or gravelly sand with minor amounts (less than 5 to 10% on average) of non-soil inclusions such as brick fragments and/or black vitreous gravel pieces. Underlying soil, which appeared to be native, generally consists of silty clay with minor amounts of sand and gravel and/or silty sand to sandy silt. Depth to groundwater measurements from the NR 141-compliant monitoring well network indicate that groundwater is approximately 5 to 9 feet below ground surface (bgs).

Soil analytical results indicate the primary constituents of concern at the Source Property are PAHs and lead. Soil quality data are summarized in **Table 1.** As related to the soil samples that are representative of the 3,000 CY proposed to be transported from the Source Property to the Disposal Property, following is a summary of the soil quality data:

- VOCs - All VOCs were reported below the laboratory detection limits, except for one naphthalene detection reported above its protection of groundwater Residual Contaminant Level (RCL). The naphthalene detection corresponds with other PAH impacts and is most likely associated with historic (urban) fill and/or the existing asphalt pavement parking lot.

- PAHs - PAH concentrations above protection of groundwater and/or non-industrial direct contact RCLs were fairly widespread across the Source Property within shallow soils, but concentrations tended to be much lower or non-detect in the deeper native soil samples. It appears that the PAH impacts are a result of historic (urban) fill / reworked soil, asphalt parking lot runoff, and general atmospheric deposition as there were no identified point-source releases. Six PAHs - benzo(a)anthracene, benzo(a)pyrene,

benzo(b)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene - were most commonly reported above non-industrial direct contact and/or protection of groundwater RCLs as shown in **Table 1**.

- Water-Leachable PAHs - At the start of Sigma's site investigation work, two representative samples were selected from prior Phase II ESA sample locations B-2, 2 to 3 feet bgs (corresponding site investigation sample GP-16, 2 to 3 feet bgs) and B-3, 1.5 to 2.5 feet bgs (corresponding site investigation sample GP-17, 1.5 to 2.5 feet bgs) and analyzed for water-leachable PAHs. Also, sample B-18, 0 to 2 feet bgs, was analyzed for water leachable PAHs as it contained the highest PAH concentrations for soil being considered for reuse under NR 718 (shallow soil from borings GP-7 / GAP-7R will be segregated for disposal at a local WDNR-licensed landfill due to elevated lead concentrations). Data summarized in **Table 2** indicate that most PAHs do not readily leach out of the soil phase and would not adversely impact the Disposal Property.

- RCRA metals - Most RCRA metals concentrations were reported below non-industrial direct contact and/or protection of groundwater RCLs with the following exceptions:

    - Arsenic was detected above its protection of groundwater RCL and non-industrial direct contact RCL in all of the soil samples analyzed; however, most concentrations were reported below the WDNR's Background Threshold Value (BTV) of 8 milligrams per kilogram (mg/kg). Concentrations that were reported above the BTV ranged from 8.3 mg/kg to 17.1 mg/kg. These relatively consistent concentrations do not appear to be indicative of a hazardous material release, but rather impacts that are associated with reworked soil fill.

    - Barium was reported above its protection of groundwater RCL in one soil sample representative of the proposed NR 718 soil. This detection appears to be associated with the historic (urban) fill.

    - Cadmium was reported above its protection of groundwater RCL in two samples representative of the proposed NR 718 soil. The relatively low concentrations do not appear to be indicative of a hazardous material release.

    - Aside from arsenic, lead was the most prevalent RCRA metal detected in soil samples, with concentrations in 10 of the representative samples being reported above the protection of groundwater RCL; two lead concentrations also exceeded the non-industrial direct contact RCL. (Again, the shallow lead impacts at soil borings GP-7 / GP-7R that have been shown to be characteristically non-hazardous will be segregated for disposal at a local WDNR-licensed landfill as described in the Soil Management Plan in **Attachment 1**.)

    - Mercury was reported slightly above its protection of groundwater RCL in two soil samples representative of the NR 718 soil. These concentrations do not appear to be indicative of a hazardous material release, but rather impacts that are associated with reworked soil fill.

    - Selenium was reported above its protection of groundwater RCL in three samples. In each of these detections, the concentrations were flagged by the laboratory as being between the Limit of Detection and the Limit of Quantitation

and are considered "estimated" results. These impacts are most likely associated with the reworked soil fill.

- Water-leachable RCRA metals - At the start of Sigma's site investigation work, two representative samples were selected from prior Phase II ESA sample locations B-2, 2 to 3 feet bgs (corresponding site investigation sample GP-16, 2 to 3 feet bgs) and B-3, 1.5 to 2.5 feet bgs (corresponding site investigation sample GP-17, 1.5 to 2.5 feet bgs) and analyzed for water leachable RCRA metals. Data summarized in **Table 2** indicate that most RCRA metals do not readily leach out of the soil phase and would not adversely impact the Disposal Property.

Furthermore, groundwater analytical results as summarized in **Table 3** indicate that groundwater at the Source Property had not been adversely impacted and that leaching from the soil phase into the groundwater phase is very minimal. Following is a summary of the groundwater quality data:

- VOCs - All concentrations were reported below the laboratory detection limits, except for a single detection of chloromethane reported in the groundwater sample from temporary well TW-3. This low-level detection was flagged by the laboratory as being between the Limit of Detection and the Limit of Quantitation and is considered and "estimated" result; the concentration was also below the NR 140 Preventive Action Limit (PAL). Phase II ESA information prepared by others suggested that the minor chloromethane detection may have been an artifact from the sample preservation reacting with trace organic matter in the sample.

- PAHs - Results indicated very minimal, if any, PAH impacts. No PAH concentrations were reported above the NR 140 PALs, and most of the low-level detections that were reported were "estimated" as being between the Limit of Detection and Limit of Quantitation.

- Dissolved RCRA metals - Results indicate that most concentrations are reported below NR 140 standards and/or at background levels. One detection of dissolved arsenic and two detections of selenium were reported at "estimated" concentrations (between the Limit of Detection and the Limit of Quantitation) slightly above their respective NR 140 PALs. However, NR 140.14(3)(c) states that these results are not considered PAL exceedances because they were reported between the Limit of Detection and the Limit of Quantitation.

PROPOSED SOIL MANAGEMENT PLAN

Given the presence of PAH and select RCRA metal constituents, approximately 3,000 CY of soil from the Source Property is proposed for placement at the Disposal Property under NR 718 regulations versus hauling all this material to a traditional WDNR-licensed landfill facility.

DISPOSAL PROPERTY INFORMATION

Background Information

A detailed summary of the history of the Disposal Property, including environmental investigation activities completed to date and associated results as well as the proposed

closure plan, was submitted to the WDNR in a September 2015 letter[3]. A copy of the soil data summary table, which shows the range of contaminant concentrations identified at the Disposal Property during site investigation activities, is included as **Attachment 2** for reference.

In order to feasibly cap the approximately 12-acre Disposal Property, the owners proposed to place low level impacted soil over the landfill and below a 2.25-foot thick soil cover (1 foot of low permeability soil, 1 foot of non-impacted soil, and 3 inches of vegetated topsoil). Pending completion of the remedial filling and capping activities, the nearly land-locked property will be gifted and used to expand the adjacent Uhlien Soccer Field complex through the creation of more greatly needed soccer fields.

Location
Southeast ¼ of the Northwest ¼ of Section, Township 8 North, Range 21 East, in the City of Milwaukee, Milwaukee County, Wisconsin

WTM Coordinates: 682894, 298665
Latitude: 43.1432044, Longitude: -87.9968684

Property Owner:
SWP Properties, LLC
1300 W. Canal Street
Milwaukee, WI 53233
Contact: David Scherzer, member
Telephone: (414) 643-4101
Email: dscherzer@thesigmagroup.com

Environmental Consultant
The Sigma Group, Inc.
1300 W. Canal Street
Milwaukee, WI 53233
Contact: Kristin Kurzka, P.E.
Telephone: 414-643-4127
Email: kkurzka@thesigmagroup.com

NR 718.12 Discussion
As discussed above, VOCs were reported below the laboratory detection limits, except for one naphthalene detection. The naphthalene corresponds with other PAH impacts at the Source Property, and the concentration is within the range of naphthalene concentrations already present at the Disposal Property as summarized in **Attachment 2.**

PAHs were not detected greater than laboratory reporting limits within 4 of the 19 representative soil samples collected (21%). Select PAH constituents were detected but at levels less than applicable NR 720 RCLs within 1 of the 19 representative soil samples collected (5%). The remaining 14 samples (74% of the representative samples) had one or more PAH constituent reported greater than the NR 720 direct contact and/or protection of

[3] *2015 Impacted Soil Screening Criteria Approval Request, SWP Properties, LLC (Former Lakefield Sand & Gravel Property)* by Sigma (dated September 15, 2015)

groundwater RCLs. However, all the PAH concentrations within the concentration ranges already present at the Disposal Property as presented in **Attachment 2**.

Arsenic was reported at concentrations greater than the direct contact and protection of groundwater RCLs for all 15 representative soil samples analyzed; concentrations ranged between 2.6 mg/kg and 17.1 mg/kg. Although 6 of these concentrations (8.3 mg/kg, 8.3 mg/kg, 9.0 mg/kg, 9.7 mg/kg, 12.4 mg/kg, and 17.1 mg/kg) were slightly above the WDNR BTV of 8 mg/kg, the direct contact pathway and protection of groundwater pathways will still be protected at the Disposal Property.

Barium was reported at concentrations greater than the protection of groundwater RCL within 1 of the 15 representative samples collected (7%), but is below the WDNR BTV. Cadmium was reported at concentrations greater than the protection of groundwater RCL within 2 of the 15 representative samples collected (13%), but concentrations are within the range of concentrations already present at the Disposal Property as shown in **Attachment 2**. Mercury was reported at concentrations greater than the protection of groundwater RCL within 2 of the 18 representative samples collected (11%), but concentrations are again within the range of concentrations already present at the Disposal Property. Selenium was reported concentrations greater than the protection of groundwater RCL within 3 of the 15 representative samples collected (20%), but in each case the concentrations were flagged as estimated by the laboratory as being between the Limit of Detection and the Limit of Quantitation.

Lead was reported at concentrations below the direct contact and protection of groundwater RCLs in 8 of the 18 representative soil samples analyzed (44%). Lead concentrations in the other 10 samples (56%) exceeded the protection of groundwater RCL; lead concentrations in 2 of the 18 representative soil samples analyzed (11%) exceeded the non-industrial direct contact RCL. All of the lead concentrations are within the range of concentrations already present at the Disposal Property as presented in **Attachment 2**. Furthermore, water leaching results from the two highest lead concentrations indicate that lead does not readily leach from the soil phase into the water phase (refer to **Table 2**). The direct contact pathway will be addressed through the engineered soil cover system.

Placement of soil from the Source Property will not pose an increased threat to human health or the environment at the Disposal Property based on the following lines of evidence:

- Concentrations of select PAHs and RCRA metals that exceed current non-industrial direct contact RCLs will be capped with 2.25 feet of non-impacted soil to serve as an engineered barrier to prevent direct contact with underlying soil.

- Concentrations of select PAHs and RCRA metals that are greater than protection of groundwater RCLs are not considered a significant risk based on (1) the water leaching laboratory test data that demonstrates both PAHs and RCRA metals have a very low tendency to leach from the Source Property soil, (2) groundwater quality data from the Source Property shows that PAHs and metals have a very low tendency to leach from the soil, and (3) the low-permeability soil cap that will minimize the potential for precipitation infiltration at the Disposal Property.

The proposed Source Property soil will not be placed in the following locations as described by the locational criteria in ch. NR 718.12:

1. Within a flood plain.
2. Within 300 feet of any off-site water supply well.
3. Within 3 feet of the high groundwater level.
4. At a depth greater than the depth of the original excavation from which the contaminated material was removed - not applicable based on the transport from one property to another.
5. Where the contaminated material poses a threat to public health, safety, or welfare or the environment - per the discussion above and the proposed capping plan for the Lakefield Sand and Gravel property, this criteria will be satisfied.

A delineated wetland is present at the southwest boundary of the Disposal Property, and a pond is located approximately 100 feet north of the Disposal Property. However, given the concentrations of relatively insoluble PAHs and RCRA metals detected within the material proposed for placement are consistent with already-existing soils present at the Disposal Property, the placement of the material 8-feet or more above the measured site groundwater table, and capping of the material with a low permeability soil cap, it is not expected that the soil will impact the quality of either the wetland or the pond.

Summary
Based on the results of the site investigation activities completed at the Source Property, select PAH and RCRA metal constituents are present at low levels that are similar to concentrations already present at the Disposal Site. As such it is not expected that these concentrations would adversely affect residual groundwater impacts already present at the former Lakefield Sand and Gravel property.

Additionally, the Source Property soil will be placed at or above the existing ground surface, which represents a distance no closer than 8 feet above the groundwater table. Consistent with the WDNR-approved remedial action/soil management plan for the Disposal Property, all the imported material will be capped by a minimum one-foot of low permeability soil, one foot of non-impacted soil, and 3 inches of topsoil graded to shed precipitation and effectively prevent risk due to migration to groundwater and direct contact.

Updated Lakefield Sand and Gravel Fill Capacity Estimate
Based on WDNR approvals to date and current volume estimates associated with WDNR-approved sources of import, approximately 24,000 CY of capacity remains at the former Lakefield Sand and Gravel property.

The placement of the estimated 3,000 CY of soil currently from the Source Property at the Disposal Property will bring the property closer to closure in accordance with the WDNR-approved closure plan.

RECOMMENDATION

Given the characteristics of the proposed soil to be generated from the Source Property and WDNR-approved remedial strategy for the Disposal Property, Sigma, MLK, LLC and SWP Properties, LLC request that this NR 718 soil disposal request be approved by the WDNR in the next 30 days in consideration of the upcoming construction work at the Source Property in spring 2017.

We appreciate your prompt attention to this matter and request that you provide written approval at your earliest availability. Please call us at (414) 643-4200 if you have any questions.

Sincerely,

THE SIGMA GROUP, INC.

Adam J. Roder

Adam J. Roder, P.E.
Senior Engineer

Randy E. Boness, P.G.
Geoscience Group Leader

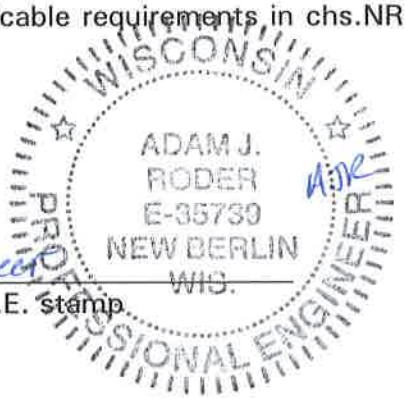
Attachments

Table 1 - Soil Analytical Results
Table 2 - Water Leach Analytical Results
Table 3 - Groundwater Analytical Results
Figure 1 - Site Location Map
Figure 2 - Site Plan Map
Figure 3 - Soil Boring Location Map
Attachment 1 - Soil Management Plan (for Source Property)
Attachment 2 - Soil Data Table from September 12, 2015 Letter to WDNR (for Lakefield Sand and Gravel)

cc: Frank Cumberbatch - MLK, LLC (via email: frank@bader.org)
Dave Scherzer - SWP Properties, LLC (via email: dscherzer@thesigmagroup.com)

Professional Engineer Certification Statement

I, Adam J. Roder, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs.NR 700 to 726, Wis. Adm. Code.



Adam J. Roder, Sr. Engineer — 3/24/17

Signature, title, and P.E. number / P.E. stamp — Date

Table 1
Soil Analytical Results
Bader Philanthropies - 3300 - 3318 N. Martin Luther King Jr. Drive & 3317 - 3333 N. 4th Street, Milwaukee, WI
Sigma Project No. 16620

Soil Sample Location:		B-1	B-2	B-3	B-4	GP-5		GP-6		GP-7		GP-7R		GP-8		GP-9		GP-10		GP-11		Groundwater Pathway RCL [4]	Non-Industrial Direct Contact RCL [5]	Industrial Direct Contact RCL [6]	Background Threshold Value [7]
Sample Depth (feet bgs):		2 - 3	2 - 3	1.5 - 2.5	2 - 3	0 - 2.5	7.5 - 10	0 - 2.5	12.5 - 15	0 - 2.5	12.5 - 15	2 - 4	4 - 6	0 - 2.5	10 - 12.5	0 - 2.5	5 - 7.5	2.5 - 5	7.5 - 10	0 - 2.5	5 - 7.5				
Sample Collection Date:		9/7/16	9/7/16	9/7/16	9/7/16	1/9/17		1/9/17		1/9/17		2/3/17		1/9/17		1/10/17		1/10/17		1/10/17					
Depth to Groundwater (feet bgs):		13.6 +/-	19.1 +/-	18.6 +/-	13.7 +/-	12.5 +/-		15 +/-		15 +/-		15 +/-		10 +/-		9 +/-		9 +/-		11.5 +/-					
Unsaturated/Smear Zone (U) or Saturated (S):		U	U	U	U	U	U	U	U	U	U	U	U	U	S	U	U	U	S	U	U				
Organic Vapor Monitor	ppm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NS	NS	NS	NS
Detected VOCs																									
Naphthalene	mg/kg	<0.0400	<0.0400	<0.0400	<0.0400	<0.0580	NA	<0.0450	NA	0.364 "J"	NA	NA	NA	<0.0426	NA	<0.0460	<0.0422	<0.0431	<0.0400	<0.0607	NA	0.6582	5.15	26	NS
PAHs			**	**																					
Acenaphthene	mg/kg	<0.0100	0.0734 "J"	<0.0094	0.0120 "J"	0.0187	<0.0047	0.0290 "J"	<0.0046	1.590	<0.0044	0.0156 "J"	0.0662 "J"	<0.0046	0.0202 "J"	<0.0046	<0.0044	0.0056 "J"	<0.0044	<0.0045	<0.0044	NS	3,440	33,000	NS
Acenaphthylene	mg/kg	<0.0090	<0.0357	0.0139 "J"	0.0124 "J"	0.0137	<0.0040	0.0285	<0.0039	<0.377	<0.0037	0.0383	<0.0193	<0.0039	0.0110 "J"	<0.0039	<0.0038	0.0042 "J"	<0.0037	<0.0038	<0.0037	NS	NS	NS	NS
Anthracene	mg/kg	<0.0104	0.185	0.0411	0.0689	0.0755	<0.0069	0.0730	<0.0068	3.690	<0.0064	0.0721	0.168	<0.0067	0.0765	<0.0068	<0.0065	0.0116 "J"	<0.0065	<0.0066	<0.0065	196.9492	17,200	100,000	NS
Benzo(a)anthracene	mg/kg	0.0185 "J"	[0.402]	0.141	[0.208]	[0.377]	<0.0039	[0.304]	<0.0038	{ [14.700] }	<0.0036	[0.351]	[0.620]	<0.0037	[0.422]	<0.0038	<0.0036	0.0253	<0.0036	0.0039 "J"	<0.0036	NS	0.147	2.1	NS
Benzo(a)pyrene	mg/kg	[0.0207]	{ [0.412] }	[0.159]	{ [0.232] }	{ [0.400] }	<0.0031	{ [0.338] }	<0.0030	{ [**16.700**] }	<0.0028	{ [0.351] }	{ [**0.700**] }	<0.0030	{ [0.384] }	<0.0030	<0.0029	[0.0179]	<0.0029	<0.0029	<0.0028	0.47	0.015	0.211	NS
Benzo(b)fluoranthene	mg/kg	0.0187 "J"	[**0.594**]	[0.148]	[0.343]	[**0.532**]	<0.0034	[0.456]	<0.0034	{ [**25.300**] }	<0.0032	[**0.510**]	[**1.000**]	<0.0033	[**5.575**]	<0.0034	<0.0032	0.0243	<0.0032	0.0034 "J"	<0.0032	0.4793	0.148	2.11	NS
Benzo(ghi)perylene	mg/kg	<0.0077	0.176	0.0567	0.0924	0.314	<0.0025	0.335	<0.0024	14.300	<0.0023	0.176	0.410	<0.0024	0.278	<0.0024	<0.0023	0.0131	<0.0023	<0.0023	0.0025 "J"	NS	NS	NS	NS
Benzo(k)fluoranthene	mg/kg	0.0239	0.187	0.178	0.108	0.208	<0.0031	0.172	<0.0030	[8.860]	<0.0028	0.165	0.398	<0.0030	0.213	<0.0030	<0.0029	0.0117	<0.0028	<0.0029	<0.0028	NS	1.48	21.1	NS
Chrysene	mg/kg	0.0251	**0.453**	**0.187**	**0.262**	**0.418**	<0.0041	**0.413**	<0.0040	[**19.900**]	<0.0038	**0.406**	**0.811**	<0.0040	**0.475**	<0.0040	<0.0039	0.0240	<0.0038	<0.0039	0.0044 "J"	0.1446	14.8	211	NS
Dibenzo(a,h)anthracene	mg/kg	<0.0074	[0.0557 "J"]	[0.0260]	[0.0316]	[0.0876]	<0.0027	[0.0714]	<0.0027	{ [3.710] }	<0.0025	[0.0573]	[0.116]	<0.0026	[0.0893]	<0.0027	<0.0026	0.0049 "J"	<0.0025	<0.0026	<0.0025	NS	0.015	0.211	NS
Fluoranthene	mg/kg	0.0443	0.918	0.309	0.408	0.675	<0.0063	0.757	<0.0062	41.100	<0.0059	0.735	1.770	<0.0061	0.791	<0.0062	<0.0060	0.0498	<0.0059	<0.0060	<0.0059	88.8778	2,290	22,000	NS
Fluorene	mg/kg	<0.0100	0.0610 "J"	<0.0094	0.0125 "J"	0.0186	<0.0050	0.0262 "J"	<0.0049	1.270 "J"	<0.0047	0.0201 "J"	0.0554 "J"	<0.0049	0.0338	<0.0049	<0.0047	0.0050 "J"	<0.0047	<0.0048	<0.0047	14.8299	2,290	22,000	NS
Indeno(1,2,3-cd)pyrene	mg/kg	<0.0076	[0.181]	0.0628	0.0932	[0.260]	<0.0027	[0.219]	<0.0026	{ [11.500] }	<0.0025	[0.172]	[0.392]	<0.0026	[0.239]	<0.0026	<0.0025	0.0101	<0.0025	<0.0025	<0.0025	NS	0.148	2.11	NS
1-Methylnaphthalene	mg/kg	<0.0100	0.0411 "J"	<0.0094	0.0585	0.049.4	<0.0049	0.0152 "J"	<0.0048	<0.460	<0.0045	0.194	0.0891	<0.0047	0.0197 "J"	<0.0048	<0.0046	0.0079 "J"	<0.0046	<0.0046	<0.0046	NS	15.6	53.1	NS
2-Methylnaphthalene	mg/kg	<0.0100	0.0446 "J"	0.0105 "J"	0.0778	0.0647	<0.0061	0.0209 "J"	<0.0059	<0.572	<0.0056	0.177	0.0835 "J"	<0.0059	0.0273 "J"	<0.0060	<0.0057	0.0081 "J"	<0.0057	<0.0058	<0.0057	NS	229	2,200	NS
Naphthalene	mg/kg	<0.0100	0.0460 "J"	0.010 "J"	0.0541	0.0496	<0.0102	0.0527 "J"	<0.0100	<0.963	<0.0095	0.120	0.0696 "J"	<0.0099	<0.0192	<0.0101	<0.0096	<0.0097	<0.0096	<0.0097	<0.0095	0.6582	5.15	26	NS
Phenanthrene	mg/kg	0.0277	0.740	0.128	0.273	0.261	<0.0142	0.470	<0.0138	20.8	<0.0131	0.415	1.010	<0.0137	0.270	<0.0139	<0.0133	0.0295 "J"	<0.0132	<0.0134	<0.0132	NS	NS	NS	NS
Pyrene	mg/kg	0.0361	0.735	0.262	0.330	0.618	<0.0055	0.704	<0.0054	36.2	<0.0051	0.646	1.440	<0.0053	0.721	<0.0054	<0.0052	0.0439	<0.0051	0.0060 "J"	<0.0051	54.5455	1,720	16,500	NS
RCRA Metals			**	**																					
Arsenic	mg/kg	{ [**6.8**] }	{ [**12.4**] }	{ [**7.2**] }	{ [**8.3**] }	{ [**4.8 "J"**] }	{ [**9.0**] }	{ [**17.1**] }	{ [**4.9 "J"**] }	{ [**9.9**] }	{ [**2.9 "J"**] }	NA	NA	{ [**5.0 "J"**] }	{ [**5.4**] }	{ [**9.0**] }	{ [**3.7 "J"**] }	{ [**9.7**] }	{ [**4.0 "J"**] }	{ [**2.6 "J"**] }	{ [**9.8**] }	0.584	0.613	2.39	8
Barium	mg/kg	48.8	113	149	55.4	75.0	38.9	**196**	15.8	**415**	38.7	NA	NA	48.1	26.4	93.4	45.4	26.9	41.5	37.1	31.2	164.8	15,300	100,000	364
Cadmium	mg/kg	<0.075	**1.5**	**1.2**	0.37 "J"	<0.16	<0.14	0.49 "J"	<0.14	**1.2**	<0.13	NA	NA	<0.16	<0.13	<0.16	<0.14	<0.15	<0.13	<0.15	<0.14	0.752	70	799	NS
Chromium	mg/kg	17.3	32.3	22.7	16.4	17.6	14.3	32.9	8.4	19.1	13.9	NA	NA	21.2	15.6	24.3	20.3	15.5	19.8	10.2	17.7	360,000	NS	NS	44
Lead	mg/kg	21.5	{ [**809**] }	[**502**]	**129**	**37.1**	8.2	**313**	9.2	{ [**8,940**] }	8.9	{ [**6,570**] }	**360**	10.2	8.3	**111**	8.4	14.2	8.5	5.4	14.2	27	400	800	52
Mercury	mg/kg	0.15	0.11 "J"	0.18	<0.039	0.031 "J"	<0.013	**0.24**	<0.012	{ [**4.0**] }	<0.011	**0.59**	**0.50**	0.013 "J"	<0.011	0.14	<0.012	0.016 "J"	<0.011	<0.013	<0.012	0.208	3.13	3.13	NS
Selenium	mg/kg	<0.87	**1.1 "J"**	**1.3 "J"**	<0.86	<1.3	<1.2	**1.4 "J"**	<1.2	<1.2	<1.1	NA	NA	<1.3	<1.1	<1.3	<1.2	<1.2	<1.1	<1.3	<1.2	0.52	391	5,110	NS
Silver	mg/kg	<0.31	<0.32	0.47 "J"	0.31 "J"	<0.41	<0.37	<0.38	<0.37	**1.0 "J"**	<0.33	NA	NA	<0.40	<0.34	<0.41	<0.37	<0.38	<0.35	<0.39	<0.37	0.8491	391	5,110	NS
Cumulative DC RCL Exceeded (Y/N)?		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	---	---	---	---

Notes:
1. Unsaturated/smear zone versus satured soil conditions based on: (1) measured water levels in adjacent/nearby monitoring wells, or (2) soil moisture conditions recorded on soil boring logs during drilling.
2. Analytical units: mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as presented on the WDNR's RCL Spreadsheet (dated June 2016) referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
5. Non-Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at a non-industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2016) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screeni
6. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2016) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level
7. Background Threshold Value = Non-outlier trace element maximum levels in Wisconsin surface soils from USGS report "Distribution and Variation of Arsenic in Wisconsin Surface Soils, With Data on Other Trace Elements" (revised February 2013).
8. NS = no standard established
9. Laboratory flags: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
10. Exceedances: **BOLD** = Concentration exceeds Groundwater Pathway RCL
[ ] = Concentration exceeds Non-Industrial Direct Contact RCL (any depth)
{ } = Concentration exceeds Industrial Direct Contact RCL (any depth)
11. Water leach samples collected: ** = samples collected from borings GP-16, 2' - 3' (for B-2, 2' - 3') and GP-17, 1.5' - 2.5' (for B-3, 1.5' - 2.5') for water leach testing of PAHs and RCRA metals, sample collected from boring GP-18, 0' - 2' for water leach testing PAHs. Refer to results in Table 3.
= Sample representative of soil to be reused at Lakefield Sand and Gravel disposal site in Milwaukee pending WDNR approval under NR 718 approval (approximately 3,000 CY)
= Sample representative of soil to be segregated for disposal at a local WDNR-licensed landfill due to lead impacts (approximately 60 CY)

Table 1
Soil Analytical Results
Bader Philanthropies - 3300 - 3318 N. Martin Luther King Jr. Drive & 3317 - 3333 N. 4th Street, Milwaukee, WI
Sigma Project No. 16620

Soil Sample Location:		GP-12	GP-13	GP-14	GP-15 / MW-1	GP-16 / MW-2	GP-17 / MW-3	GP-18		GP-19		GP-20		GP-21		GP-22		GP-23		Groundwater Pathway RCL [4]	Non-Industrial Direct Contact RCL [5]	Industrial Direct Contact RCL [6]	Background Threshold Value [7]
Sample Depth (feet bgs):		0 - 2.5	0 - 2.5	0 - 2.5	12.5 - 15	15 - 17.5	10 - 12.5	0 - 2	4 - 6	0 - 2	4 - 6	0 - 2	4 - 6	0 - 2	4 - 6	0 - 2	4 - 6	0 - 2	4 - 6				
Sample Collection Date:		1/10/17	1/10/17	1/10/17	1/9/17	1/9/17	1/9/17	2/3/17		2/3/17		2/3/17		2/3/17		2/3/17		2/3/17					
Depth to Groundwater (feet bgs):		>10	9.5 +/-	>10	5.8 +/-	18.8 +/-	5.5 +/-	15 +/-		15 +/-		15 +/-		15 +/-		15 +/-		15 +/-					
Unsaturated/Smear Zone (U) or Saturated (S):		U	U	U	S	U	S	U	U	U	U	U	U	U	U	U	U	U	U				
Organic Vapor Monitor	ppm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NS	NS	NS	NS
Detected VOCs																							
Naphthalene	mg/kg	**2.530**	<0.0455	<0.0404	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.6582	5.15	26	NS
PAHs								**															
Acenaphthene	mg/kg	0.126	0.131	0.0142 "J"	<0.0043	<0.0045	<0.0047	0.620 "J"	0.265 "J"	0.0117 "J"	<0.0049	0.0452 "J"	0.0087 "J"	0.0242 "J"	<0.0049	NA	NA	NA	NA	NS	3,440	33,000	NS
Acenaphthylene	mg/kg	<0.0141	<0.0303	<0.0038	<0.0037	<0.0038	<0.0040	<0.165	<0.0819	0.0076 "J"	<0.0041	0.0180 "J"	<0.0043	0.0185 "J"	0.0126 "J"	NA	NA	NA	NA	NS	NS	NS	NS
Anthracene	mg/kg	0.232	0.413	0.0573	<0.0064	<0.0066	<0.0070	1.470	0.562	0.0393	0.0072 "J"	0.131	0.0215 "J"	0.0939 "J"	0.0133 "J"	NA	NA	NA	NA	196.9492	17,200	100,000	NS
Benzo(a)anthracene	mg/kg	[0.222]	[0.524]	0.0740	<0.0035	<0.0037	0.0304	{ [5.460] }	{ [2.150] }	[0.211]	0.0446	[0.629]	0.0857	[0.384]	0.0520	NA	NA	NA	NA	NS	0.147	2.1	NS
Benzo(a)pyrene	mg/kg	[0.184]	{ [0.428] }	[0.0600]	<0.0028	<0.0029	[0.0278]	{ [**6.310**] }	{ [**2.360**] }	{ [0.234] }	[0.0488]	{ [**0.645**] }	[0.0834]	{ [0.387] }	[0.0629]	NA	NA	NA	NA	0.47	0.015	0.211	NS
Benzo(b)fluoranthene	mg/kg	[0.225]	[**0.538**]	0.0840	<0.0032	<0.0033	0.0367	{ [**8.830**] }	{ [**3.550**] }	[0.342]	0.0697	[**0.948**]	0.127	[**0.574**]	0.0829	NA	NA	NA	NA	0.4793	0.148	2.11	NS
Benzo(ghi)perylene	mg/kg	0.111	0.265	0.0366	0.0023 "J"	<0.0024	0.0172	3.420	1.420	0.117	0.0348	0.313	0.0583	0.280	0.0516	NA	NA	NA	NA	NS	NS	NS	NS
Benzo(k)fluoranthene	mg/kg	0.119	0.270	0.0310	<0.0028	<0.0029	0.0154	[3.540]	1.360	0.118	0.0285	0.345	0.0501	0.194	0.0353	NA	NA	NA	NA	NS	1.48	21.1	NS
Chrysene	mg/kg	**0.239**	**0.527**	0.0735	<0.0038	<0.0039	0.0377	**7.320**	**2.870**	**0.251**	0.0552	**0.734**	0.0984	**0.443**	0.0715	NA	NA	NA	NA	0.1446	14.8	211	NS
Dibenzo(a,h)anthracene	mg/kg	[0.0360]	[0.0850]	0.0117	<0.0025	<0.0026	0.0071 "J"	{ [0.999] }	{ [0.385] }	[0.0375]	0.0091 "J"	[0.0972]	0.0143	[0.0682]	0.0099	NA	NA	NA	NA	NS	0.015	0.211	NS
Fluoranthene	mg/kg	0.570	1.330	0.174	<0.0058	<0.0061	0.0578	16.000	6.200	0.480	0.0966	1.610	0.204	0.910	0.171	NA	NA	NA	NA	88.8778	2,290	22,000	NS
Fluorene	mg/kg	0.182	0.239	0.0249	<0.0046	<0.0048	<0.0051	0.487 "J"	0.206 "J"	0.0099 "J"	<0.0052	0.0369 "J"	0.0069 "J"	0.0229 "J"	0.0061 "J"	NA	NA	NA	NA	14.8299	2,290	22,000	NS
Indeno(1,2,3-cd)pyrene	mg/kg	0.0911	[0.225]	0.0308	<0.0025	<0.0026	0.0149	{ [3.430] }	[1.280]	0.117	0.0296	[0.314]	0.0490	[0.228]	0.0386	NA	NA	NA	NA	NS	0.148	2.11	NS
1-Methylnaphthalene	mg/kg	0.0520 "J"	<0.0370	<0.0047	<0.0045	<0.0047	<0.0049	<0.202	<0.100	0.0639	0.0105 "J"	0.0212 "J"	<0.0052	0.0518 "J"	0.0498	NA	NA	NA	NA	NS	15.6	53.1	NS
2-Methylnaphthalene	mg/kg	0.0803	<0.0461	<0.0058	<0.0056	<0.0058	<0.0061	<0.251	<0.124	0.0741	0.0131 "J"	0.0278 "J"	<0.0065	0.0676 "J"	0.0639	NA	NA	NA	NA	NS	229	2,200	NS
Naphthalene	mg/kg	0.158	<0.0775	<0.0098	<0.0094	<0.0098	<0.0103	<0.423	<0.209	0.0501	<0.0105	<0.0407	<0.0109	0.141 "J"	0.0536	NA	NA	NA	NA	0.6582	5.15	26	NS
Phenanthrene	mg/kg	0.699	1.200	0.133	<0.0130	<0.0135	0.0255 "J"	8.330	3.390	0.214	0.0412 "J"	0.720	0.0950	0.404	0.134	NA	NA	NA	NA	NS	NS	NS	NS
Pyrene	mg/kg	0.432	0.985	0.140	<0.0051	<0.0052	0.0583	12.000	4.870	0.388	0.0852	1.320	0.175	0.743	0.138	NA	NA	NA	NA	54.5455	1,720	16,500	NS
RCRA Metals																							
Arsenic	mg/kg	{ [**3.6 "J"**] }	{ [**8.3**] }	{ [**4.6 "J"**] }	{ [**4.0 "J"**] }	{ [**4.7 "J"**] }	{ [**4.7 "J"**] }	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.584	0.613	2.39	8
Barium	mg/kg	25.4	36.6	45.4	33.9	49.4	30.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	164.8	15,300	100,000	364
Cadmium	mg/kg	<0.13	<0.14	<0.14	<0.15	<0.15	<0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.752	70	799	NS
Chromium	mg/kg	8.9	19.6	19.6	16.0	20.9	15.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	360,000	NS	NS	44
Lead	mg/kg	**29.0**	12.6	8.6	7.5	10.5	**30.3**	**217**	**137**	**133**	20.6	**376**	**109**	NA	NA	NA	NA	NA	NA	27	400	800	52
Mercury	mg/kg	0.017 "J"	<0.012	<0.013	<0.011	0.022 "J"	<0.013	**0.22**	0.073	0.18	0.039 "J"	0.12	0.025 "J"	NA	NA	NA	NA	NA	NA	0.208	3.13	3.13	NS
Selenium	mg/kg	<1.1	<1.2	<1.2	<1.2	<1.3	<1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.52	391	5,110	NS
Silver	mg/kg	<0.34	<0.37	<0.36	<0.38	<0.39	<0.38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.8491	391	5,110	NS
Cumulative DC RCL Exceeded (Y/N)?		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	---	---	---	---	---	---	---	---

Notes:
1. Unsaturated/smear zone versus satured soil conditions based on: (1) measured water levels in adjacent/nearby monitoring wells, or (2) soil moisture conditions recorded on soil boring logs during drilling.
2. Analytical units: mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as presented on the WDNR's RCL Spreadsheet (dated June 2016) referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
5. Non-Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at a non-industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2016) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Re
6. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2016) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional S
7. Background Threshold Value = Non-outlier trace element maximum levels in Wisconsin surface soils from USGS report "Distribution and Variation of Arsenic in Wisconsin Surface Soils, With Data on Other Trace Elements" (revised February 2013).
8. NS = no standard established
9. Laboratory flags: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
10. Exceedances: **BOLD** = Concentration exceeds Groundwater Pathway RCL
[ ] = Concentration exceeds Non-Industrial Direct Contact RCL (any depth)
{ } = Concentration exceeds Industrial Direct Contact RCL (any depth)
11. Water leach samples collected: ** = samples collected from borings GP-16, 2' - 3' (for B-2, 2' - 3') and GP-17, 1.5' - 2.5' (for B-3, 1.5' - 2.5') for water leach testing of PAHs and RCRA metals, sample collected from boring GP-18, 0' - 2' for water leach testing PAHs. Refer to results in Table 3.
= Sample representative of soil to be reused at Lakefield Sand and Gravel disposal site in Milwaukee pending WDNR approval under NR 718 approval (approximately 3,000 CY)
= Sample representative of soil to be segregated for disposal at a local WDNR-licensed landfill due to lead impacts (approximately 60 CY)

Table 2
Water Leach Analytical Results
Bader Philanthropies - 3300 - 3318 N. Martin Luther King Jr. Drive & 3317 - 3333 N. 4th Street, Milwaukee, WI
Sigma Project No. 16620

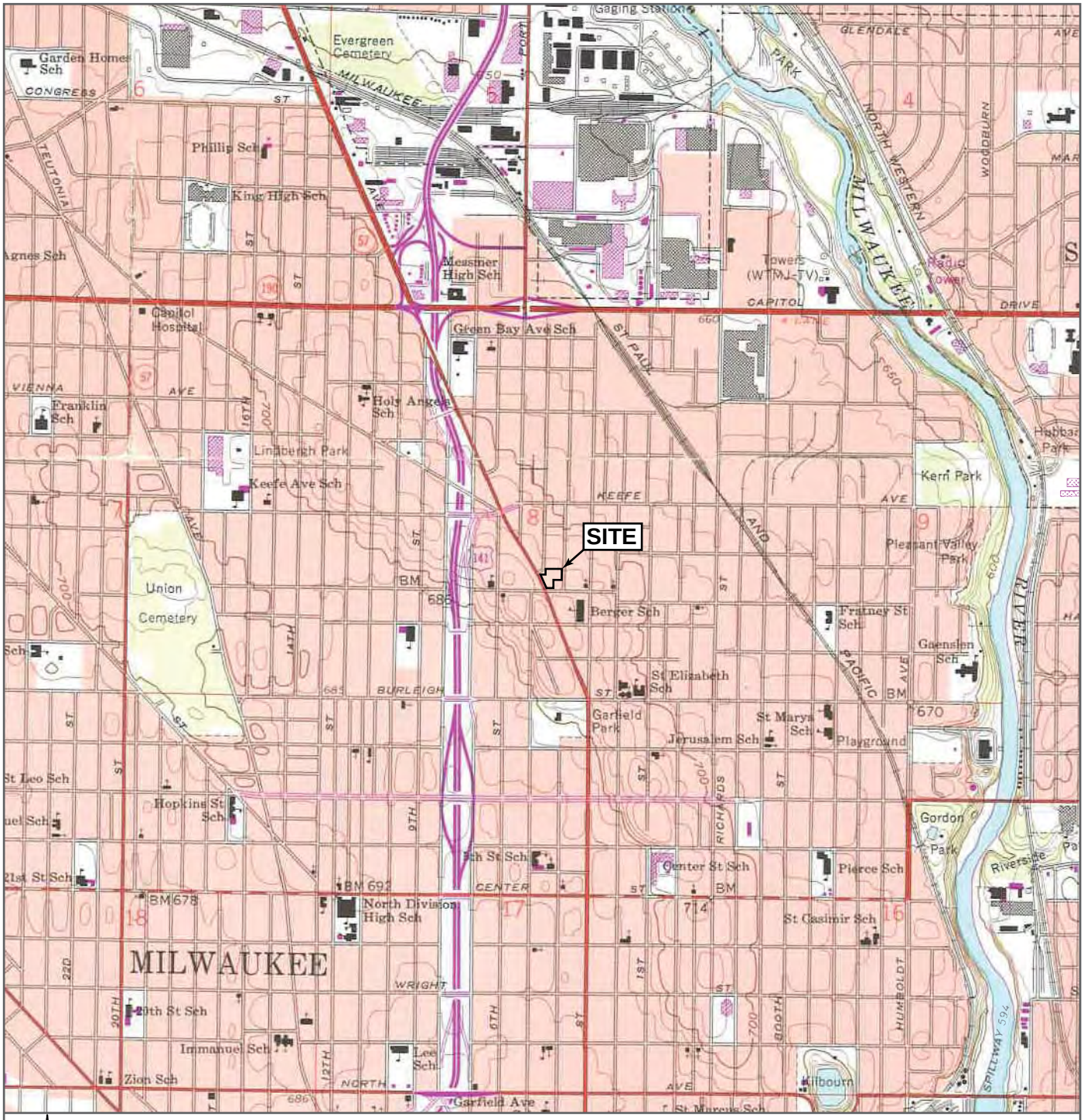
Soil Sample Location:		GP-16, 2' - 3' (for B-2, 2' - 3')	GP-17, 1.5' - 2.5' (for B-3, 1.5' to 2.5')	GP-18, 0' - 2'	NR 140 ES	NR 140 PAL
Sample Collection Date:		1/9/17	1/9/17	2/3/17		
PAHs						
Acenaphthene	µg/L	<0.315	<0.315	<0.0061	NS	NS
Acenaphthylene	µg/L	<0.309	<0.309	<0.0050	NS	NS
Anthracene	µg/L	<0.291	<0.291	<0.010	3,000	600
Benzo(a)anthracene	µg/L	0.124 "J"	<0.0373	0.0083 "J"	NS	NS
Benzo(a)pyrene	µg/L	<0.34	<0.34	<0.011	0.2	0.02
Benzo(b)fluoranthene	µg/L	0.133 "J"	<0.0896	<0.0057	0.2	0.02
Benzo(ghi)perylene	µg/L	<0.161	<0.161	<0.0068	NS	NS
Benzo(k)fluoranthene	µg/L	<0.355	<0.355	<0.0076	NS	NS
Chrysene	µg/L	<0.332	<0.332	<0.013	0.2	0.02
Dibenzo(a,h)anthracene	µg/L	<0.279	<0.279	<0.010	NS	NS
Fluoranthene	µg/L	<0.31	<0.31	0.022 "J"	400	80
Fluorene	µg/L	<0.323	<0.323	<0.0080	400	80
Indeno(1,2,3-cd)pyrene	µg/L	<0.279	<0.279	<0.018	NS	NS
Naphthalene	µg/L	0.346	0.0766	<0.018	100	10
Phenanthrene	µg/L	0.66 "J"	0.526 "J"	0.036 "J"	NS	NS
Pyrene	µg/L	<0.33	<0.33	0.026 "J"	250	50
Dissolved RCRA Metals						
Arsenic	µg/L	<8.4	<8.4	NA	10	1
Barium	µg/L	110	220	NA	2,000	400
Cadmium	µg/L	<1.3	<1.3	NA	5	0.5
Chromium	µg/L	<2.6	<2.6	NA	100	10
Lead	µg/L	<4.3	<4.3	NA	15	1.5
Mercury	µg/L	0.27 "J"	0.63	NA	2	0.2
Selenium	µg/L	<17	<17	NA	50	10
Silver	µg/L	<3.3	<3.3	NA	50	10

Notes:
1. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard (FOR REFERENCE ONLY)
2. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit (FOR REFERENCE ONLY)
3. NS = no standard
4. µg/L = micrograms per liter (equivalent to parts per billion, ppb)
5. Laboratory flags: "J" = Analyte detected between Limit of Detection and Limit of Quantitation.

Table 3
Groundwater Analytical Results
Bader Philanthropies - 3300 - 3318 N. Martin Luther King Jr. Drive & 3317 - 3333 N. 4th Street, Milwaukee, WI
Sigma Project No. 16620

Well Location:		TW-1	TW-2	TW-3	TW-4	MW-1		MW-2	MW-3	NR 140 ES	NR 140 PAL
Sample Collection Date:		9/8/16	9/8/16	9/8/16	9/8/16	1/13/17	1/17 Dup	1/13/17	1/13/17		
Water Elevation* (feet MSL):		---	---	---	---	721.31 *	---	708.24	721.02 *		
Detected VOCs											
Chloromethane	µg/L	<0.50	<0.50	0.96 "J"	<0.50	<0.50	<0.50	<0.50	<0.50	30	3
PAHs											
Acenaphthene	µg/L	NA	NA	NA	NA	<0.0055	NA	<0.0057	<0.0055	NS	NS
Acenaphthylene	µg/L	NA	NA	NA	NA	<0.0045	NA	0.0066 "J"	<0.0045	NS	NS
Anthracene	µg/L	NA	NA	NA	NA	<0.0095	NA	0.097	<0.0094	3,000	600
Benzo(a)anthracene	µg/L	NA	NA	NA	NA	<0.0069	NA	<0.0071	<0.0068	NS	NS
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	<0.0096	NA	<0.0099	<0.0095	0.2	0.02
Benzo(b)fluoranthene	µg/L	NA	NA	NA	NA	<0.0052	NA	<0.0054	<0.0052	0.2	0.02
Benzo(ghi)perylene	µg/L	NA	NA	NA	NA	<0.0062	NA	<0.0064	<0.0061	NS	NS
Benzo(k)fluoranthene	µg/L	NA	NA	NA	NA	<0.0069	NA	<0.0071	<0.0068	NS	NS
Chrysene	µg/L	NA	NA	NA	NA	<0.012	NA	<0.012	<0.012	0.2	0.02
Dibenzo(a,h)anthracene	µg/L	NA	NA	NA	NA	<0.0091	NA	<0.0095	<0.0090	NS	NS
Fluoranthene	µg/L	NA	NA	NA	NA	<0.0097	NA	0.051	<0.0096	400	80
Fluorene	µg/L	NA	NA	NA	NA	<0.0072	NA	<0.0075	<0.0072	400	80
Indeno(1,2,3-cd)pyrene	µg/L	NA	NA	NA	NA	<0.016	NA	<0.017	<0.016	NS	NS
1-Methylnaphthalene	µg/L	NA	NA	NA	NA	<0.0054	NA	<0.0056	<0.0053	NS	NS
2-Methylnaphthalene	µg/L	NA	NA	NA	NA	0.0060 "J"	NA	0.0073 "J"	<0.0044	NS	NS
Naphthalene	µg/L	NA	NA	NA	NA	<0.017	NA	<0.017	<0.017	100	10
Phenanthrene	µg/L	NA	NA	NA	NA	<0.013	NA	0.028 "J"	<0.012	NS	NS
Pyrene	µg/L	NA	NA	NA	NA	0.015 "J"	NA	0.053	<0.0069	250	50
Dissolved RCRA Metals											
Arsenic	µg/L	NA	NA	NA	NA	<5.4	NA	<5.4	6.5 "J" **	10	1
Barium	µg/L	NA	NA	NA	NA	73.8	NA	64.4	55.1	2,000	400
Cadmium	µg/L	NA	NA	NA	NA	<1.3	NA	<1.3	<1.3	5	0.5
Chromium	µg/L	NA	NA	NA	NA	<2.5	NA	<2.5	<2.5	100	10
Lead	µg/L	NA	NA	NA	NA	<4.3	NA	<4.3	<4.3	15	1.5
Mercury	µg/L	NA	NA	NA	NA	<0.13	NA	<0.13	<0.13	2	0.2
Selenium	µg/L	NA	NA	NA	NA	15.0 "J" **	NA	<5.6	13.9 "J" **	50	10
Silver	µg/L	NA	NA	NA	NA	<3.2	NA	<3.2	<3.2	50	10

Notes:
1. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
2. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
3. NS = no standard
4. µg/L = micrograms per liter (equivalent to parts per billion, ppb)
5. NA = Not Analyzed
6. Laboratory flags: "J" = Analyte detected between Limit of Detection and Limit of Quantitation.
7. Trip blank results: 1/13/17: All VOCs reported below laboratory detection limits.
8. Equipment blank results: 1/13/17: All VOCs reported below laboratoyr detection limits, excpet for methylene chloride reported at 1.1 ug/L. Methylene chloride was not detected in any groundwater samples.
9. Exceedances: **BOLD** = Concentration exceeds NR 140 ES
   ITALICS = Concentration exceeds NR 140 PAL
10. Special notes: * = monitoring well screen submerged below water table
    ** = not a PAL exceedance per NR 140.14(3)(c)



N

0 2,000 ft. 4,000 ft.

GRAPHIC SCALE

Located in the Northwest 1/4 of the Southeast 1/4 of Section 8, T 7 N, R 22 E
Milwaukee Quadrangle (1958, photorevised 1971)
7.5 minute, 1 : 24,000 Topographic Map Collection

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE LOCATION MAP

BADER PHILANTHROPIES
3300 - 3318 N. MARTIN LUTHER KING JR. DRIVE
& 3317 - 3333 N. 4th STREET, MILWAUKEE, WISCONSIN

FIGURE

1

Project: 16620 | Directory: 060 CAD / E - Env | Filename: 16620 Site Loc Map.ai | Created By: AJR | Date: 12/29/2016

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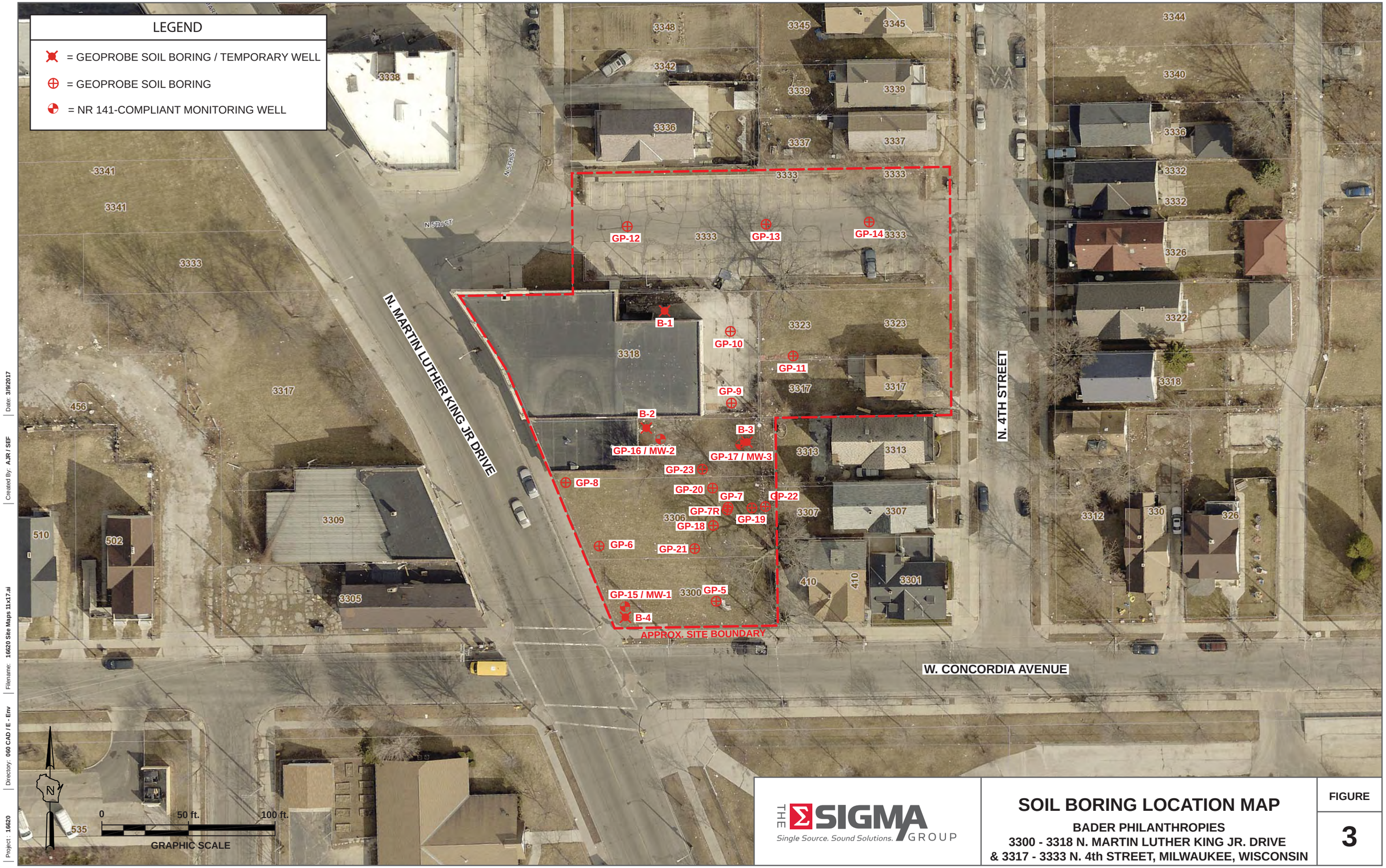
SITE PLAN MAP

BADER PHILANTHROPIES
3300 - 3318 N. MARTIN LUTHER KING JR. DRIVE
& 3317 - 3333 N. 4th STREET, MILWAUKEE, WISCONSIN

FIGURE
2

Project: 16620 | Directory: 060 CAD / E - Env | Filename: 16620 Site Maps 11x17.ai | Created By: AJR / SEF | Date: 2/2/2017



Created By: AJR / SEF
Date: 3/9/2017
Filename: 16820 Site Maps 11x17.ai
Directory: 060 CAD / E - Env
Project : 16820

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SOIL BORING LOCATION MAP

BADER PHILANTHROPIES
3300 - 3318 N. MARTIN LUTHER KING JR. DRIVE
& 3317 - 3333 N. 4th STREET, MILWAUKEE, WISCONSIN

FIGURE
3

ATTACHMENT 1

SOIL MANAGEMENT PLAN

SOIL MANAGEMENT PLAN
BADER PHILANTHROPIES HEADQUARTERS
3300-3318 N. MARTIN LUTHER KING JR. DRIVE & 3317-3333 N. 4TH STREET, MILWAUKEE, WI
BRRTS #02-41-578975: 3318 N. Martin Luther King Jr. Drive
BRRTS #02-41-578976: 3314 N. Martin Luther King Jr. Drive
BRRTS #02-41-578977: 3300 N. Martin Luther King Jr. Drive
MARCH 2017

Introduction

This *Soil Management Plan* is based upon Phase II Environmental Site Assessment (ESA) work completed by others in September 2016, The Sigma Group, Inc.'s (Sigma's) environmental site investigation work completed in January and February 2017, and the planned redevelopment of the Site. The Site redevelopment plan includes demolishing the buildings on the 3314 N. Martin Luther King Jr. Drive and 3317 N. 4th Street parcels, rehabilitating the existing 3318 N. Martin Luther King Jr. Drive building and new additions to be constructed at the east end of this building, constructing a new parking lot over the northern half of the Site, and constructing landscape / sculpture gardens at the south end of the Site:

- The rehabilitated two-story building and additions will create approximately 22,000 square feet of office space to house the Bader Philanthropies, Inc. headquarters. The basement level of the existing building and building additions will be used for underground parking.

- The existing parking lot on the north portion of the Site will be removed in its entirety and the shallow subgrade will be reconstructed with compacted gravel to provide a suitable base for the new asphalt parking lot.

- The southern portion of the Site will be converted into a landscape / sculpture garden. The southern portion of this landscape area (the 3300 and southern edge of the 3306 N. Martin Luther King Jr. Drive parcels) will be accessible to the public, while the northern portion of the landscape area will be located within the perimeter fence that will surround most of the Site.

It is noted that the the individual parcels that comprise the Site are in the process of being combined by a Certified Survey Map (CSM) for the purpose of this Bader Philanthropies, Inc. headquarters redevelopment project. As soon as the CSM is complete and filed with the City of Milwaukee, information will be provided to the WDNR to combine the BRRTS case files into one project / BRRTS case file; this Soil Management Plan will also be amended accordingly to reference the consolidated BRRTS case file.

Civil engineering grading and building design plans for the Site have estimated a soil cut volume of approximately 3,000 CY being generated from the new basement / foundation excavations for the building additions on the east end of the 3318 N. Martin Luther King Jr. Drive building, preparation and reconstruction of the shallow subgrade beneath the new asphalt parking lot, and stripping shallow soil in the green space areas to accommodate the thickness of the engineered barrier soil cover system.

Analytical testing of soil samples indicates that polynuclear aromatic hydrocarbons (PAHs) and RCRA metals (primarily lead) are present across most of the Site, while only two volatile organic compound (VOC) detections have been reported (naphthalene in two soil samples, both of which correspond to other PAH impacts). The distributions of soil impacts are depicted on the attached **Soil Quality Map - VOCs & PAHs** and **Soil Quality Map - RCRA Metals**. Limited groundwater impacts are also present at the site as depicted on the attached **Groundwater Quality Map**. The depth to shallow groundwater has been measured at approximately 5.3 to 8.8 feet below the existing ground surface within the monitoring well network (as of January 23, 2017) and may be encountered during excavation work.

In summary, soil generated from mass excavation and Site construction will be managed in one of the following manners:

- One targeted remedial soil excavation will be performed under the direction of Sigma around soil borings GP-7 / GP-7R to remediate lead impacts as depicted on the attached **Soil Management Map**. This soil will be profiled for disposal at a local licensed landfill facility. The bottom of the excavation (approximately 2 to 4 feet bgs) will be backfilled with non-impacted soil from the deeper portion of the building addition basement excavation (represented by soil samples GP-9, 5 to 7.5 feet bgs and GP-10, 7.5 to 10 feet bgs that have no VOC and PAH detections and background metals concentrations). The remainder of the excavation (approximately 0 to 2 feet bgs), and the adjacent green space area throughout the southern portion of the Site, will be capped with clean soil as part of the engineered barrier soil cover system.

- Soil generated from the remaining construction work will be disposed of at a contractor disposal site under NR 718 regulations. A separate NR 718 request will be submitted to the WDNR as soon as possible for approval of soil disposal at the Lakefield Sand and Gravel property (BRRTS #02-41-548828) as part of the WDNR-approved remediation / restoration work for the Lakefield Sand and Gravel property.

Schedule

The current schedule for implementation anticipates demolition of existing buildings in spring 2017 with construction to immediately follow and continue through 2017.

Property Owner & Developer

MLK LLC
c/o Bader Philanthropies, Inc.
233 N. Water Street, 4th Floor
Milwaukee, WI 53202
Contact: Frank Cumberbatch, Project Mgr
Telephone: (414) 755-4377
Email: frank@bader.org

Location Information

3300-3318 N. Martin Luther King Jr. Drive
3317-3333 N. 4th Street
Milwaukee, WI 53212
NW ¼ of the SE ¼ of Sec 8 T7N R22E
Wisconsin Transverse Mercator '91
X 689657
Y 291717

Environmental Consultant
The Sigma Group, Inc.
1300 W. Canal Street
Milwaukee, WI 53233
Contact: Adam Roder, Senior Engineer
Telephone: (414) 643-4134
Mobile: (414) 588-7016
Email: aroder@thesigmagroup.com

General Contractor
JCP Construction, LLC
1849 N. Martin Luther King Jr. Drive, Suite 200
Milwaukee, WI 53212
Contact: James Phelps, President
Telephone: (414) 372-7300
Mobile: (414) 234-8518
Email: jcphelps@jcp-construction.com

Earthworks Subcontractor
To be determined

General Conditions
General Contractor and Earthworks Subcontractor shall prepare a site-specific Health & Safety Plan for their respective personnel prior to beginning site work. Sigma will prepare a site-specific Health & Safety Plan for its own personnel.

During the earthmoving and soil excavation activities, the Earthworks Subcontractor's heavy equipment operator(s) shall be 40-hour OSHA trained. Truck drivers do not need to be 40-hour OSHA trained provided they do not exit their vehicles at the Site. General Contractor is responsible to making all site workers aware of the environmental conditions at the Site.

Prior to subsurface excavation activities, the General Contractor or Earthworks Subcontractor will obtain all necessary City of Milwaukee and/or State of Wisconsin permits relating to erosion control and storm water management unless otherwise specified by the Property Owner.

Silt fences, storm sewer inlet protection, and other erosion control measures will be implemented and maintained at the Site in accordance with an approved Erosion Control Plan. Erosion control measures shall be inspected by the General Contractor and/or Earthworks Subcontractor in accordance with the Erosion Control Plan and permit.

WDNR shall be provided with a 7-day notice prior to commencing soil management activities. Sigma will assist the General Contractor and/or Property Owner in making this notification to the WDNR.

Soil Management

Soil conditions will be evaluated and managed in accordance with this *Soil Management Plan* under the direction and guidance of Sigma on behalf of the Property Owner. Sigma will provide a 40-hour OSHA trained environmental professional on-site during soil management activities. Sigma will provide the General Contractor with a copy of this *Soil Management Plan* (who must in turn distribute to all subcontractors that will be involved with subsurface work) and will provide on-site services, including screening soils with a photoionization detection (PID) in the field, observing and documenting the management of areas of known or unknown contamination, monitoring soil excavation areas, collecting soil samples as needed, directing trucks to the appropriate off-site disposal location after being loaded with soil, and/or providing on-call services as mentioned within this *Soil Management Plan*.

If concrete rubble, asphalt rubble, or wood is encountered during excavations, this material shall be segregated (if possible) for off-site recycling and/or hauled to a local licensed landfill facility for disposal.

- Clean concrete slabs and foundations from the existing buildings that are to be demolished, or that may otherwise be uncovered during excavation, should be cleaned of loose soil and transported off-site for recycling or crushed on-site for beneficial reuse.

- Asphalt pavement is present at the ground surface in the northern portion of the Site. Asphalt pavement should be stripped, segregated from underlying soil, and transported off-site for recycling or crushed on-site for beneficial reuse.

If building debris is encountered during any excavation that may potentially contain asbestos containing materials (ACMs), work will be stopped in that area, the work area will be restricted with caution tape and/or signage, and the General Contractor/Earthworks Subcontractor shall contact the Property Owner. The Earthworks Subcontractor may continue work in another location if feasible. The Property Owner shall contact Sigma to evaluate the building debris by a state-licensed Asbestos Inspector and direct the transportation to a licensed landfill facility for disposal as conditions merit.

Although unexpected, unknown underground storage tanks (USTs) may be encountered during excavation activities. If a UST is discovered, work will be stopped in that area, access to the work area will be restricted with caution tape and/or signage, and the General Contractor/Earthworks Subcontractor shall contact the Property Owner. The Earthworks Subcontractor may continue work in another location if feasible. The Property Owner shall contact Sigma to notify the appropriate authorities and coordinate with a licensed tank removal contractor to clean and remove the UST in accordance with current State of Wisconsin rules and regulations, including the completion of a Tank System Site Assessment. Waste materials generated during the UST removal and cleaning process shall be disposed of in accordance with local, state, and federal requirements. The UST closure process will be documented by Sigma. Sigma will coordinate any over-excavation services required of the tank removal contractor and the proper disposal of waste materials (e.g., tank sludge).

Soil excavated for foundation structures and utility lines may be reused as backfill in the same excavation, pending geotechnical soil qualities and project specifications. If the soil cannot be reused in the same excavation, contact Sigma to see if the soil may be used on-site beneath the proposed engineered barriers or disposed of at a WDNR-approved NR 718 contractor disposal site. If these options are not feasible, the soil will be disposed of at a local WDNR-licensed landfill facility.

Temporary on-site stockpiles of contaminated soil shall follow the provisions of NR 718.05(3), generally including:

- Soil volume is limited to less than 2,500 cubic yards;
- Soil may be stockpiled for 15 days or less;
- Soil must be stockpiled on-site within 1,000 feet of where it was excavated;
- Soil must be placed on an impervious surface, such as concrete, asphalt, plastic sheeting, or geomembrane liner;
- Soil stockpile must be covered with plastic sheeting (10-mil thick minimum) that is secured at the end of each work day to prevent water infiltration, dust, odors, and erosion.

If the requirements of temporary storage cannot be met, the general storage requirements of NR 718.05(2) must be followed (or an exemption to parts of NR 718.05(2) must be obtained) for on-site stockpiles:

- Soil stockpile may not be located in a floodplain, within 100 feet of a wetland or critical habitat area, within 300 feet of any navigable water body, or within 100 feet of a water supply well;
- Soil must be placed on an impervious surface, such as concrete, asphalt, plastic sheeting, or geomembrane liner;
- Soil stockpile must be covered with plastic sheeting that is secured at the end of each work day to prevent water infiltration, dust, odors, and erosion;
- Berms or other engineering controls must be constructed to prevent surface water contact with the soil;
- Proper signage must be erected; and
- Notify the WDNR if the stockpile is stored 90 days or more.

Imported Fill

Imported engineered fill will be needed as backfill for the structural subgrade preparation beneath building, parking lots, roadways, sidewalks, and/or utilities. Engineered fill shall originate from quarries that mine native granular soils. Clean, recycled concrete may also be acceptable if the material meets the structural / civil project specifications. If recycled concrete is used, the source, quantity, and placement location at the Site shall be documented by the General Contractor in the project records.

Prior to importing clean soil, including topsoil, the General Contractor must provide the Property Owner with the borrow property location and history of that borrow source, including a list of property owners, historic and current property usage, a physical description of the soil, and general location / depth form which the soil will be excavated. The Property Owner may request, at the General Contractor's expense, laboratory testing

of the soil for environmental parameters that could affect the regulatory case closure process. Soil shall not be imported until written approval is provided by the Property Owner and/or a designated representative. After approval, a manifest system shall be implemented by the General Contractor / Earthworks Subcontractor to ensure that only approved soil materials are received at the Site.

Water Management

Groundwater or storm water that accumulates in excavations may be discharged to the local sanitary sewer system in accordance with jurisdictional permitting requirements.

- At this time, water disposal via the sanitary sewer system is considered the most feasible option. The General Contractor and/or Earthworks Subcontractor shall prepare a MMSD Notice of Intent form, submit the requisite permit application fees, and obtain permit approval. The Property Owner will require the General Contractor and Earthworks Subcontractor to abide by the limitations set forth the MMSD approval letter.

- Other water disposal options may be acceptable if performed in accordance with local, state, and/or federal regulations. Alternative water disposal options shall be approved by the Property Owner and Sigma prior to implementation.

Attachments

Figure 1 - Soil Management Map
Figure 8 - Soil Quality Map - VOCs & PAHs
Figure 9 - Soil Quality Map - RCRA Metals
Figure 10 - Groundwater Quality Map

LEGEND

- = GEOPROBE SOIL BORING / TEMPORARY WELL
- = GEOPROBE SOIL BORING
- = NR 141-COMPLIANT MONITORING WELL

- APPROXIMATELY 3,000 CY OF SOIL GENERATED FROM BALANCE OF BASEMENT AND FOUNDATION EXCAVATIONS, PREPARATION & RECONSTRUCTION OF NEW PARKING LOT, AND REMOVAL OF SHALLOW SOIL IN GREENSPACE AREAS TO ACCOMODATE 2-FOOT THICK CLEAN SOIL CAP TO BE HAULED TO LAKEFIELD SAND AND GRAVEL PROPERTY UNDER NR718 APPROVAL BY WDNR (PENDING PAPERWORK APPROVAL).

- REFER TO "SOIL MANAGEMENT PLAN" PREPARED BY SIGMA FOR MORE DETAILS ON SOIL MANAGEMENT PROTOCOL AND IMPORTING CLEAN SOIL FOR SOIL COVER SYSTEM.

- COPY OF "REMEDIAL ACTION PLAN" CAN BE MADE AVAILABLE FOR CONTRACTOR UPON REQUEST.

- SEGREGATE APPROXIMATELY 30 CY OF CLEAN SOIL FROM BELOW 6 FEET BELOW GROUND SURFACE OF THIS BASEMENT EXCAVATION TO BACKFILL THE BOTTOM 2 FEET OF THE REMEDIAL SOIL EXCAVATION AROUND BORING GP-7.

- OTHER CLEAN SOIL OBTAINED FROM BELOW 6 FEET BELOW GROUND SURFACE OF THIS BASEMENT EXCAVATION MAY BE USED TO RAISE ANY LOW SPOTS ON-SITE THAT REQUIRE SOIL FILL PRIOR TO PLACEMENT OF FINAL ENGINEERED BARRIERS (BUILDING FLOOR SLABS, ASPHALT PAVEMENT, AND 2-FOOT THICK CLEAN SOIL COVER IN GREENSPACE AREAS).

PROPOSED REMEDIAL SOIL EXCAVATION FOR LEAD IMPACTS:
20 FT x 20 FT x 4 FT DEEP = 60 CY = 100 TONS

- EXCAVATION WORK TO BE PERFORMED UNDER DIRECT SUPERVISION OF SIGMA.

- SOIL TO BE HAULED TO LOCAL WDNR-LICENSED LANDFILL OPERATED BY WASTE MANAGEMENT OR ADVANCED DISPOSAL (PENDING PAPERWORK APPROVALS).

N. MARTIN LUTHER KING JR DRIVE
N. 5TH ST
N. 4TH STREET
W. CONCORDIA AVENUE
APPROX. SITE BOUNDARY

GP-12, GP-13, GP-14, B-1, GP-10, GP-11, GP-9, B-2, B-3, GP-16 / MW-2, GP-17 / MW-3, GP-23, GP-8, GP-20, GP-7, GP-22, GP-R, GP-19, GP-18, GP-6, GP-21, GP-15 / MW-1, GP-5, B-4

3344, 3340, 3348, 3345, 3345, 3342, 3339, 3339, 3338, 3336, 3336, 3337, 3337, 3333, 3333, 3333, 3332, 3332, 3333, 3323, 3323, 3318, 3317, 3317, 3313, 3313, 3317, 456, 3309, 3307, 3307, 3306, 3312, 510, 502, 3305, 410, 410, 3301, 3300

N

0 50 ft. 100 ft.

GRAPHIC SCALE

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SOIL MANAGEMENT MAP

BADER PHILANTHROPIES
3300 - 3318 N. MARTIN LUTHER KING JR. DRIVE
& 3317 - 3333 N. 4th STREET, MILWAUKEE, WISCONSIN

FIGURE
1

Project: 16620 | Directory: 060 CAD / E - Env | Filename: 16620 Site Maps 11x17.ai | Created By: AJR / SBF | Date: 3/21/2017

LEGEND

= GEOPROBE SOIL BORING / TEMPORARY WELL

= GEOPROBE SOIL BORING

= NR 141-COMPLIANT MONITORING WELL

B-1	
Depth:	2 - 3
Date:	9/7/16
VOCs	
N	<0.0400
PAHs	
B(a)A	0.0185 "J"
B(a)P	[0.0207]
B(b)F	0.0187 "J"
B(k)F	0.0239
C	0.0251
D(a,h)A	<0.0074
I(1,2,3-cd)P	<0.0076

GP-12	
Depth:	0 - 2.5
Date:	1/10/17
VOCs	
N	2.530
PAHs	
B(a)A	[0.222]
B(a)P	[0.184]
B(b)F	[0.225]
B(k)F	0.119
C	0.239
D(a,h)A	[0.0360]
I(1,2,3-cd)P	0.0911

GP-10		
Depth:	2.5 - 5	7.5 - 10
Date:	1/10/17	
VOCs		
N	<0.0431	<0.0400
PAHs		
B(a)A	0.0253	<0.0036
B(a)P	[0.0179]	<0.0029
B(b)F	0.0243	<0.0032
B(k)F	0.0117	<0.0028
C	0.0240	<0.0038
D(a,h)A	0.0049 "J"	<0.0025
I(1,2,3-cd)P	0.0101	<0.0025

GP-13	
Depth:	0 - 2.5
Date:	1/10/17
VOCs	
N	<0.0455
PAHs	
B(a)A	[0.524]
B(a)P	{ [0.428] }
B(b)F	[0.538]
B(k)F	0.270
C	0.527
D(a,h)A	[0.0850]
I(1,2,3-cd)P	[0.225]

GP-14	
Depth:	0 - 2.5
Date:	1/10/17
VOCs	
N	<0.0404
PAHs	
B(a)A	0.0740
B(a)P	[0.0600]
B(b)F	0.0840
B(k)F	0.0310
C	0.0735
D(a,h)A	0.0117
I(1,2,3-cd)P	0.0308

GP-9		
Depth:	0 - 2.5	5 - 7.5
Date:	1/10/17	
VOCs		
N	<0.0460	<0.0422
PAHs		
B(a)A	<0.0038	<0.0036
B(a)P	<0.0030	<0.0029
B(b)F	<0.0034	<0.0032
B(k)F	<0.0030	<0.0029
C	<0.0040	<0.0039
D(a,h)A	<0.0027	<0.0026
I(1,2,3-cd)P	<0.0026	<0.0025

B-2	
Depth:	2 - 3
Date:	9/7/16
VOCs	
N	<0.0400
PAHs	
B(a)A	[0.402]
B(a)P	{ [0.412] }
B(b)F	[0.594]
B(k)F	0.187
C	0.453
D(a,h)A	[0.0557 "J"]
I(1,2,3-cd)P	[0.181]

GP-16 / MW-2	
Depth:	15 - 17.5
Date:	1/9/17
VOCs	
N	NA
PAHs	
B(a)A	<0.0037
B(a)P	<0.0029
B(b)F	<0.0033
B(k)F	<0.0029
C	<0.0039
D(a,h)A	<0.0026
I(1,2,3-cd)P	<0.0026

GP-17 / MW-3		
Depth:	10 - 12.5	
Date:	1/9/17	
VOCs		
N	NA	
PAHs		
B(a)A	0.0304	
B(a)P	[0.0278]	
B(b)F	0.0367	
B(k)F	0.0154	
C	0.0377	
D(a,h)A	0.0071 "J"	
I(1,2,3-cd)P	0.0149	

B-3	
Depth:	1.5 - 2.5
Date:	9/7/16
VOCs	
N	<0.0400
PAHs	
B(a)A	0.141
B(a)P	[0.159]
B(b)F	[0.148]
B(k)F	0.178
C	0.187
D(a,h)A	[0.0260]
I(1,2,3-cd)P	0.0628

GP-11		
Depth:	0 - 2.5	5 - 7.5
Date:	1/10/17	
VOCs		
N	<0.0607	NA
PAHs		
B(a)A	0.0039 "J"	<0.0036
B(a)P	<0.0029	<0.0028
B(b)F	0.0034 "J"	<0.0032
B(k)F	<0.0029	<0.0028
C	<0.0039	0.0044 "J"
D(a,h)A	<0.0026	<0.0025
I(1,2,3-cd)P	<0.0025	<0.0025

GP-20		
Depth:	0 - 2	4 - 6
Date:	2/3/17	
VOCs		
N	NA	NA
PAHs		
B(a)A	[0.629]	0.0857
B(a)P	{ [0.645] }	[0.0834]
B(b)F	[0.948]	0.127
B(k)F	0.345	0.0501
C	0.734	0.0984
D(a,h)A	[0.0972]	0.0143
I(1,2,3-cd)P	[0.314]	0.0490

GP-8		
Depth:	0 - 2.5	10 - 12.5
Date:	1/9/17	
VOCs		
N	<0.0426	NA
PAHs		
B(a)A	<0.0037	[0.422]
B(a)P	<0.0030	{ [0.384] }
B(b)F	<0.0033	[5.575]
B(k)F	<0.0030	0.213
C	<0.0040	0.475
D(a,h)A	<0.0026	[0.0893]
I(1,2,3-cd)P	<0.0026	[0.239]

GP-6		
Depth:	0 - 2.5	12.5 - 15
Date:	1/9/17	
VOCs		
N	<0.0450	NA
PAHs		
B(a)A	[0.304]	<0.0038
B(a)P	{ [0.338] }	<0.0030
B(b)F	[0.456]	<0.0034
B(k)F	0.172	<0.0030
C	0.413	<0.0040
D(a,h)A	[0.0714]	<0.0027
I(1,2,3-cd)P	[0.219]	<0.0026

GP-15 / MW-1	
Depth:	12.5 - 15
Date:	1/9/17
VOCs	
N	NA
PAHs	
B(a)A	<0.0035
B(a)P	<0.0028
B(b)F	<0.0032
B(k)F	<0.0028
C	<0.0038
D(a,h)A	<0.0025
I(1,2,3-cd)P	<0.0025

GP-18		
Depth:	0 - 2	4 - 6
Date:	2/3/17	
VOCs		
N	NA	NA
PAHs		
B(a)A	{ [5.460] }	{ [2.150] }
B(a)P	{ [6.310] }	{ [2.360] }
B(b)F	{ [8.830] }	{ [3.550] }
B(k)F	[3.540]	1.360
C	7.320	2.870
D(a,h)A	{ [0.999] }	{ [0.385] }
I(1,2,3-cd)P	{ [3.430] }	[1.280]

GP-7 / GP-7R				
Depth:	0 - 2.5	2 - 4	4 - 6	12.5 - 15
Date:	1/9/17	2/3/17	2/3/17	1/9/17
VOCs				
N	0.364 "J"	NA	NA	NA
PAHs				
B(a)A	{ [14.700] }	[0.351]	[0.620]	<0.0036
B(a)P	{ [16.700] }	{ [0.351] }	{ [0.700] }	<0.0028
B(b)F	{ [25.300] }	[0.510]	[1.000]	<0.0032
B(k)F	[8.860]	0.165	0.398	<0.0028
C	[19.900]	0.406	0.811	<0.0038
D(a,h)A	{ [3.710] }	[0.0573]	[0.116]	<0.0025
I(1,2,3-cd)P	{ [11.500] }	[0.172]	[0.392]	<0.0025

GP-19		
Depth:	0 - 2	4 - 6
Date:	2/3/17	
VOCs		
N	NA	NA
PAHs		
B(a)A	[0.211]	0.0446
B(a)P	{ [0.234] }	[0.0488]
B(b)F	[0.342]	0.0697
B(k)F	0.118	0.0285
C	0.251	0.0552
D(a,h)A	[0.0375]	0.0091 "J"
I(1,2,3-cd)P	0.117	0.0296

B-4	
Depth:	2 - 3
Date:	9/7/16
VOCs	
N	<0.0400
PAHs	
B(a)A	[0.208]
B(a)P	{ [0.232] }
B(b)F	[0.343]
B(k)F	0.108
C	0.262
D(a,h)A	[0.0316]
I(1,2,3-cd)P	0.0932

GP-21		
Depth:	0 - 2	4 - 6
Date:	2/3/17	
VOCs		
N	NA	NA
PAHs		
B(a)A	[0.384]	0.0520
B(a)P	{ [0.387] }	[0.0629]
B(b)F	[0.574]	0.0829
B(k)F	0.194	0.0353
C	0.443	0.0715
D(a,h)A	[0.0682]	0.0099
I(1,2,3-cd)P	[0.228]	0.0386

GP-5		
Depth:	0 - 2.5	7.5 - 10
Date:	1/9/17	
VOCs		
N	<0.0580	NA
PAHs		
B(a)A	[0.377]	<0.0039
B(a)P	{ [0.400] }	<0.0031
B(b)F	[0.532]	<0.0034
B(k)F	0.208	<0.0031
C	0.418	<0.0041
D(a,h)A	[0.0876]	<0.0027
I(1,2,3-cd)P	[0.260]	<0.0027

ANALTYICAL KEY

N = NAPHTHALENE
B(a)A = BENZO(A)ANTHRACENE
B(a)P = BENZO(A)PYRENE
B(b)F = BENZO(B)FLUORANTHENE
B(k)F = BENZO(K)FLUORANTHENE
C = CHRYSENE
D(a,h)A = DIBENZO(a,h)ANTHRACENE
I(1,2,3-cd)P = INDENO(1,2,3-cd)PYRENE

"J" = ANALYTE DETECTED BETWEEN LIMIT OF DETECTION AND LIMIT OF QUANTITATION

BOLD = CONCENTRATION EXCEEDS GROUNDWATER PATHWAY RCL
[ ] = CONCENTRATION EXCEEDS NON-INDUSTRIAL DIRECT CONTACT RCL (any depth)
{ } = CONCENTRATION EXCEEDS INDUSTRIAL DIRECT CONTACT RCL (any depth)

ALL CONCENTRATIONS REPORTED IN MILLIGRAMS PER KILOGRAM (mg/kg)

= ESTIMATED EXTENT OF PAH IMPACTS ABOVE DIRECT CONTACT RCL

= ESTIMATED EXTENT OF PAH IMPACTS ABOVE PROTECTION OF GROUNDWATER RCL

N. MARTIN LUTHER KING JR DRIVE

N 5TH ST

N 4TH STREET

APPROX. SITE BOUNDARY

0 50 ft. 100 ft.

GRAPHIC SCALE

Project: 16620 | Directory: 060 CAD / E - Env | Filename: 16620 Site Maps 11x17.ai | Created By: AJR / SEF | Date: 2/22/2017

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SOIL QUALITY MAP - VOCS & PAHS

BADER PHILANTHROPIES
3300 - 3318 N. MARTIN LUTHER KING JR. DRIVE
& 3317 - 3333 N. 4th STREET, MILWAUKEE, WISCONSIN

FIGURE
8

LEGEND

= GEOPROBE SOIL BORING / TEMPORARY WELL

= GEOPROBE SOIL BORING

= NR 141-COMPLIANT MONITORING WELL

B-1	
Depth:	2 - 3
Date:	9/7/16
RCRA Metals	
Ar	{[6.8]}
Ba	48.8
Cd	<0.075
Pb	21.5
Hg	0.15
Se	<0.87
Ag	<0.31

GP-12	
Depth:	0 - 2.5
Date:	1/10/17
RCRA Metals	
Ar	{[3.6 "J"]}
Ba	25.4
Cd	<0.13
Pb	29.0
Hg	0.017 "J"
Se	<1.1
Ag	<0.34

GP-10		
Depth:	2.5 - 5	7.5 - 10
Date:	1/10/17	
RCRA Metals		
Ar	{[9.7]}	{[4.0 "J"]}
Ba	26.9	41.5
Cd	<0.15	<0.13
Pb	14.2	8.5
Hg	0.016 "J"	<0.011
Se	<1.2	<1.1
Ag	<0.38	<0.35

GP-13	
Depth:	0 - 2.5
Date:	1/10/17
RCRA Metals	
Ar	{[8.3]}
Ba	36.6
Cd	<0.14
Pb	12.6
Hg	<0.012
Se	<1.2
Ag	<0.37

GP-14	
Depth:	0 - 2.5
Date:	1/10/17
RCRA Metals	
Ar	{[4.6 "J"]}
Ba	45.4
Cd	<0.14
Pb	8.6
Hg	<0.013
Se	<1.2
Ag	<0.36

GP-9		
Depth:	0 - 2.5	5 - 7.5
Date:	1/10/17	
RCRA Metals		
Ar	{[9.0]}	{[3.7 "J"]}
Ba	93.4	45.4
Cd	<0.16	<0.14
Pb	111	8.4
Hg	0.14	<0.012
Se	<1.3	<1.2
Ag	<0.41	<0.37

B-2	
Depth:	2 - 3
Date:	9/7/16
RCRA Metals	
Ar	{[12.4]}
Ba	113
Cd	1.5
Pb	{[809]}
Hg	0.11 "J"
Se	1.1 "J"
Ag	<0.32

GP-16 / MW-2	
Depth:	15 - 17.5
Date:	1/9/17
RCRA Metals	
Ar	{[4.7 "J"]}
Ba	49.4
Cd	<0.15
Pb	10.5
Hg	0.022 "J"
Se	<1.3
Ag	<0.39

GP-8		
Depth:	0 - 2.5	10 - 12.5
Date:	1/9/17	
RCRA Metals		
Ar	{[5.0 "J"]}	{[5.4]}
Ba	48.1	26.4
Cd	<0.16	<0.13
Pb	10.2	8.3
Hg	0.013 "J"	<0.011
Se	<1.3	<1.1
Ag	<0.40	<0.34

GP-6		
Depth:	0 - 2.5	12.5 - 15
Date:	1/9/17	
RCRA Metals		
Ar	{[17.1]}	{[4.9 "J"]}
Ba	196	15.8
Cd	0.49 "J"	<0.14
Pb	313	9.2
Hg	0.24	<0.012
Se	1.4 "J"	<1.2
Ag	<0.38	<0.37

GP-15 / MW-1	
Depth:	12.5 - 15
Date:	1/9/17
RCRA Metals	
Ar	{[4.0 "J"]}
Ba	33.9
Cd	<0.15
Pb	7.5
Hg	<0.011
Se	<1.2
Ag	<0.38

B-4	
Depth:	2 - 3
Date:	9/7/16
RCRA Metals	
Ar	{[8.3]}
Ba	55.4
Cd	0.37 "J"
Pb	129
Hg	<0.039
Se	<0.86
Ag	0.31 "J"

GP-5		
Depth:	0 - 2.5	7.5 - 10
Date:	1/9/17	
RCRA Metals		
Ar	{[4.8 "J"]}	{[9.0]}
Ba	75.0	38.9
Cd	<0.16	<0.14
Pb	37.1	8.2
Hg	0.031 "J"	<0.013
Se	<1.3	<1.2
Ag	<0.41	<0.37

GP-20		
Depth:	0 - 2	4 - 6
Date:	2/3/17	
RCRA Metals		
Ar	NA	NA
Ba	NA	NA
Cd	NA	NA
Pb	376	109
Hg	0.12	0.025 "J"
Se	NA	NA
Ag	NA	NA

GP-17 / MW-3	
Depth:	10 - 12.5
Date:	1/9/17
RCRA Metals	
Ar	{[4.7 "J"]}
Ba	30.2
Cd	<0.15
Pb	30.3
Hg	<0.013
Se	<1.2
Ag	<0.38

B-3	
Depth:	1.5 - 2.5
Date:	9/7/16
RCRA Metals	
Ar	{[7.2]}
Ba	149
Cd	1.2
Pb	[502]
Hg	0.18
Se	1.3 "J"
Ag	0.47 "J"

GP-11		
Depth:	0 - 2.5	5 - 7.5
Date:	1/10/17	
RCRA Metals		
Ar	{[2.6 "J"]}	{[9.8]}
Ba	37.1	31.2
Cd	<0.15	<0.14
Pb	5.4	14.2
Hg	<0.013	<0.012
Se	<1.3	<1.2
Ag	<0.39	<0.37

GP-18		
Depth:	0 - 2	4 - 6
Date:	2/3/17	
RCRA Metals		
Ar	NA	NA
Ba	NA	NA
Cd	NA	NA
Pb	217	137
Hg	0.22	0.073
Se	NA	NA
Ag	NA	NA

GP-7 / GP-7R				
Depth:	0 - 2.5	2 - 4	4 - 6	12.5 - 15
Date:	1/9/17	2/3/17	2/3/17	1/9/17
RCRA Metals				
Ar	{[9.9]}	NA	NA	{[2.9 "J"]}
Ba	415	NA	NA	38.7
Cd	1.2	NA	NA	<0.13
Pb	{[8,940]}	{[6,570]}	360	8.9
Hg	{[4.0]}	0.59	0.50	<0.011
Se	<1.2	NA	NA	<1.1
Ag	1.0 "J"	NA	NA	<0.33

GP-19		
Depth:	0 - 2	4 - 6
Date:	2/3/17	
RCRA Metals		
Ar	NA	NA
Ba	NA	NA
Cd	NA	NA
Pb	133	20.6
Hg	0.18	0.039 "J"
Se	NA	NA
Ag	NA	NA

ANALTYICAL KEY

Ar = ARSENIC
Ba = BARIUM
Cd = CADMIUM
Pb = LEAD
Hg = MERCURY
Se = SELENIUM
Ag = SILVER

"J" = ANALYTE DETECTED BETWEEN LIMIT OF DETECTION AND LIMIT OF QUANTITATION

BOLD = CONCENTRATION EXCEEDS GROUNDWATER PATHWAY RCL
[ ] = CONCENTRATION EXCEEDS NON-INDUSTRIAL DIRECT CONTACT RCL (any depth)
{ } = CONCENTRATION EXCEEDS INDUSTRIAL DIRECT CONTACT RCL (any depth)

ALL CONCENTRATIONS REPORTED IN MILLIGRAMS PER KILOGRAM (mg/kg)

= ESTIMATED EXTENT OF ARSENIC IMPACTS ABOVE BACKGROUND THRESHOLD VALUE

= ESTIMATED EXTENT OF LEAD IMPACTS ABOVE DIRECT CONTACT RCL

= ESTIMATED EXTENT OF LEAD IMPACTS ABOVE PROTECTION OF GROUNDWATER RCL

= ESTIMATED EXTENT OF MERCURY IMPACTS ABOVE DIRECT CONTACT / PROTECTION OF GROUNDWATER RCLs AND/OR BARIUM IMPACTS ABOVE PROTECTION OF GROUNDWATER RCL

N

0 50 ft. 100 ft.

GRAPHIC SCALE

Created By: AJR / SEF | Date: 2/16/2017
Filename: 16620 Site Maps 11x17.ai
Directory: 060 CAD / E - Env
Project: 16620

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SOIL QUALITY MAP - RCRA METALS

BADER PHILANTHROPIES
3300 - 3318 N. MARTIN LUTHER KING JR. DRIVE
& 3317 - 3333 N. 4th STREET, MILWAUKEE, WISCONSIN

FIGURE
9

LEGEND

= GEOPROBE SOIL BORING / TEMPORARY WELL

= GEOPROBE SOIL BORING

= NR 141-COMPLIANT MONITORING WELL

ANALYTICAL KEY

Ar = ARSENIC
Se = SELENIUM

ND = NOT DETECTED
NA = NOT ANALYZED

( ) = CONCENTRATION REPORTED ABOVE NR 140 PREVENTIVE ACTION LIMIT (PAL)
[ ] = CONCENTRATION REPORTED ABOVE NR 140 ENFORCEMENT STANDARD (ES)

** = NOT A STATISTICALLY VALID PAL EXCEEDANCE PER NR 140.14(3)(c)

ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µg/L)

NO NR 140 ENFORCEMENT STANDARD EXCEEDANCES FOR VOCs, PAHs, OR DISSOLVED RCRA METALs

TW-1	
Date:	9/8/16
VOCs	
All VOCs	ND
PAHs	
All PAHs	NA
RCRA Metals	
Ar	NA
Se	NA

TW-2	
Date:	9/8/16
VOCs	
All VOCs	ND
PAHs	
All PAHs	NA
RCRA Metals	
Ar	NA
Se	NA

MW-2	
Date:	1/13/17
VOCs	
All VOCs	ND
PAHs	
All PAHs	< PALs
RCRA Metals	
Ar	<5.4
Se	<5.6

MW-1	
Date:	1/13/17
VOCs	
All VOCs	ND
PAHs	
All PAHs	< PALs
RCRA Metals	
Ar	<5.4
Se	15.0 "J" **

TW-4	
Date:	9/8/16
VOCs	
All VOCs	ND
PAHs	
All PAHs	NA
RCRA Metals	
Ar	NA
Se	NA

TW-3	
Date:	9/8/16
VOCs	
All VOCs	< PALs
PAHs	
All PAHs	NA
RCRA Metals	
Ar	NA
Se	NA

MW-3	
Date:	1/13/17
VOCs	
All VOCs	ND
PAHs	
All PAHs	ND
RCRA Metals	
Ar	6.5 "J" **
Se	13.9 "J" **

B-1, B-2, B-3, B-4, GP-5, GP-6, GP-7, GP-7R, GP-8, GP-9, GP-10, GP-11, GP-12, GP-13, GP-14, GP-15 / MW-1, GP-16 / MW-2, GP-17 / MW-3, GP-18, GP-19, GP-20, GP-21, GP-22, GP-23

APPROX. SITE BOUNDARY

N. MARTIN LUTHER KING JR DRIVE

N. 4TH STREET

W. CONCORDIA AVENUE

N 5TH ST

0 50 ft. 100 ft.

GRAPHIC SCALE

Created By: AJR / SEF
Date: 2/16/2017
Filename: 16820 Site Maps 11x17.ai
Directory: 060 CAD / E - Env
Project : 16820

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GROUNDWATER QUALITY MAP

BADER PHILANTHROPIES
3300 - 3318 N. MARTIN LUTHER KING JR. DRIVE
& 3317 - 3333 N. 4th STREET, MILWAUKEE, WISCONSIN

FIGURE
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ATTACHMENT 2

SOIL DATA TABLE FROM SEPTEMBER 12, 2015 LETTER TO WDNR

Lakefield Sand and Gravel Data Summary

RCRA Metals				
Arsenic	3.6	to	12	mg/kg
Cadmium	0.35	to	54	mg/kg
Chromium, total	13	to	100	mg/kg
Lead	7.2	to	4800	mg/kg
Mercury	0.031	to	0.57	mg/kg
Silver	0.27	to	9.6	mg/kg
VOCs				
Benzene	32	to	890	ug/kg
sec-Butylbenzene	26.3	to	46000	ug/kg
tert-Butylbenzene	26.9	to	99	ug/kg
n-Butylbenzene	88	to	272000	ug/kg
Chlorobenzene	54	to	135	ug/kg
1,4-Dichlorobenzene	50	to	155	ug/kg
1,2-Dichlorobenzene	35	to	208	ug/kg
cis-1,2-Dichloroethene	37	to	290	ug/kg
trans-1,2-Dichloroethene		25.2		ug/kg
1,2-Dichloropropane		660		ug/kg
Ethylbenzene	36	to	137000	ug/kg
Isopropylbenzene	28.7	to	26100	ug/kg
p-Isopropyltoluene	29.3	to	46000	ug/kg
n-Propylbenzene	29	to	91000	ug/kg
Toluene	71	to	4000	ug/kg
Trichloroethene	47	to	520	ug/kg
1,2,4-Trimethylbenzene	27.5	to	890000	ug/kg
1,3,5-Trimethylbenzene	40	to	180000	ug/kg
Total Xylenes	71	to	428000	ug/kg
PAHs				
Acenaphthene	69	to	43300	ug/kg
Acenphthylene	36	to	177	ug/kg
Anthracene	12	to	103000	ug/kg
Benzo(a)anthracene	15	to	104000	ug/kg
Benzo(b)fluoranthene	12	to	128000	ug/kg
Benzo(k)fluoranthene	21	to	44000	ug/kg
Benzo(a)pyrene	9.3	to	93600	ug/kg
Benzo(g,h,i)perylene	23	to	46800	ug/kg
Chrysene	27	to	90500	ug/kg
Dibenzo(a,h)anthracene	30	to	12000	ug/kg
Fluoranthene	22	to	300000	ug/kg
Fluorene	11	to	69500	ug/kg
Indeno(1,2,3-cd)pyrene	12	to	53600	ug/kg
1-Methylnaphthalene	13	to	36000	ug/kg
2-Methylnaphthalene	16	to	115000	ug/kg
Naphthalene	19	to	662000	ug/kg
Phenanthrene	9.9	to	290000	ug/kg
Pyrene	18	to	210000	ug/kg
PCBs				
PCB-1248		17		ug/kg